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ANNUAL REPORT

OF THE

DEPARTMENT

OF

MARINE AND FISHERIES,

FOR THE YEAR ENDING 30TH JUNE, 1871.

PRINTED BY ORDER OF PARLIAMENT.



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1872.

FOURTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES.

FOR YEAR ENDING 30TH JUNE, 1871.

To His Excellency the Right Honorable John, Baron Lisgar, of Lisgar and Baillieborough, in the County of Cavan, Ireland, in the Peerage of the United Kingdom of Great Britain and Ireland, and a Baronet, one of Her Majesty's Most Honorable Privy Council, Knight Grand Cross of the Most Honorable Order of the Bath, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Governor General of Canada, and Governor and Commander-in-Chief of the Island of Prince Edward, &c., &c., &c.

MAY IT PLEASE YOUR EXCELLENCY :

I have the honor to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Annual Report of the Department of Marine and Fisheries, and the financial statements connected therewith, for the fiscal year ended 30th June last.

This Report, although referring principally to the operations of the Department for the fiscal year, and the expenditure in connection therewith, will also contain a report of the operations of the Department for the calendar year which ended yesterday, but the account of expenditures made for any works or services since the 1st July last will appear in the financial statements of the Department for the current fiscal year ending 30th June next.

The business of this Department has much increased since its first formation in 1867, not only on account of the addition of British Columbia to the Confederation, but also on account of the addition of several important branches of the public service, the administration of which has devolved on this Department, such as the construction of the works

in connection therewith, which was formerly performed by the Department of Public Works—the examination of Masters and Mates, and the management of the Meteorological observations throughout the Dominion. The increased correspondence arising out of the complicated state of affairs in connection with the Fishery Question, along with the administration and management of the Marine Police Force, the vessels of which were equipped and commissioned for the purpose of protecting our valuable in-shore sea fisheries, has also added considerably to the labours of the Department during the last two years, as the movements of these vessels, engaged as they were in duties of an important and delicate nature, required constant supervision and care, so as to prevent the officers commanding them from giving any unnecessary offence to the foreign fishermen who might be pursuing their operations on doubtful grounds. In this branch of the Department I have been much indebted to Captain Scott, R.N., who was placed in charge of our cruisers in the Lower Provinces, and whose judicious management of the duties devolving upon him contributed materially to the successful manner in which our rights were maintained with as little irritation as was possible under the circumstances. On several occasions during both the past summer and the previous one, I considered it advisable to visit the fishing grounds myself, and give some degree of personal supervision in the matter, so that I might have an opportunity of conferring with the commanders of the vessels of the force and inspect their vessels. With all the additional duties which have recently devolved upon the Department, I have much pleasure in stating that no material increase has been made in the working expenses of my staff at Ottawa, with the exception of the salary of a General Superintendent of Lighthouses and Constructive Engineer, which officer became absolutely necessary when the Department assumed the duties of construction of new Lighthouses, Steam Fog Whistles, and other works in connection therewith. Such an officer was also very much required in the maintenance of the Lighthouse service throughout the Dominion, as engineering questions were constantly arising in the administration of the Lighthouse service with its lighting apparatus, machinery, buildings, wharves and piers, attached thereto. The person recommended by me for this office was Joseph Tonlinson, Esquire, whom I had formerly known while he was employed by the Government of New Brunswick, and in whose attainments as a practical engineer I had every confidence. He was appointed to the office alluded to, by Your Excellency in Council on the 5th May, 1871, although he had been temporarily employed by the Department for fifteen months previous to that date. His principal duties are to prepare plans and specifications for the new works undertaken by this Department, to visit the grounds on which they are to be built, to determine the sites, inspect the works as they progress, and finally to examine and report on them when finished by the contractors and ready to hand over to the Department. He has also to visit any of the old Lighthouses already in operation when required by the Department to do so, and report on their condition, and description of repairs which are considered necessary, as well as many other minor duties too numerous to mention. Before proceeding further with my report, I may here enumerate the different branches of the Public Service administered by the Department over which I have the honour to preside:—

1. The administration of all the Lighthouses in the Dominion, which are maintained by the Government of Canada, including three first-class Lighthouses recently erected on the coast of Newfoundland for the benefit of Canadian shipping entering and leaving the Gulf of St. Lawrence, either by the Straits of Belle Isle or by the southern entrance of the Gulf. These new Lighthouses were erected at Cape Norman near the north-east entrance of the Straits of Belle Isle, at Point Rich, near the south-west entrance of the Straits, and at Cape Ray on the northerly side of the southern entrance of the Gulf of St. Lawrence. The number of Lighthouses which are managed by this Department, including those managed by the Trinity House, Montreal, and the three already mentioned in Newfoundland and two at British Columbia, is at the present time 251, requiring a staff of keepers and assistant keepers paid by this Department numbering 285. In addition to this staff of keepers, there are a number of other assistants employed and paid by the keepers who require them, and who do not appear on the books of this Department, as these keepers have generally such salaries allowed them as enables them to procure any assistance they may require.

2. The administration of eleven Lightships, including three in the River St. Lawrence below Quebec, three between Montreal and Quebec, four in Lake St. Louis, above Montreal, and one in British Columbia. In addition to these a Lightship is stationed at Colchester Reef, Lake Erie, which has been hitherto maintained principally by private subscriptions from owners and masters of vessels and underwriters' associations, but during last season the sum of \$500 was paid to the owners of the vessel alluded to by this Department, having previously been voted by Parliament for this purpose, as it was found to be a very useful and important light to the shipping trading on Lake Erie.

3. The administration of eight Steam Fog Whistles, including one in the Iron Lightship which is stationed during the season of navigation below Red Island Reef, in the River St. Lawrence. Four more are under contract, and one about to be contracted for, making thirteen, which the Department hopes to have in operation early next season.

4. The construction of new Lighthouses and piers in connection therewith, Steam Fog Whistles, Light Vessels, Buoys, Beacons, &c.

5. The supervision of the Trinity House at Montreal and Quebec, the former of which manages the lights, buoys and beacons, pilotage, &c., below Montreal, and the latter pilotage and other matters connected with the navigation of the Lower St. Lawrence.

6. The management of the Dominion Steamers not employed for warlike or defensive purposes, including two at Quebec, one at Halifax, and one in British Columbia. In addition to these four steamers, there is also a suitable police steamer at Quebec, and the Trinity House steamer at Montreal, making altogether six steamers managed by this Department.

7. The River and Harbour Police Force, at Montreal and Quebec, numbering fifty persons.

8. The administration of the Humane Establishments, and care of the Sick and Distressed Mariners throughout the Dominion, including shipwrecked crews.

9. The working and supervision of the Steamboat Inspection Acts, which are administered by the Board of Steamboat Inspection.

10. The administration of the Act relating to the examination of Masters and Mates and granting certificates of competency and service. The examinations are held by the respective Boards of Examiners, and the certificates are granted and records kept by this Department.

11. The investigation into the wrecks on the coasts of the Dominion, and procuring the necessary wreck returns required by the British Government.

12. All matters relating to granting rewards for saving life at sea, or on the coast of the Dominion, and investigating the circumstances connected therewith.

13. The administration of all matters relating to the meteorological observations made in the Dominion, including the supervision of the Observatories and Time Balls at Quebec and St. John.

14. The supervision of all Shipping Masters in the Dominion and the administration of all matters relating to the shipping and deserting of seamen.

15. The payment of subsidies to steamers not coming under the administration of the Post Office Department.

16. The administration of the funds collected for the improvement of Harbours under the Canadian Act 32 & 33 Vic., Cap. 40.

17. The administration of the laws relating to the sea coast and inland fisheries and the supervision of the large staff of fishery officers maintained by the Government for the protection of the Fisheries, including during last year the management of seven Marine Police Schooners employed in protecting the sea coast fisheries. The development of fish-breeding establishments in the Dominion is also a subject of much interest to the Department.

In addition to the subjects before mentioned, this Department is charged with the administration of all matters relating generally to the Marine interests of the Dominion, including our valuable Fisheries.

Having thus alluded briefly to the business entrusted to the management of this Department, I will now proceed to report on the different branches of the business alluded to.

LIGHTS ABOVE MONTREAL.

This Division extends from the Lighthouse at Lachine on Lake St. Louis up to the Lighthouse at St. Ignace in Lake Superior, and includes at the present time seventy-five Lighthouses and four Light Ships, which are maintained by the Government under the management of this Department. In addition to these there is a Light Ship at Colchester Reef, Lake Erie, a few miles from the Canadian shore, kept by the Messrs. Hackett of Amherstburg, who have for the past few years depended on private subscriptions from masters and owners of vessels and under-writers' associations for their remuneration, but the contributions have not been sufficient to maintain it, and they

applied to this Department for assistance, without which they stated they must withdraw the Light. Having ascertained that the Light was of great importance to the trade on that Lake, I recommended that the sum of \$500 be allowed them as a subsidy from the Government to assist in the efficient maintenance of the Light, and that sum was paid accordingly for the season of 1870.

In addition to the Lights managed by this Department on the Upper Lakes, there are a number of harbor Lights maintained by the local authorities.

The number of keepers employed to attend the Lights, including the four Light Ships managed by this Department, in this Division on the 31st December, 1871, was sixty-six with six assistants. On the 30th June last, when the financial year closed, there were seventy-five Lights, of which four were floating, and sixty-two keepers and six assistants.

In my last annual report I alluded to a new Lighthouse which was built on Lonely Island, Georgian Bay, and lighted for the first time on the 1st October, 1870, but I could not then report as to the cost of it, as the expenditure was made during the last financial year. It is not quite finished yet, but nearly so, and the expenditure on account of it up to the 30th June last, as will be seen in detail in the appendix, amounted to \$2,191.45, while the amount voted by Parliament was \$4,000. It will still require about \$200 to complete it. Mr. John Egan was appointed keeper of this Light on the 19th August, 1870, at a salary of \$350 per annum. The light is a fixed white light on the catoptric principle with four circular burner lamps and four 16-inch reflectors and one flat wick lamp and one flat reflector of fifteen inches diameter. The new Light at Parry Sound, in the Georgian Bay, which was lighted for the first time on the 3rd of November, 1870, was established partly for the accommodation of the mill owners there, who contributed by agreement one half of the cost of the building. The total amount paid by this Department on account of its construction and equipment was \$879.72, and the amount voted by Parliament was \$1,000. Mr. William McGowan was appointed keeper at a salary of \$300 per annum. The account in detail of its construction will be found in the appendix. The Light is a fixed white light on the catoptric principle with four flat wick lamps and 16-inch reflectors. The new Lighthouse on Telegraph Island, Bay of Quinté, Lake Ontario, alluded to in my last annual report was lighted for the first time on the 12th November, 1870. It is a catoptric white, fixed light, with two flat wick lamps and two reflectors of fifteen inches diameter, and cost for construction and equipment \$1,991.35. The amount voted by Parliament for this work was \$2,000. Mr. John Mason was appointed keeper at a salary of \$200 per annum. This Light has given great satisfaction to the masters of steamers and others trading in the Bay of Quinté. The new revolving Light on Pigeon Island, Lake Ontario, alluded to in my last annual report was lighted up for the first time on the 1st November, 1870, and cost \$2,405.73. The amount voted by Parliament was \$2,000. This Light was originally intended to be a fixed Light, but in order to meet the wishes of the trade and to distinguish it from the other fixed Lights in the Lake, it was made a revolving Light, which involved the additional expense of machinery. It has been found to be a very useful

Light, as it is seen a distance of sixteen or seventeen miles. It is a revolving white Light, on the catoptric principle, with two circular burner lamps and two 18-inch reflectors. Mr. James Eccles was appointed keeper on the 1st November, 1870, at a salary of \$300 per annum. By some want of management of the lamps on the part of the keeper, they took fire on the night of the 4th September last, and had to be extinguished for a few nights until new ones could be procured. An investigation was made by the Department into the matter, when it was found that the keeper had gone to the mainland to transact some business and left the Light in charge of his son and another person, who probably did not understand the management of the lamps. Another keeper will probably be appointed before the commencement of navigation as the present one does not wish to hold the appointment. A minor Light was recently established on Fox or Muskoka Island, Lake Simcoe, Ontario, for the benefit of steamers and other craft trading on that lake. It is on the catoptric principle, with three flat wick lamps and 15-inch reflectors. The building is square and painted white. The cost of construction and equipment was \$1,107.30, and the amount voted by Parliament was \$900. It was lighted for the first time on the 14th November, 1870. Mr. J. C. Darke was appointed keeper at a salary of \$200 per annum.

The amount voted by Parliament for the construction of these five Lighthouses in Ontario before mentioned, during the last fiscal year, was \$9,900, and the amount expended was \$8,575.55, leaving an unexpended balance of \$1,324.45.

I regret to state that Mr. Benjamin Picard who had been sixteen years keeper of the Floating Light No. 3, Lake St. Louis, while going from his ship to the shore in the end of June last, was overtaken by a squall and drowned. Mr. O. Veaudry has been in temporary charge of the Light Ship since that time. Mr. Peter Baikie, who had been keeper of the Light at Port Maitland, Lake Erie, for upwards of thirteen years, was placed on the superannuation list on the 1st of April last, with an allowance of \$230.85 per annum, and Mr. Fergus Scholfield was appointed keeper at a salary of \$350 per annum. Mr. Thomas Lamphier, the Light keeper at St. Ignace Light, Lake Superior, died in the end of June last, and Mr. Andrew Hynes was appointed in his place at a salary of \$400 per annum.

The new beacon light which was erected in the fall of 1870 at Way Shoal, on the River Ottawa, about ten miles below the city, has been found to be exceedingly useful to steamers and rafts on the river. It was lighted for the first time on the 6th October, 1870, and is on the catoptric system, with two flat wick lamps and two reflectors of fifteen inches diameter. The cost of construction and equipment was \$384.95. Mr. Antoine Mongeon was appointed keeper at a salary of \$100 per annum.

Two similar lights were recently erected lower down the river, one at Point L'Original and the other at McTavish Point, each on the catoptric system, with two flat wick lamps and two reflectors of fifteen inches diameter. They were lighted for the first time on the 10th October last, and the cost of them will appear in the financial statement of the Department for the current fiscal year.

A new Lighthouse is also being erected at Middle Island, Lake Erie, and is nearly

completed. It will probably be lighted up about May next. Three new Lighthouses are also under contract to be built in Lake Superior, and the material is now being prepared for them. They will probably be lighted up in August next. The new Lighthouse at Port Maitland which was built during the last season to replace the old one which was blown down is now finished, and my officers report it to me as a very superior work. The cost of it will appear in the financial statement of the Department for the current year.

Extensive repairs have been made on the pier at Gull Island Light, Lake Ontario, which were much required and now render it quite safe. It is one of the best lights on the lakes.

An ice breaker is much required at Point Claire pier Light, at the mouth of the River Ottawa, as also at Lancaster Bar Pier Light, and tenders have been invited for their construction. Contracts will be immediately made to have these works done before the opening of navigation, so as to protect the Lighthouse Towers from the action of the ice in the spring.

The oil and the other supplies for the Lights in this Division for the year ended 30th June, 1871, were delivered in July and August, 1870, in the screw propeller *Mary Ward*, at a contract price of \$1,400, and for the year ending 30th June, 1872, in the same vessel for \$1,700.

The total expenditure for the maintenance of the Lighthouses, Light Ships, buoys and beacons, above Montreal, including the construction of the beacon Lights on the Ottawa River, for the fiscal year ended 30th June, 1871, was \$44,053.99, against \$46,239.05 for the previous year. The amount voted by Parliament for this service for the last fiscal year was \$44,604, leaving an unexpended balance of \$550.01.

Many of the Lights in this district have been much improved during the past year by the addition of large circular burner lamps, each of which gives a light equal to twenty-seven candles. They consume a large quantity of oil, but the cost of it is small compared with the additional brilliancy of the light and the advantages to the navigation.

On the 7th March last, Mr. Isaac Hope of Kingston was appointed inspector of Lights for this division at a salary of \$1,200, in the place of Mr. D. C. Smith, deceased.

Numerous complaints reached this Department for some time past that the growing timber on Presqu' Isle peninsula, Lake Ontario, was being rapidly cut down, and that the protection which it had hitherto afforded to vessels running into Presqu' Isle harbor during stormy weather for shelter, would probably be destroyed, unless some measures were soon taken to protect it. On enquiry, it was found that the peninsula was owned by the Government of Ontario, and that this Department had no legal right to prevent the destruction of this valuable shelter to vessels making for that harbor of refuge. The subject was however brought under the notice of the Ontario Government, and they consented to transfer the peninsula to this Department with a view of protecting the timber that was still left on it. A considerable portion of the peninsula was found to be under cultivation by persons who had either squatted or settled on it themselves, or had bought out the improvement from previous squatters. In October last, my deputy visited the peninsula in company with Joseph Keeler, Esquire, the

gentleman who represents that district in the House of Commons, and they saw nearly all the squatters on the land, and informed them that leases would be granted to them on certain conditions, one of which was, that no growing timber will be allowed to be cut, as it was the determination of the Department to preserve and cultivate it in every possible way, with the view of protecting the harbor from the heavy gales which frequently prevail on Lake Ontario, and rendering it a safe harbor of refuge. The Department of Public Works has already made a contract for improving and dredging the harbor, and it is probable that operations under that contract will be commenced early in the spring. The contract provides that a channel is to be made 300 feet in width, dredged and cleared out to an uniform depth of fourteen feet below a fixed mark upon the wharf owned by George Craig, and to be located so that its southern side will form the continuation of a line between Quick's wharf, situated at the head of the bay and the northern side of the pier on which the Lighthouse at Salt Point is erected. The material dredged out is to be deposited in the Lake outside of a line between the Main Lighthouse on Presqu' Isle and Nicholson's Island, but at no place nearer to the shore than where there is at least a depth of six fathoms of water.

TRINITY HOUSE, MONTREAL.

No change has been made in the constitution of this body since my last report. The business entrusted to their management and superintendence in connection with that portion of the St. Lawrence under their supervision, appears to be carefully and economically performed, and the Department has always found the corporation alluded to ready to do all in its power to aid and assist the Marine interests of this very important section of the Dominion. Its supervision extends from the limits of the Province of Quebec, above Montreal, to Port Neuf, a distance of about 200 miles, and a very important part of the duties of this body is to lay the buoys in the river and mark the channel, and to keep them in an efficient state during the season of navigation. This part of the service is principally attended to by Captain Coté, one of the oldest and most experienced pilots of the river, and the steamer *Richelieu*, owned by the Government, is kept in constant readiness to proceed to any portion of the district where buoys which have been carried away require to be replaced. In this district there were, at the close of navigation, 45 lights, including three floating lights in Lake St. Peter and 104 buoys. The lights were managed by 33 light-keepers and 3 assistants, some of them having two lights under their management. As the majority of these light keepers are farmers or *habitants* living in the immediate neighbourhood of the lights, the salaries of most of them are small, ranging from \$7 to \$30 per month. The keepers in the light vessels receive from \$20 to \$52 per month. All the light-keepers in this division are paid monthly salaries, only during the season of navigation, when alone they are employed.

The pilotage in this section is also under the supervision of the Trinity House, Montreal, and complaints between captains and pilots are heard and adjusted by that body. For this division there are 34 licensed pilots.

A memorial has been received from the Board of Trade at Montreal, recommending

that the Board of Harbour Commissioners and Trinity House should be amalgamated, as their duties could then be performed with more advantage and convenience to the public interests than now by two separate bodies, but no change has yet been resolved upon by the Government on this question.

A memorial has also been received from the Board of Trade, St. John's, Province of Quebec, recommending that several lights and buoys should be established on the Richelieu river between St. John's and the American lines, for the purpose of aiding and assisting the great inland traffic which is now carried on by that route between Canada and the United States. Several members and officers of the Trinity House, Montreal, which has supervision over that river, as well as my deputy, have recently visited the localities where the lights are required to be placed, and they have all urged upon me the great necessity which exists for them and ; I am of opinion that it would be very desirable to place a few lights and buoys at the places suggested, with the view of aiding the growing traffic on this route, the expenses for construction and maintenance of which would be very small.

The total amount expended by the Trinity House, Montreal, during the last financial year, was \$22,453 52, including salaries of officers, lighthouse keepers, and maintenance of lights, buoys, and steamer. The expenditure during the year ended 30th June, 1870, was \$21,699 49. For the year ended 30th June, 1869, \$25,762 54, and for the year ended 30th June, 1868, \$23,053 53. The number of paid officials employed in connection with the Trinity House, Montreal, at the close of navigation, in 1871, was as follows, viz :—

The master, registrar and treasurer, superintendent of pilots, clerk, bailiff and messenger	5
Light-keepers, including keepers of light vessels	33
Assistants on light vessels	3
Captain and crew, steamer <i>Richelieu</i>	6
Harbour master, Sorel (now vacant)	1
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Total number of persons	48

I regret to add that Mr. Joseph Mondor, who for the last 20 years acted as harbour master at Sorel, and agent for the Trinity House, Montreal, died on the 11th September last, and as it was near the close of navigation no permanent appointment was made to fill his place. Mr. G. H. Bramley was, however, directed by the Trinity House to perform the duties temporarily, until a permanent appointment is made.

Mr. Narcisse Arcaud, the keeper of the light vessel No. 2 on Lake St. Peter was accidentally drowned on the 4th August, 1870, while coming up in his boat to Sorel for supplies, and his brother Edward Arcaud was appointed in his place.

The depth of water on the flats of Lake St. Peter is ascertained by the keeper of this light vessel, and is marked on the side of the vessel in large figures every day, so that vessels passing can see it. A report is made daily for the information of all parties

interested, to the Trinity Houses at Montreal and Quebec. At night the figures are seen by the aid of a highly illuminated lamp.

The number of pilots for the district between Quebec and Montreal, on the active list under the supervision of the Trinity House, Montreal, at the close of last fiscal year, was 34. None were struck off the active list, but 3 died during the last calendar year. The number of new pilots who were admitted during the last calendar year was 5, and one old pilot, who had been suspended, was reinstated. The amount voted by Parliament for this branch of the public service for the year ended 30th June last was \$22,464, and the expenditure, \$22,453 52, leaving an unexpended balance of the vote of \$10 48.

TRINITY HOUSE, QUEBEC.

In my last annual report, allusion was made to the change which it was then contemplated should be carried out under the Order in Council dated 11th February, 1870, with reference to this corporation. The change referred to was completed on the 1st March last, when the agent of this Department, at Quebec, assumed the charge under the direction of the head office of all Lighthouses, Buoys and Beacons, formerly managed by the Trinity House of Quebec, and the new arrangement has been found to work remarkably well, as this Department has much better facilities for visiting and supplying the lights than the Trinity House could have, as the steamers are under the control of the Department, and their duties cannot be advantageously separated from the management of the existing lights and the construction of the new lighthouses and steam fog whistles. The General Superintendent of Lighthouses attached to the head office, who is also a practical engineer, has opportunities now afforded him of visiting the lights and suggesting and carrying out improvements while engaged in superintending the construction of the new works, which he could not have while the lights were under the management of another body with which he had no connection. The establishment of Steam Fog Whistles in the River and Gulf of St. Lawrence, requires engineering supervision, which the Department is now enabled to give under this new arrangement at a very trifling expense, as the general superintendent avails himself while in the neighbourhood of the steam fog whistles of every opportunity of visiting them and reporting as to their efficiency.

The staff of the Trinity House having been very much reduced, and an office provided for them in the new Custom House, thereby saving rent: the expenses of that body, which are defrayed by the Dominion Government, have been also considerably reduced. There are still seven salaried officers retained in connection with this body, the salaries of whom amount to \$7,095, viz: the Master, Harbor Master, Superintendent of Pilots, Secretary-Treasurer, Assistant Secretary-Treasurer, who acts as Clerk to Harbor Master, the Assistant to the Harbor Master, and the Messenger. Their duties are chiefly to attend to all matters relating to pilotage connected with the lower St. Lawrence, Harbor Master's duties, and other minor matters relating to shipping. The amount expended for salaries and contingencies of the Trinity House, Quebec, for the fiscal year ended 30th June, 1871, including rent, taxes, and stationery, furnished by the stationery office, Ottawa,

was \$11,925 17, and the amount voted by Parliament for this serv. including \$100 for maintenance of a temporary light at the entrance of the Saguenay river, was \$12,488, leaving an unexpended balance of \$493 21. This Department was informed last spring that the wreck of the *Glenmore*, which was a serious obstruction to the navigation near the quarantine station at Grosse Isle, had been removed, and the balance of a amount of the contract of \$2,000 has been paid to the contractors, Messrs. Rousseau and Patterson.

The number of pilots on the active list, under the supervision of the Trinity House, Quebec, on the 30th June last, was 238, including one temporarily suspended, one not piloting on account of sickness, and three in charge of lighthouses, and on the 31st December last, the number was reduced to 233, including 13 not performing duty. During the last calendar year 6 pilot apprentices who had passed the required examinations, were admitted as branch pilots for and below the harbour of Quebec, but during the fiscal year ended 30th June last, 16 were admitted. The number of pilots who were retired, struck off the active list, or died during the last calendar year, was 12, exclusive of 5 put on the sick list, 3 suspended, and 1 appointed keeper of Red Island Lightship.

The annual statement required by law to be laid before Parliament relative to the Decayed Pilot Fund, for the year ended 31st December, 1871, will be found in Appendix No. 20 to this report. At that date the state of the fund was as follows:—

Money lent and invested	\$58,414 92
Interest due	811 01
Cash in Treasurer's hands	2,318 69
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	\$61,544 62
Deduct arrears of pensions due	309 82
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Balance to the credit of the fund	\$61,234 80

The number of infirm or decayed pilots on the list at the present time, is thirty-nine. The pensions allowed them range from \$40 to \$120 each, and the annual amount of such pensions is \$3,688.

Twelve pilots were relieved out of the fund to the extent of \$659 46. There are ninety two widows of pilots on the list, receiving from \$40 to \$80 each per annum, amounting in the aggregate to \$6,188. Forty children of pilots receive pensions ranging from \$10 to \$48 each, amounting to the sum of \$862. The total amount of the pensions' list, on the 31st December, 1871, was \$10,788.

The amount actually paid to these persons during the year 1871, was \$11,397 46. The expenses connected with the management of the fund amounted to \$619 36, including the sum of \$440 paid the treasurer as an allowance for a clerk. The investments amounted to \$2,207 30, and cash in the treasurer's hands, \$2,318 69. The receipts of the fund for last year amounted to \$16,202 88, including poundage received from pilots, \$7,128 06, fines \$62, interest on investments, \$5,873 81, and balance in the treasurer's hands from last year, \$3,139 01.

LIGHTHOUSE AND COAST SERVICE BELOW QUEBEC.

Since 1st March last, this branch of the Public Service has been managed by this Department through its agent at Quebec. On the 30th June last, there were in this division twenty-seven lights, including one Light ship in the Traverse, and at the close of navigation they had increased to thirty-eight, including two Light ships in the Traverse, an iron Light ship, with a steam fog whistle on board, below Red Island Reef, and a Light vessel on Sandy Beach Spit, in Gaspé Basin. Of this number three are minor lights above Quebec. A steam fog whistle was also established at the new Lighthouse Station, at the south point of Anticosti. The new Light at Cape Norman on the coast of Newfoundland, near the north-eastern entrance of the Straits of Belle Isle, was exhibited for the first time on the 1st October last. It is a powerful, first-class, revolving white sea light, on the catoptric principle, consisting of two faces, with three No. 1 circular burner lamps in each face and twenty-inch reflectors. The total amount expended in the construction of this Lighthouse, including lantern and apparatus, up to 30th June last, was \$5,506.22, but some expenditure was made on account of it subsequent to that date, which will appear in the financial statements of the Department for the current fiscal year. Mr. Henry Locke, a resident of that locality, who has been highly recommended to me was placed in charge as keeper at a salary of \$500 per annum.

In order to make the approach to the eastern entrance of the Straits of Belle Isle still more safe and improve the summer route between the United Kingdom and the St. Lawrence, I am of opinion that a powerful Light with a steam fog whistle attached, should be placed on Cape Bauld, a prominent point of land, some distance to the eastward of Cape Norman. A similar class light is also much required at Cape Whittle, near the western entrance of the Straits of Belle Isle. At present there are four high class sea lights in the Straits and with these two additional lights, the passage through them will be rendered much safer than at present, with much less chance of detention. These additional Lights are all the more necessary on account of the outward mail steamers usually passing through the Straits at night.

The new Light at the south-western extremity of Point Rich, on the Newfoundland coast, in the Straits of Belle Isle, was exhibited for the first time on the 26th August last, and has been spoken of as a most superior light. It is a white flash light, on the catoptric principle, with six faces and two No. 1 circular burner lamps, with twenty-inch reflectors in each face. Mr. Eugene Roy was appointed keeper of it at a salary of \$500 per annum. The total cost of its construction up to the 30th June last, was \$9,129.52.

The new Light at Cape Ray, on the south western point of Newfoundland, at the southern entrance of the Gulf of St. Lawrence, was exhibited for the first time on the 13th July last. It is a first-class flash white sea light on the catoptric principle, with six faces, each containing two No. 1 circular burner lamps and twenty-inch reflectors. Mr. Robert Rennie was appointed keeper at a salary of \$600 per annum. The total cost of its construction up to the 30th June last, was \$10,903.82.

In my last report I alluded to the Light on the Great Bird Rocks, one of the Magdalen Islands in the Gulf of St. Lawrence, which was lighted up for the first time on

the 30th September, 1870. This light, which is a French dioptric of the second-class, has been found to be of great service to the shipping frequenting the gulf, although it is an expensive light to maintain on account of its isolation and the difficulty and danger of approaching it. Mr. Chapman, with two assistants, has been in charge of the light since the beginning of September with an allowance of \$1,600 per annum.

Arrangements were made before the winter set in for their remaining on the Rock during the winter months, as the danger of taking them off in the fall and replacing them in the spring was too great to be attempted, and the risk of delay in getting the place lighted in the spring too great to justify its being incurred.

The total construction of this Light up to the 30th June last, was \$7,918.40, although there are several additions and improvements to the buildings and landings still to be made there, which will involve a still further outlay, the particulars of which will appear in the financial statements of this Department for the year ending 30th June next.

A powerful revolving light, white and red alternately, was exhibited for the first time on the 7th July last, on Amherst Island, one of the Magdalen Islands in the Gulf of St. Lawrence. It is on the catoptric principle and has two faces, with two No. 1 circular burner lamps and twenty-inch reflectors in each face. Mr. William Cormier was appointed keeper at a salary of \$300 per annum. The total cost of the construction of this light up to the 30th June last, was \$6,700.95.

The new Light at South Point, Anticosti, is a powerful flash white light with six faces, each face containing two No. 1 circular burner lamps and twenty-inch reflectors. In conjunction with this light is a powerful steam fog whistle, which sounds during fogs and snow storms ten seconds in every minute, with an interval of fifty seconds between each blast. Mr. D. Tetu was appointed keeper of both the Lighthouse and fog whistle with a salary of \$800, out of which he is required to pay his assistant, who must be a practical engineer. The total cost up to the 30th June last of construction of Lighthouse and buildings in connection therewith was \$7,063.50, and for the steam fog whistle, including the building in which it is placed \$6,492.22.

The new Light at Seven Islands, in the north-west part of the Gulf of St. Lawrence is a fixed white one on the catoptric principle, with two No. 1 circular burner lamps and one No. 1 flat wick burner lamp and three fifteen-inch reflectors. It was first exhibited on the 15th October, 1870, and has been under the charge since that time of Mr. A. Riverin, with an allowance of \$500 per annum. The total cost of its construction up to the 30th June last, was \$4,145.80. It is proposed to increase the number of lamps in this Lighthouse as soon as an opportunity offers in the spring.

The new Light on Egg Island, in the north-west part of the Gulf of St. Lawrence, near the entrance of the River St. Lawrence, is a white revolving light on the catoptric principle, with two faces each having two No. 1 circular burner lamps, with twenty-inch reflectors. It was lighted on the 23rd October last for the first time. Mr. Paul Côté was appointed keeper at \$500 per annum. The cost of its construction will appear in the financial statement of this Department for the current fiscal year, as it was built subsequently to the 1st July last.

The new Light on Cape Magdalen, in the County of Gaspé, in the Gulf of St. Lawrence, is a revolving light on the catoptric principle, showing white and red alternately. It has two faces, each having two No. 1 circular burner lamps, with twenty-inch reflectors. It was exhibited on the 21st August last, for the first time. Mr. P. Savage was appointed keeper at a salary of \$300 per annum. The amount expended on account of the construction of this light up to the 30th June last, was \$3,104.88, but the the total cost of its construction will not appear till the accounts for the current fiscal year are made up.

The new Light at Cape Chatte on the western boundary line of the County of Gaspé, is a white flash light, with six faces, each having a No. 1 circular burner lamp, with a twenty-inch reflector. It was exhibited for the first time on the 11th August last. The cost of its construction up to the 30th June last, was \$2,116.93 : the cost of the completion of this Lighthouse will appear in the accounts of this Department for the current fiscal year. Mr. Joseph Roy was appointed keeper at a salary of \$300 per annum. The new iron Light ship at Red Island Reef was placed at her station on the 9th July last, and the light was exhibited for the first time on the evening of that day. It is a fixed white catoptric light in a sliding lantern on the foremast.

There are six small circular burner lamps with twelve inch reflectors in them. There is also a steam fog whistle on board, which sounds ten seconds in each minute during foggy weather or snow storms. The total cost of construction of this vessel with all the machinery and lighting apparatus on board up to the 30th June last, was \$32,805 42, but there will be some additional expenditure on account of the construction of this vessel subsequent to that date, which will appear in the returns of this Department for the current year. Mr. J. Levesque, an experienced pilot of the Lower St. Lawrence, was appointed keeper and captain of this vessel, with an allowance of \$2,200, out of which he has to pay and maintain an engineer and crew for the vessel. A new floating light was exhibited for the first time on the 1st November last, in the Upper Traverse. It is a small dioptric light with one lamp suspended between the two masts of the vessel. No permanent keeper has yet been appointed to this vessel.

The new light on Montee du Lac, on the north shore of the River St. Lawrence, in the County of Montmorency, is a fixed white light on the catoptric principle, and was exhibited for the first time on the 28th October, 1870. The light consists of one No. 1 circular burner lamp and two No. 1 flat wick lamps, each having a 15-inch reflector. Mr. E. Simard was appointed keeper, at a salary of \$300 per annum. The cost of construction of this lighthouse up to the 30th June last, was \$1,447 20, but considerable expenditure was made at this station subsequent to that date for the construction of a staircase up the steep rocks to the lighthouse, store house, &c., which will appear in the returns for the current year.

In connection with the construction of the above mentioned works, there was also expended a sum of \$3,489 85 for plans and surveys, superintending the construction of lights and other general purposes. The total cost of construction for these new works in this division, including new lighthouses and the lightship and steam fog whistles up to the 30th June last was \$100,824 71, and the amount voted by Parliament for this purpose

was \$116,800, leaving an unexpended balance of \$15,675 29 on this vote, which was carried over by an Order in Council into the present fiscal year to complete the construction of these works. The balance of the cost of construction for such of them as were unfinished on the 30th June last, will appear in the returns of the Department for the current fiscal year.

A floating light was established for the first time on the 13th July last, on Sandy Beach Spit, in Gaspé Harbour, for the purpose of leading vessels up the channel and keeping them off the bar. It has been hitherto a small dioptric lantern, shewing red, suspended between the two masts of a schooner, which has been hired for the purpose, but as the light is not strong enough it is proposed to make it a small white dioptric light instead of a red light. The number of keepers to attend to the lights in this division was at the close of navigation 39, including the keepers of the four light ships. In addition to these there were 18 assistant keepers and gunners for the signal guns. The keepers of the lightships engage their own crews and pay them out of the allowance which they receive for the service. The number of the crews in addition to the assistants already mentioned, was 20, making the total number of persons employed in attending to the lights, lightships and steam fog whistles in this division, 77. The total cost of maintaining this service, oil, stores, and salaries for the fiscal year ended 30th June last was \$31,582 75, and the amount voted for this purpose by Parliament for the same period, was \$32,907 46, leaving an unexpended balance of \$1,324 71, which was carried into the current fiscal year.

Since the transfer of the management of the lights in this division from the Trinity House to this Department, Captain Smith, formerly junior superintendent of pilots, has acted as inspector of lights for this district, at his former salary of \$1,200 per annum.

Mr. Gregory, the agent of this Department at Quebec, is also assisted in his office by two clerks, but he has a variety of other duties to perform in addition to the management of the lighthouse service.

A new iron lightship for the Manicouagan shoals, on the north side of the River St. Lawrence, a short distance above the Point de Monts Lighthouse, is now being built in England by contract, and will probably be ready to be moored at her station by the month of July next. The engine, boiler, and machinery for the steam fog whistle, which will be placed in her are also being made under contract, and will be ready on the arrival of the vessel in this country.

A minor lighthouse is under contract for Point Prairie, on Coudres Island, River St. Lawrence, as also a similar description of light for Lark Islet, at the entrance of the Saguenay River. It is expected that both these lights will be exhibited on the opening of navigation. They are intended to aid the local coasting trade on the north shore, and to facilitate the entrance of vessels into the Saguenay River. It is proposed to erect a powerful sea light on Cape Despair, in the County of Gaspé, at the north east entrance of the Bay Chaleur, but the amount voted for it last year, viz., \$1,000, was not sufficient for the purpose, and the construction of it has consequently been delayed until Parliament votes a sufficient additional sum to build and equip a good sea light there.

A new lighthouse has recently been erected at Carleton Point, in the Bay Chaleur. It will shew a fixed red light, and will probably be exhibited on the opening of navigation.

In order to render the navigation of Bay Chaleur easy and safe, both at night and in foggy weather, it would be very desirable that a minor light be erected on Point Macquereau, at the northern entrance of the Bay Chaleur, near the boundary line between the County of Gaspé and the County of Bonaventure, and also a steam fog whistle near the present Lighthouse on Miscou Island, at the southern entrance of the Bay Chaleur. In this division there are 51 buoys to be maintained in their proper positions to indicate the channel, shoals, and sunken rocks, and as they are frequently carried away by collisions and otherwise, it requires the most careful attention to keep them in their proper places. This duty is chiefly attended to by the superintendent of lights and the captains of the Government steamers who may be in command of the steamers selected for the purpose. There are also 47 beacons in the division for the purpose of indicating particular points on the land, which in many places below the Saguenay, is very similar in appearance, more particularly on the south shore, near which the vessels usually sail.

LIGHTHOUSE AND COAST SERVICE—NEW BRUNSWICK.

The management of the light service in this division is entrusted under the direction of the Department at Ottawa, to an agent, with his office at St. John. In October last Mr. G. W. Smith, the former agent at this branch, was appointed to the branch of the Finance Department and Saving's Bank at St. John, and Mr. John H. Harding was by Order in Council, dated 23rd November, 1871, appointed in his place, with the salary of \$1,600 per annum.

Mr. John Harley, the former Inspector of Lights in New Brunswick being advanced in years, and in ill health, was placed on the superannuation list on the 7th June last, with an allowance of \$216 per annum on his representation of his inability from ill health for the performance of his duties, and Mr. James Mitchell was appointed in his place, with the salary of \$1,200, being the same as was allowed his predecessor.

In this division there were at the close of navigation last year 38 lights, twenty of which were good sea lights, and eighteen were minor or river lights. To manage and attend to these lights there were 33 keepers and 2 assistants. In addition to these lights there were two steam fog whistles, one at Lepreau and one at Partridge Island, both in the Bay of Fundy, each having an engineer to attend to them, and one an assistant engineer. This makes the number of keepers and assistants for the lighthouses and steam fog whistles in New Brunswick thirty-eight. The total cost of maintenance for this service during last fiscal year, including the red light at Reed's Point, St. John, the steam fog whistles, and the salary and travelling expenses of the Inspector of Light Houses was \$23,564 86, and the amount voted by Parliament for it was \$27,362, leaving an unexpended balance of \$1,797 14.

In New Brunswick there are 169 buoys, which cost for maintenance during last fiscal year, \$1,851 46.

On the 5th February, 1871, Mr. John Hemmeherry, late keeper of the light at Cape

Enrage, died, and Mr. George Tingley, who for many years assisted him, was placed in charge, with a salary of \$400 per annum.

The total cost of maintenance of the steam fog whistle at Partridge Island, including the salaries of the two engineers, (who also attend to the signalling of vessels) and fuel, &c., for the last fiscal year, was \$2,078 29, and for the maintenance of the steam fog whistle at Lepreau, including the salary of the engineer and fuel for the same period, was \$1,996 90.

A new lighthouse was recently erected at Arseneau Point, Dalhousie, and the light was exhibited for the first time on the 7th November, 1870. It is a fixed white light, on the catoptric principle, consisting of three lamps, one of which is a No. 1 circular burner lamp, with an 18-inch reflector, and two flat wick burner lamps, with 15-inch reflectors. This light has been of great service to the Gulf ports steamers in running up the Bay Chaleur after dark. Mr. Louis Arseneau was appointed keeper, at a salary of \$100 per annum. The total cost of this light, including lantern and apparatus, up to the 30th June last, was \$1,081 43, and the amount voted was \$1,000.

Two new beacon range lights were recently erected on Alston's Point, at the entrance of Bathurst harbour, in the County of Gloucester. The outer one shows a white fixed light, and the inner one a fixed red light. They were exhibited for the first time on the 21st April, 1871. Mr. John Conners was appointed keeper of them both, at a salary of \$80 per annum. The total cost of construction of these two beacons, including lighting apparatus, was \$683 66, and the amount voted for this purpose was \$1,000.

A minor Light was recently established on Cox's Point, Grand Lake, Queen's County, New Brunswick, and was exhibited for the first time on the 3rd May, 1871. It is a fixed white light consisting of three flat wick lamps, with fifteen-inch reflectors. Mr. Michael J. Cox was appointed keeper at a salary of \$80 per annum. The total cost of construction up to the 30th June last, was \$607.35, and the amount voted was \$650.

A new Lighthouse was recently erected on the south-western Wolf Island, in the Bay of Fundy, between the Island of Grand Manan and Charlotte County, New Brunswick. It is a powerful white revolving sea light with two faces, each containing three No. 1 circular burner lamps, with twenty-inch reflectors. It was exhibited for the first time on the 20th November last. Mr. William Cline was appointed keeper with a salary of \$500 per annum. The cost of construction will appear in the financial returns of the Department for the current year. A new Lighthouse was recently erected on Bliss Island, Charlotte County, New Brunswick. It shows a fixed red light, and was exhibited for the first time in the beginning of December last. The Light is on the catoptric principle, with five mammoth flat wick lamps, with eighteen-inch reflectors. Mr. Jarvis Clarke was appointed keeper with a salary of \$200 per annum.

A new Lighthouse is now under construction at Cassie's Point, near the entrance of Shediac harbor, in the Straits of Northumberland, and will probably be lighted up on the opening of navigation.

A new beacon block was recently erected at St. Andrew's harbor to replace the one

which was formerly there, and which was carried away some time ago. It cost for construction \$1,000, the amount voted by Parliament for this purpose.

A minor Light is now about to be built at Shippegan Gully, in the County of Gloucester and another at Alnwick, in the County of Northumberland, both of which will probably be in operation shortly after the opening of navigation.

NOVA SCOTIA LIGHTS.

The lights, steam fog whistles and buoys on the coast of Nova Scotia are under the management of an agent with his office at Halifax, who receives his orders and instructions from the head office at Ottawa, on all important matters relating to the business. He is assisted by an inspector of Lights who resides at Halifax, and who visits all the Light-houses in that section annually when he is delivering the supplies, and many of them at occasional intervals as necessity may require. He has also a clerk to assist him in his office duties. The former inspector, Captain Jost, received an appointment in the Customs during last summer, and Captain Kendrick who was inspector of Lights some years ago, and afterwards captain of the steamer *Druid*, was appointed on the 1st July, 1871, to be the inspector of Lights, at \$1,200 per annum.

The number of Lights in operation in this district at the close of the last fiscal year was sixty-two, and at the close of the calendar year there was sixty-five.

The number of keepers to attend to these Lights now in operation is sixty-five, and there are no assistant keepers in Nova Scotia appointed or paid by the Government. At Saint Paul's Island the superintendent of the humane establishment acts also as the principal Light keeper in charge of both Lights, and there is a keeper under him in charge of the south-west Light, and one of his staff acts as keeper of the north-east Light. In addition to these Lights there are four powerful steam fog whistles in operation in Nova Scotia—one at Yarmouth, one on Seal Island, one at Digby and one at Cranberry Island. Contracts have also been made for the erection of powerful steam fog whistles at Brier Island, St. Paul's Island and Sable Island, all of which are expected to be in operation during the ensuing summer. The Daboll fog trumpet on Sambro Island was found to be so unreliable and useless that public notice was given on the 2nd October, 1871, that the trumpet had been discontinued. Arrangements are now being made to obtain tenders for the erection at that station of a powerful steam fog whistle, and a sum sufficient to provide for it will be placed on the estimates to be laid before Parliament at the ensuing session. It is also proposed to place in the estimates a sufficient amount to construct a second steam fog whistle on Sable Island, so as to have a Lighthouse with a powerful steam fog whistle and house of refuge attached at each end of the Island, which is about twenty-two mile long. By keeping a portion of the staff at each of these stations with some at the main station and the central intermediate ones, there will be always assistance at hand in case of wrecks occurring at any part of the island. When this arrangement is carried out there will then be six different stations on the island for the purpose of rendering assistance to shipwrecked crews.

When the fog whistles now under contract for Nova Scotia are completed and in operation, there will then be on the coast of that Province seven steam fog alarms, and if a new one is erected on Sambro Island as proposed, and a second one on Sable Island, it will make the number, nine, all of which will have been erected since the date of confederation, when there were no steam fog whistles in operation in Nova Scotia, and only two of Daboll's fog trumpets, which were of an inefficient character.

The total cost for the construction of the fog whistle and buildings at Seal Island up to 30th June last, has been \$4,327. For the fog whistle and buildings at Yarmouth, \$3,451. For the fog whistle and buildings at Cranberry Island, \$5,650; but there will be further expenditure for this one, which will appear in the accounts of the current fiscal year. The cost of construction for the steam fog whistles at Digby, Brier Island and St. Paul's Island, all of which will probably be finished during the current year, will appear in next year's report.

The new Light at the entrance of Sissiboo River, County of Digby, was lighted for the first time on the 3rd December, 1870. It is a fixed white light with three flat wick lamps and fifteen-inch reflectors. Mr. Basil Amereau was appointed keeper, 17th April, 1871, at a salary of \$200 per annum. The total cost of construction of this Lighthouse up to the 30th June last, was \$1,153.01.

The new Lighthouse at Apple River, County of Cumberland, was built to replace the old one, which was burned down. It was lighted for the first time on the 1st October, 1870. The former keeper remained in charge of it. It is a fixed white light on the catoptric principle. The total cost of its construction up to the 30th June last, was \$1,479.46.

The new Lighthouse at Chester or East Ironbound Island, in the County of Lunenburg, was built to replace the old one there which was destroyed by fire, after being struck by lightning as was supposed. It was lighted on the 5th January, 1871, and the total cost of its construction up to the 30th June was \$1,811.24. The Light is on the dioptric principle of the 5th order.

The new Light on Ingonish Island, in the County of Victoria, Cape Breton, is a fixed white dioptric light of the fifth order, and was lit up for the first time on the 1st August, 1871. The total cost of its construction up to the 30th June last was \$2,410.47. Mr. Samuel C. Campbell was appointed keeper, at a salary of \$300 per annum.

The new Light at Main à Dieu, on the west end of Scattarie Island, is on the catoptric system, showing a fixed red light seaward, and a white light to the northward. It has two round wick lamps, and two flat wick lamps, with two fifteen-inch reflectors and two sixteen-inch reflectors. It was lighted for the first time on the 1st August, 1871, and its cost of construction up to the 30th June last, was \$2,312.39. Mr. James Burke was placed in temporary charge of the Light, at a salary of \$300 per annum.

The new Light at the entrance of Pugwash harbor, in Cumberland County, was exhibited for the first time on the 26th May, 1871. It is a fixed red light, and has been seen a distance of twelve miles off. The total cost of its construction up to the 30th June last, was \$1,676.91. Mr. Rufus F. Bent was appointed keeper, at a salary of \$200 per annum.

A Light Beacon has recently been placed on the ferry house, at the entrance of St. Ann's harbor, Victoria County, at a cost of \$187.35. Mr. J. Morrison was appointed keeper, at a salary of \$100 per annum.

The cost of these seven new Lights which were erected during last fiscal year was \$10,736.69 Canadian currency, and the amount voted in the estimates for their construction was \$10,936. In addition to this amount there was a sum of \$5,000 voted for constructing a Lighthouse at Sable Island.

The total number of new Lighthouses which have been put in operation in Nova Scotia since the date of confederation up to the close of 1871, was fourteen, including two which were rebuilt, and there are now under contract thirteen, which when finished will make twenty-seven new Lights exhibited since that period.

The total number of Lights in operation in Nova Scotia at the close of 1871, was sixty-five. There are no assistant keepers of Lights in this district paid by the Government, but in cases where keepers wish to employ assistants they pay them for their services.

During last fiscal year the following mentioned changes took place among the Light keepers of Nova Scotia:—In the month of October, 1870, Mr. Morrison, the keeper of Bird Island Light, Cape Breton, was killed by the bursting of his gun, and Mr. Angus Ross was appointed keeper in his place, at a salary of \$400 per annum.

The keeper of Sable Light, in the County of Shelburne, died last spring, and his son, Mr. Harvey Doane, was appointed in his place, at a salary of £480.

On the 6th May, 1871, Mr. Nathan Smith, the keeper of Burnt Coat Light, in the County of Hants, was placed on the superannuation list, with an allowance of \$157.50, but no permanent appointment has been made to the office, the duties of the station having been performed by his son.

The number of light-keepers in this division during the last financial year was	62
Number of persons employed at the Humane Establishments, in addition to the light-keepers	24
Engineers for the fog whistles and trumpets at Yarmouth, Seal Island, Cranberry Island and Sambro	4
Superintendent of lights	1

The cost of maintaining the buoys and beacons in Nova Scotia during last fiscal year was \$2,091 52.

The superintendent at St. Paul's Island reports only one wreck at that place during last season. The iron ship *Minerva*, laden with general cargo and passengers from Liverpool to Montreal, went on shore on the 15th July, 1871, during a dense fog, and the vessel became a total loss. No lives were lost on this occasion, as the vessel held together long enough to enable the passengers, numbering over 300, along with the crew, to land in safety. They were taken care of on the island until a vessel was sent to take them off. It is supposed that if a powerful steam fog whistle had been in operation on this island, at the time the *Minerva* went ashore, the casualty would not have happened. The new

steam fog whistle now under contract for this island will probably be in operation early in the ensuing summer, and it is hoped that it will be the means of preventing any similar accidents in future at that dangerous place.

Two wrecks occurred during last season, at Scatterie Island, where the Department also maintains a Humane Establishment, at the main lighthouse, at the east end of the island.

On the 7th May, 1871, the barque *Star of the West*, of Newcastle England, went ashore on the island during a thick fog, and the captain and crew left the vessel in their boats. The crew were subsequently picked up by a schooner and taken to Cow Bay, with the exception of the captain, who, it appears, had fallen overboard from one of the boats and was drowned. His body was recovered and also taken to Cow Bay. When the matter was reported to the Department, the circumstances connected with the death of the captain appeared to me so unsatisfactory that I immediately directed an official investigation of the case, but before the investigation was held, the men who left the wreck in the life boat with the captain, and who were supposed to be with him when he met with his death, had secreted themselves in a steamer which was about sailing for Liverpool, England, and left the country before their evidence could be obtained. The coroner's jury, however, at Cow Bay, before whom the men were examined, returned a verdict of "accidentally drowned."

Another vessel, the brig *Una*, of Swansea, was wrecked on the south side of Scatterie Island, on the 20th June last, but no lives were lost, as the crew were enabled to land in their boats, and were taken care of at the lighthouse.

A passenger on board the steamer *Empress*, while at the wharf at Annapolis, went overboard in the dark and was drowned. As there were rumours afloat that proper precautions had not been taken by the officers and crew of the steamer for the security and safety of the passengers, I directed an official investigation to be made of the matter, but nothing was elicited at such investigation to prove positively that the officers of the boat were to blame for neglect of duty, although a searching examination of a number of witnesses were made.

No wrecks have occurred at Sable Island during last year, and when there is a powerful light established at each end of the island, with a steam fog alarm attached, it is probable that few if any wrecks will again occur on that dangerous island.

The cost of maintaining the Humane Establishment on Sable Island during last fiscal year was \$8,003 79, but as that expenditure is incurred for the benefit of other shipping as well as Canadian vessels, the British Government contributes an annual subsidy of £400 sterling per annum, equal to \$1,946 66. When the two new lights and steam fog whistles are in full operation on Sable Island, the expenditure for the island will probably be increased some five or six thousand dollars, on account of the heavy expenses connected with the maintenance of steam fog alarms and powerful lights, such as will be established there. If the former operations of the island are entrusted to a practical agriculturist, it is probable that a large portion of the provisions necessary for the support of the staff there will be raised on the island, and somewhat reduce the cost of supporting the staff.

Up to the present time very little has been done in the way of raising crops, the present superintendent having always found so many difficulties in the way of successfully cultivating the land.

The Government of Prince Edward Island contributed last fiscal year as their share of the expense of maintaining the Lighthouse and Humane Establishment on St. Paul's Island, under the award of the arbitrators who met in 1836 for the purpose, the sum of \$136 79. The amount contributed for the previous year was \$204 62

The total cost of maintaining the lighthouses, fog alarms, signal stations, buoys and beacons, in Nova Scotia, during the last fiscal year, was \$62,783 62, in Nova Scotia currency. Humane establishments, including Sable Island, St. Paul's, Scatterie, Mud and Seal Islands, \$10,552 51, making altogether when reduced to Canadian currency, the sum of \$71,380 44. The total expenditure in Nova Scotia for the last fiscal year, on account of maintenance and construction of lighthouses, including payments made for lanterns, &c., for Sable Island Light, Humane Establishments, Fog Whistles, Buoys and Beacons, when reduced to Canadian currency, was \$84,820 49, and the amount voted was \$84,864 00, leaving an unexpended balance of \$43 51, which reverted to the treasury.

The quantity of oil required for the Light-house service of the Dominion for the fiscal year ending 30th June, 1872, was 46,500 gallons, and on the 23rd February, 1871, the department invited tenders for its supply. The oil was required to be non-explosive at a vapor test of 105° Fahrenheit, must burn brilliantly without smoking until entirely consumed, and not crust the wick, must be free from all deleterious substances, and remain fluid at 10° Fahrenheit. The casks to be included in the price of the oil, and to be prepared outside and inside, so as to prevent the oil from leaking. Tenders were received from thirteen different parties, and after the samples had been duly tested by the officers of the department, it was found that the tender of Messrs. F. A. Fitzgerald & Company, of the Union Petroleum Works, London, Ontario, was the most advantageous for the Government, with reference to price and quality. They agreed to furnish according to sample 15,500 gallons at Halifax, at 21 cents per gallon; 6,000 gallons at St. John, N. B., at 21 cents per gallon; 12,000 gallons at Quebec, at 19 cents per gallon; 7,000 gallons at Montreal, at 18 cents per gallon; 2,600 gallons at Hamilton, at 16½ cents per gallon, and 3,400 gallons at Sarنيا, at 16 cents per gallon. This offer would give the oil for the Light-houses of the Dominion at an average rate of 19 $\frac{4}{10}$ cents per gallon, which is the lowest rate at which oil was ever purchased by the Government. The sample of the oil tested before the acceptance of the offer was pronounced by the Analytical Photometrical Oil Chemist of the Department to be of excellent quality, and samples were tried also from the casks when delivered, which were found to agree with the original samples tested. Reports were received from a number of Light keepers, bearing testimony to the excellent quality of the oil, while a few of the Light keepers reported that they had not found it so good as they could have wished. This may have been owing to some impurity in some particular barrels, or to some defect in the lamps,

or to some want of care in cleaning and trimming them, for it is well known that similar oil and similar lamps under the care and management of different keepers produce some times very different results, as to the quality of the light.

The following particulars relating to the oil supplied by Messrs. Fitzgerald & Co., were reported by the officer who tested it, viz :

"This sample proved non-explosive at 112° Fahrenheit, vapour test ; specific gravity 43° Beaume ; has a very good illuminating power ; crusted the wick very little ; smoked the chimney but slightly ; remained fluid at 10° Fahrenheit ; has an economic value of three (3) per centum over the least economic oil tested."

The total amount paid by the department for Petroleum oil, which is used at all the light-houses in the Dominion (except at the Light-ship in the Traverse and in the Light-houses and Light-ship in British Columbia), during the fiscal year ended 30th June last, was \$11,814 01. Owing to the great increase in the number of light-houses in the Dominion, and the introduction of the large No. 1 circular burner lamps into many of the light-houses, the quantity of oil which will be required for the ensuing year will be about 70,000 gallons. As the oil is now furnished at such a very cheap rate, the cost of oil in proportion to the other expenses of the light-house service, is very small, and it is of great importance to have the most brilliant light which can be produced at many of our principal lights. While the department has been most desirous to conduct its business in the most economical manner consistent with efficiency, it has also been most desirous to improve and raise the quality of the lights on our coasts and lakes, so as to render the approach to shores as safe as possible. This will account for the steady increase which has been taking place every year in the quantity of oil consumed, although the total cost of the oil has not been much increased owing to the great reduction in price, which has taken place since the department assumed the management of the light-house service.

DOMINION STEAMERS.

There are three sea going steamers belonging to the Government of Canada, under the management of this Department, in addition to the two steam gun boats under the management of the Minister of Militia and Defence, stationed in the Upper Lakes. There are also two River steamers under the management of this Department, one the steamer "Richelieu," in the service of the Trinity House, Montreal, and the other in the service of the Harbour Police at the Port of Quebec.

The steamer "Napoleon III," is the largest and most powerful steamer owned by the Government, and is used principally for supplying light houses in the Gulf of St. Lawrence, occasionally laying buoys and assisting or towing vessels in distress. During the winter of 1870 and 1871, she received a thorough overhauling and had new decks, new iron bulwarks, stanchions, &c., which has enabled her to carry a larger deck load than formerly. Being a screw steamer, it was found that she rolled considerably in heavy seas, and it was considered advisable to put on side fins on each side of her below her water line, fore and aft, which have improved her very much, and have tended to keep her more steady. The cost of her repairs and fins amounted to about \$8,000.

In the month of September last, she went to the assistance of the ship "Frith of Clyde," which had been wrecked at Isle St. Pierre, on the coast of Newfoundland, and after rendering all the assistance that was practicable, she was returning to Quebec, having been unable to bring the wrecked vessel with her, and during a thick fog she ran on the rocks at Port à Basque, in the neighbourhood of Cape Ray Light-house, and very nearly became a total wreck. The weather being calm at the time, she was temporarily repaired and got off, when she proceeded slowly to Quebec, which place she fortunately reached in safety. Several of the iron plates in her bottom were very much damaged and had to be taken out and replaced. As she was engaged to proceed to St. Pierre, at the rate of \$300 per diem, she earned enough to leave a considerable margin for the repairs rendered necessary by this unfortunate accident. If she had not been built with compartments, it is doubtful if she could have been got off.

The other steamer employed at Quebec is the "Druid," also an iron vessel, but much smaller and of lighter draught of water than the "Napoleon." She is propelled by paddle wheels, and is principally used for supplying the light-houses in the river and laying buoys. On account of her paddles, she is not so suitable for service when there is floating ice on the river, as the screw boats, but on ordinary occasions she has been found to be a most serviceable and powerful boat. Before commencing her work last spring, she had a new boiler put in her, and had other repairs and alterations made at an expense of about \$7,000. Both these steamers have been fitted up with powder magazines, as large quantities of powder have to be carried to the light-houses below Quebec, for the use of the signal guns.

The total amount received during the last fiscal year on account of services rendered by these two steamers to vessels in distress, beyond their services to the Government, was \$2,004.

The screw steamer "Lady Head," is a good serviceable sea boat, and has been for some time past stationed at Halifax and Pictou, employed in the Marine Police duties, and occasionally visiting Sable and St. Paul's Island, to render assistance to shipwrecked persons. She is commanded and managed by Captain Scott, R. N., who has had charge of the Marine Police Force in the waters of the Lower Provinces.

The amount expended by Mr. Gregory, the Agent of the Department at Quebec, on account of maintenance and repairs of the two steamers stationed in the St. Lawrence, for the fiscal year ended 30th June last, was \$59,797 05, and the amount expended by Mr. Johnston, the Agent of the Department at Halifax, on account of the steamers stationed there, for the same period, was \$13,139 86, making altogether the sum of \$72,936 91 for maintenance and repairs of these three steamers.

The amount voted by Parliament for this service was \$73,300, leaving an unexpended balance of \$363 09.

The steamer "Richelieu," is an old paddle wheel steamer in the service of the

Trinity House, Montreal, for the purpose of laying buoys and attending to the lights in that district. She has been well taken care of and kept in good repair, although she will require very extensive repairs at the end of next season in order to make her available for the service. She is maintained at a very small expense, amounting during last fiscal year to the sum of \$3,951 04, including wages of captain, crew, provisions, fuel, repairs and insurance.

The small steam yacht in the service of the Harbor and River Police at Quebec is the only other steamer under the management of this Department. She is maintained at a small expense and saves much time and labor in conveying the Water Police Force from place to place, and enabling a small number of constables to keep order on the river in the neighborhood of Quebec. She usually carries an engineer, a steersman, and six constables, and cruises about among the shipping during the day, while the boats perform the night work. The cost of her maintenance during last fiscal year was \$1,192 43.

The total cost of maintaining and repairing these five steamers under the management of this Department during last fiscal year was \$78,080 38.

OBSERVATORIES AND METEOROLOGICAL OBSERVATIONS.

There are two observatories maintained by the Dominion under the management of this Department, the principal one at Quebec, of which Commander Ashe, R.N., is director, and the other one at St. John, of which Mr. George Hutchinson is director. Both these observatories give the time to the shipping by dropping a time ball at one o'clock p.m., at their respective ports. The time ball observatory at Quebec is situated on the citadel, where it is easily seen, and the one at St. John, N. B., is situated on Fort Howe, but it is proposed to move it to the top of the Custom House Building, where it will be seen better than in its present position.

Commander Ashe, the director of the Quebec Observatory, is a scientific gentleman, and in addition to his duties in connection with the Time Ball, he devotes much of his time, as will be seen by his report in Appendix No. 15, to celestial observations and photography. It is also proposed that Quebec be made a chief station for the purpose of making meteorological observations in connection with the scheme now being matured by Professor Kingston, of Toronto; and in that case, the services of Commander Ashe will be available for this purpose as he has already a very fine collection of instruments at his observatory.

The want of a properly organized system of meteorological observations in Canada has long been felt, both by men of science and persons interested in marine pursuits, as from the meteorological data which might be obtained at different stations in the Dominion, extending over a range of several thousands of miles, properly collected, and reduced to tables and charts, much valuable information could be presented to the public relating to the laws of storms, which it is hoped might after some experience be made available for the purpose of indicating approach, and giving timely warning of the impending danger to mariners and others interested, at the principal seaports of the Dominion. In England the system of giving public notice of approaching storms was

carried out to a certain extent, and with considerable success, by Admiral Fitzroy, now deceased, in connection with the Board of Trade, but since his death, a committee of the Royal Society in London, took the meteorological department of the Board of Trade under their charge in 1866, and a liberal grant of money—£10,000—is annually made by the British Parliament for the purpose of carrying on the meteorological duties formerly undertaken by Admiral Fitzroy and for making various and extensive enquiries in connection with this interesting and important subject.

This Committee of which the president of the Royal Society is chairman, and the Hydrographer of the Admiralty is a member, is composed of eight members, all of them gentlemen of high scientific attainments, who have undertaken these duties entirely gratuitously, although of a onerous nature, and who perform them very willingly on account of the earnest desire they severally feel for the improvement of meteorological science.

The Committee divide their operations into three heads, viz:—*Ocean Meteorology*, comprising the investigation of the meteorological conditions of the entire ocean, by means of observations made at sea with instruments lent by the office. *Telegraphy and Weather Signals*, comprising the entire system of observation, and telegraphy required for the preparation of the daily weather reports, and for the issue to our own ports and to foreign countries telegraphic information of ordinary weather and of storms. *Land Meteorology* of the British Islands, comprising the method of enquiry carried on at the seven self-recording observatories established by the Committee. The object of this branch is, firstly, to afford for the entire area of the United Kingdom accurate meteorological information, similar to that published in most European countries under the auspices of their respective Governments; and secondly, to furnish better data for the study of our weather than had previously existed, so as to place the investigations conducted in connection with the telegraphy and weather signals on a satisfactory scientific basis. On the approach of storms, intelligence thereof is sent to 123 different stations in the United Kingdom, which are provided with drums or storm signals, with an order to hoist the drum accompanied by a brief explanation of the reasons why it is to be hoisted. The message is posted up as soon as it is received. Barometers for the use of fishermen are also lent by the Committee to small ports and fishing stations in the United Kingdom for public use, with a view of enabling such persons to judge for themselves as to changes in the weather which may be expected. 113 are now in use. Storm warnings are also sent to France, Holland, Hamburg, and Norway. The expenditure by the Committee for the year ending 31st March, 1871, was £9,760 7s. 7d. sterling, including £800 sterling as salary for the Director, and £400 sterling as salary for the Marine Superintendent of Ocean Meteorology. The cost incurred by the Committee for telegraphing was only £850 19s. 2d., but this service is not nearly so expensive there as in the United States, seeing details are never sent by telegraph in England as they are in the United States to many of their stations three times a day. Warnings are only sent in the United Kingdom, and these not every day, but only when they are needed.

In the United States great progress has been made of late years in the development

of this most useful and important science, and it has now become a regularly organized branch of the Public Service at Washington. Much valuable information, however, in connection with meteorological observations was previously collected, tabulated and made available for public use by the Smithsonian Institute and other learned bodies in that country; and it is probable with the efforts now being made in the United States, the United Kingdom and Canada, to perfect a system of meteorological observations in connection with weather telegraphy and storm signals, that other countries which have not hitherto been taking such observations will follow their example in this respect, and establish similar institutions for this important object.

In the United States the weather Signal Office is attached to the War Department, and is presided over by Brigadier-General Myer, who is chief signal officer of the army, and bulletins shewing the state of the atmosphere at certain points, and a forecast of the weather which may be expected are issued three times a day from the chief office at Washington, and telegraphed all over the country for the benefit of commerce, shipping and agriculture. These observations have been gradually extending for some time past, until they have now got about seventy meteorological stations ranging from the Atlantic sea board to the Pacific, and from the Gulf of Mexico to the northern boundaries between the States and Canada.

The system of taking meteorological observations and telegraphing weather signals throughout the United States is now conducted on a much larger scale, and at a greater cost to the public treasury than is probably done in any other country in the world, shewing a desire on the part of their public men to bring this science to the highest possible perfection, with the view of rendering the knowledge thus obtained practically useful to the country. It has been estimated that with the extended range of observing stations they have now in operation and in close connection with the chief office by telegraph three times a day, the cost of telegraphing will not fall much short of \$1,000 per day, and the total cost of service may probably exceed half a million of dollars.

Until recently no organized Governmental system of taking meteorological observations and tabulating them for publication has been in operation in Canada, although there are some very able scientific men in the Dominion who not only have taken a great interest in this subject as amateurs, but have been devoting much time and attention to it, although their labours have been to a certain extent unavailable for the purpose of ascertaining general results, as local observations only become valuable when they are taken at certain times in conjunction with other stations, and subsequently tabulated and compared with similar observations at other stations throughout a large extent of country.

Some time ago Professor Kingston, the Director of the Magnetic Observatory at Toronto, a great enthusiast in the study of meteorology, and a gentleman of high scientific attainments, brought this subject prominently under my notice and suggested the advisability of my taking the necessary steps to obtain from the observatories under this Department and Lighthouse keepers at distant stations, such as Sable Island, Saint Paul's Island, Belle Isle, Bird Rocks and other exposed places, on the seaboard, as well as at

inland Lighthouse stations on the lakes, a record at stated times of the state of the weather, rain, winds, etc., and to have them forwarded to him for the purpose of inaugurating a thorough system of meteorological observations, and rendering the data thus obtained useful and valuable, not only to scientific men, but to the commerce and maritime interests of the country. In order to commence the system however, it was necessary that instruments, books of report and forms should be procured and some extra assistance provided for, to make the calculations and tables. On my recommendation the sum of \$5,000 was placed in the estimates for this service, and that amount was duly voted by Parliament, and the necessary instruments, records and forms procured and distributed to the stations recommended by Professor Kingston. A list of the chief and ordinary stations selected will be found in Appendix No. 13, along with a full and very interesting report on the subject by the Professor, who, I may here state has assumed the duties of this laborious undertaking gratuitously, which form no part of the regular duty of the Magnetic Observatory at Toronto, of which he is Director.

The chief stations established at present are at Toronto and Woodstock in Ontario, at Montreal in the Province of Quebec, at St. John and Fredericton in New Brunswick, at Halifax in Nova Scotia and at Winnipeg in Manitoba. It is also proposed to make a chief station at Ottawa as soon as the requisite funds have been voted for the erection of a small building suitable for the purpose, which it is proposed to erect on some part of the grounds adjacent to the Parliament Buildings, where it will not be an objectionable feature in the general appearance of the Buildings and grounds attached thereto.

The observations will be made by some of the employes of my Department.

At Montreal the observations are made and forwarded to Professor Kingston at Toronto by Dr. Smallwood, a scientific gentleman, and also a great enthusiast in the science, who has for many years been engaged in making similar observations for the information of himself and the public generally, and who kindly offered his services to assist in maturing and perfecting the proposed scheme.

Dr. Smallwood has for a number of years conducted the Montreal Observatory, and furnished the correct time to the shipping, by means of a time ball erected on the top of a high building in the immediate neighborhood of the old Custom House.

He also furnishes the correct time for firing the signal gun at Ottawa, for the purpose of regulating the Government time, under the directions of the Postmaster General. His Observatory is also connected with the Fire Alarm Circuit at Montreal, by means of which he furnishes the correct time at 7 a.m., at noon, and at 6 p.m., for the use of the workshops and factories. A report of his proceedings will be found in Appendix No. 14, along with some interesting tables, one of which shows the atmospheric pressure, temperature, wind, rains, snow and extent of clouds for 1871, forming a resumé of the most important phenomena of the climate at Montreal. Another very interesting table having an important bearing on our maritime interests is also given, which indicates the climatology of Montreal and its vicinity for the last twenty-three years.

Taking the average or mean of the state of the weather in the fall or the approach of the winter in the St. Lawrence for the period alluded to, the doctor comes to the conclusion

that there is not much safety for vessels leaving the Port of Montreal after the 20th November, and the Port of Quebec after the 25th of that month. It appears by this table that the winter fairly set in for the season during the month of November, on three occasions between 1849 and 1871 inclusive, viz:—in 1851 on the 21st November, in 1856 on the 29th November, and in 1871 on the 29th November. During the other years it did not set in till the month of December. During last year both Professor Kingston and Dr. Smallwood placed themselves in communication with the signal office of the War Department at Washington with the view of exchanging weather telegrams between the two countries, and the chief signal office there at once cordially agreed to co-operate with our meteorological observers, and weather telegrams and weather opinions were exchanged for some time,—the Canadian observers furnishing certain information by telegram which was useful to the United States office, while it in return supplied our observers with condensed telegrams descriptive of the weather at certain places, which information was at once published in the Toronto and Montreal papers for general information, along with the bulletins of the state of the weather at Canadian meteorological stations.

It was subsequently found, however, that this could not be continued, and that the exchange of weather telegrams had to be stopped in the meantime, as there were no funds at the disposal of my department, which could be appropriated for the expenses of telegraphing these weather reports; the amount voted by Parliament, viz. : \$5,000 being all required for the purchase of materials with which to start the system and pay for such assistance as was absolutely necessary at the chief stations.

At Toronto, the observations will be made at the Magnetic Observatory, by the Professor and his assistants, and at Woodstock, Ontario, the observations will be conducted by Mr. J. Montgomery, Professor of Mathematics at the Canadian Literary Institute of that place. At St. John, New Brunswick, the observations will be conducted by Mr. Murdock, Civil Engineer and Superintendent of the Water Works, with whom I have been personally acquainted for many years, and who is particularly well qualified for this purpose, as he has devoted a lifetime to the study of this science as an amateur, and has for many years freely and gratuitously given the results of his observations to the public through the press of that city.

At Fredericton, the services of Professor Jack were fortunately secured as the Superintendent of our observations in that city. This gentleman is President of the University of New Brunswick, and Professor of Mathematics, Natural Philosophy and Astronomy in that Institution, and is well known as a gentleman thoroughly versed in all scientific pursuits. The University is well provided with a fine collection of instruments, and there is no doubt that the learned doctor who has so kindly undertaken the observations at that station, will with his usual assiduity, materially assist us in maturing and perfecting the scheme referred to. At Halifax, the observations will be conducted by F. A. Allison, Esq., who has devoted much of his time and attention to the study of meteorological science, and who has undertaken and commenced the duty with much zeal.

In the Province of Manitoba, the officers of the St. John's College at Winnipeg

have assumed the duty, and it is probable their assistance will be of great importance to the undertaking.

In addition to these chief stations alluded to, which are superintended by high class men who have made the subject a study, there are considerably upwards of a hundred ordinary stations throughout the Dominion which are in communication with the chief Director of the scheme at Toronto, who send in the result of their observations as opportunity offers. Some of the observers at the ordinary stations are men of education and scientific attainments, who have kindly volunteered to give their valuable aid and assistance in carrying out the scheme which has been attempted under such favorable auspices.

Observations are recorded at thirty-seven of the principal Lighthouse Stations, which were selected on account of their favorable localities and the ability of the keepers to make observations, and keep records, many of whom are very intelligent men, well versed in all matters relating to weather. Some of these stations, such as Sable Island, St. Paul's Island, Belle Isle and others in the Gulf of St. Lawrence and the Straits of Belle Isle, are beyond the reach of the Post Office, and their records cannot therefore be procured and made available for monthly or quarterly reports, as they can only be received by the Department at long intervals, when one of the Government steamers visits them with their annual supplies. Still their observations and records, made all at the same time each day and forming part of a regular system, although not immediately available, are both useful and valuable in ascertaining general results, and arriving at correct conclusions with reference to the course and range of storms over an extended area. In the event of the Legislature seeing fit to make the necessary provision for the extension and perfecting of this important and extensive scheme which I propose to carry out, and for which I will recommend to my colleagues in the Government, an increased sum to be placed in the estimates for the ensuing fiscal year, say \$10,000; arrangements will also soon be made for the establishment of one or more Meteorological Stations in British Columbia, and the result of the observations taken there will be communicated by mail to the chief office at Toronto. When these arrangements are completed, and meteorological observations are systematically recorded daily at numerous stations throughout the Dominion, numbering probably one hundred and fifty, scattered over an area of many thousands of miles in extent—ranging from the Atlantic to the Pacific—Canada will be able to present to the scientific world a meteorological record and analysis of the laws of storms, scarcely inferior to that of any other country, and probably superior to many of the older and wealthier countries of Europe, which have not the same facilities and extent of territory possessed by the Dominion. The importance of being able to ascertain from these proposed extended observations, the operation and course of the great storms which occasionally sweep over the Atlantic and a large portion of this continent, as exhibited by the data subsequently collected and tabulated in the form of storm charts or tables, cannot well be over estimated. Such a system, if properly and vigorously carried out, must have an important bearing on the interests of Commerce, and must necessarily be the means of diffusing a vast amount of useful knowledge relating to

the climatology and meteorology of the northern portion of this continent, which has hitherto been unknown and consequently unavailable, and the storm signals at the principal sea-ports of the Dominion, which will probably result from a well matured system of meteorological observations cannot fail to be of the utmost importance to our maritime interests, and tend to secure the safety of life and property afloat. The account in detail of the expenditure of the \$5,000 voted by Parliament for this service for the current fiscal year will appear in the public accounts and in the report of this Department for the year ended 30th June, 1872, during which period it will have been expended, and although the utmost economy has been used in its disbursement, still it will scarcely be sufficient to meet the liabilities incurred for instruments, books, forms, records, telegraphing, and assistance, and it is my intention to recommend that an additional sum of \$3,000 be placed in the Supplementary Estimates for the current fiscal year to meet the liabilities incurred, and to carry on the system inaugurated, until the 30th June next. With reference to the ensuing fiscal year, Professor Kingston has, at my request, carefully prepared the necessary estimates for the performance of this service during that period, on the most economical scale consistent with its efficiency, computing the extent of ground and the number of persons to be employed, amounting to \$10,000, and I will be prepared at the proper time to recommend that this amount should be placed in the estimates to be submitted to Parliament at its next session, as I am of opinion that the money could not be better expended than in this service. With this small amount I will be able to make the necessary arrangements to furnish some new instruments which are much needed, and probably to furnish also from time to time to the principal sea-ports of the Dominion, on the Atlantic side of the Continent, a storm warning or weather telegraph of danger to be apprehended; but with this amount I do not expect to be able to send a daily telegram of the state of the weather to such ports.

The amount voted for the Quebec Observatory for the year ended June last was \$2,400, and the amount expended was the same as will be seen by the report of the Director in the Appendix.

The amount voted for the Observatory and Time Ball at St. John, N. B., for the last fiscal year was \$1,400, and the amount expended was \$1,179 82. The amount voted for the maintenance of the Magnetic Observatory at Toronto during last fiscal year was \$4,800, and the same amount was expended.

The amount voted for the Observatory at Kingston was \$500, and the amount expended was the same.

The amount voted for the Observatory at Montreal was \$500, and the expenditure was the same.

The amount of \$750 was voted for the establishment of an Observatory at Halifax, but as no steps have yet been taken for its construction no part of the vote was expended.

As the supervision of the observatories at Toronto, Kingston and Montreal is not under my Department, the expenditures on account of these institutions are not made through my office, and the officers who superintend them have not hitherto made any report to me of their proceedings.

IMPROVEMENT OF HARBORS.

Under the Act 32 & 33 Vict. cap. 40, and Orders in Council issued under the authority of that Act, there is a tonnage duty of ten cents per ton levied on vessels entering the harbors of Bathurst and Richibucto, in New Brunswick, and Amherst and House Harbor in the Magdalen Islands. This tonnage duty is only chargeable on vessels of 100 tons or under, once in each calendar year, and if over that size, twice in each calendar year. The 4th section of the Act alluded to requires the Minister of Marine and Fisheries to make a report and statement of the sums collected at each port, and those appropriated and expended, (if any,) for improvements thereat, during each fiscal year, for the purpose of being laid before Parliament.

The amount collected at the ports referred to on account of this service for the year ended 30th June, 1871, was as follows :

			\$	cts.
Bathurst	.....47 vessels.	7,034 tons.	703	40.
Richibucto	.....95 "	23,946 "	2,394	60.
House Harbor	.....23 "	840 "	84	00.
Amherst	.....87 "	3,899 "	389	90.
Total amount collected			\$3,571	90.

The amount collected during the previous fiscal year was \$3,524 60.

The total expenditure for harbor improvements under this Act for the last fiscal year was \$5,750 87, as will appear by the report of the Minister of Public Works, while the receipts were \$3,571 90, but as \$2,000 of the expenditure was for services performed during the previous year, the real expenditure for last fiscal year was only \$3,750.

The total expenditure under this Act for the two last fiscal years was \$6,350 87, while the total receipts for the same period were \$7,096 50, shewing an excess of receipts over expenditure, since the operation of the Act. As soon as the steam dredge arrives, however, which I learn from the Department of Public Works, may shortly be expected from the Clyde, the work of improvement in these harbors may be expected to be progressed with, and if its operations are successful, as I believe they will be, the benefits to be derived by the shipping frequenting these ports must be very considerable, and well worth the amount contributed by those for whose benefit the improvements have been made and the tax imposed.

The improvements now being carried out at other harbors in the Dominion, the expenses of which are defrayed by the Dominion Government out of the Public Treasury, without the imposition of a special tonnage duty, as in the case of the four harbors herein mentioned, are not alluded to in this report, as they are carried on by the Department of Public Works, and an account of them will be found in the report of that Department.

In cases where the improvements of harbors were important to the general interests of navigation ; such as the construction of harbors of refuge at certain points on our coasts, where it was considered advisable to have them for the safety of life and property,

the Government and the Legislature have decided to defray the cost thereof from the general revenues of the country, without the imposition of any special tax or tonnage duty, on the vessels using such harbors but at places where the improvements are wanted, merely for the use of the local trade, they will be made under the Act alluded to, on the application of the persons interested in the trade of such places, to have the operation of the Act extended to them, which will involve the imposition of the tonnage duty alluded to. This seems to be a safe rule to adopt for the improvement of our harbors, as our coasts are so very extensive, and the harbors so numerous, that if such improvements were to be undertaken by the Dominion Government at all the harbors of our wide-spread territory indiscriminately, a large increase in our taxation would inevitably follow.

HARBOR AND RIVER POLICE.

A River or Harbor Police Force is maintained by the Dominion Government at the Ports of Montreal and Quebec, and although managed and controlled by the General Government, it is not a source of any expense to the Dominion Treasury, as it is maintained by a tax on the shipping which visit these ports. Under the Act 31 Vic., cap. 62, a tonnage duty of three cents per ton is imposed on every vessel entering at the Ports of Quebec or Montreal, for the purpose of maintaining this force. Vessels of 100 tons or under pay once a year, and over 100 tons twice a year. The total strength of the force consists of fifty persons, viz., twenty-five at each place. At Montreal it is managed with much ability and discretion by Judge Coursol, who is Commissioner of Dominion Police, and Chairman of the Court of General Sessions of the Peace, and Presiding Justice of the Court of Special Sessions. The Judge also fills at present the highly important and honorable position of Mayor of Montreal, the chief city of the Dominion.

At Quebec this branch of the public service is managed by Mr. R. H. Russell, the Chief of the Force, an energetic and useful public officer, who also holds the office of Shipping Master.

The Act referred to provides that this force shall be under the control and management of the Minister of Marine and Fisheries, and consequently both the officers alluded to receive their directions as to its management through my Department, which is also charged with the duty of defraying the expenses in connection with its maintenance, and I have much pleasure in stating that this force, both at Montreal and Quebec, is considered by me to be a highly efficient and useful body, and I believe I am supported in this opinion by nearly all the merchants and shipowners of these places.

The amount collected at the port of Quebec during the last fiscal year on account of this service, was \$17,102 73, against \$20,883 51 in the previous year. The amount collected at Montreal during the last fiscal year was \$4,132 33 against \$3,113 17 in the previous year. The total amount collected at both ports during last fiscal year, was \$21,235 06, against \$23,996 68 in the previous year, shewing a decrease of \$2,761 62 on last fiscal year as compared with the previous year.

The expenditure at Quebec during the last fiscal year, including \$800 salary of the Chief, \$1,192 43 for the maintenance and repairs of the police steamer, and the wages

and cost of the official clothing of the men, was \$9,370 73, against \$9,038 62 for the previous year, shewing a slight increase on last year as compared with the previous one.

The expenditure at Montreal during the last fiscal year was \$8,030, including the pay of the Chief Constable at \$2 50 per diem, or \$912 50 for the year, and the official clothing of the force. The expenditure for the previous year was \$9,423 21, shewing a decrease on last year as compared with the previous year. It was found, however, that the amount voted for this service at Montreal for the last fiscal year, viz. : \$8,030 was insufficient, and several accounts had to lay over till the following fiscal year for payment for the want of funds. The total expenditure for this service at both ports during last fiscal year was \$17,400 73, against \$18,461 83 for the previous year, shewing a slight reduction on last year as compared with the previous year.

The amount voted by Parliament for this service at both ports for the last fiscal year was \$17,486, leaving an unexpended balance of \$85 27, which reverted to the Public Treasury.

In the detailed estimates for the last fiscal year, which were furnished by this Department to be laid before Parliament, the receipts from this source were estimated at \$22,000, while the actual receipts amounted to \$21,235 06. The receipts and expenditure on account of this service for the three last fiscal years were as follows :—

	Receipts.	Expenditure.
Fiscal year ended 30th June, 1869 ...	\$21,952 83 ...	\$22,358 91
" " 1870 ...	23,996 68 ...	18,461 83
" " 1871 ...	21,235 06 ...	17,400 73
	<u>\$67,184 57 ...</u>	<u>\$58,221 47</u>

Excess of receipts over expenditure during the three last fiscal years... ..	8,963 10
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SICK AND DISTRESSED MARINERS.

In a country like Canada, possessing probably the largest mercantile marine in the world in proportion to her population, and with such a large amount of agricultural produce, as well as the productions of the forest, the fisheries and the mines, to be transported to other countries beyond the seas, looking for available markets, requiring as it does a large fleet of vessels annually, both Canadian and foreign, to perform this service, it was found necessary and desirable that some provision should be made for the care of such of the crews of this large fleet of ships which annually visit our shores as might become sick, either while attached to their vessels while in our ports, or who might have become sick while on their way here. It was also found very necessary that some provision should be made for the case of distressed or shipwrecked mariners, who might either be cast on our shores, or who might be taken off Canadian vessels at sea. The care of such persons frequently involves considerable expense, as they must not only be fed and clothed in cases where they have lost their clothing, but they must be sent to their homes if employment cannot be found on the spot for them. Under the

Act 31 Vict., cap. 64, all such persons are taken care of by the officers of the Dominion Government, and a small tonnage duty is levied on vessels arriving in any one of the Provinces of Quebec, New Brunswick, and Nova Scotia, amounting to two cents per ton, vessels of 100 tons or less to pay once a year, and vessels over 100 tons to pay twice a year. Vessels trading from one port to another of the same Province are not liable for this tax, and the crews of such vessels are not entitled to relief.

The administration of the funds collected for this service, and the care and management of Marine Hospitals exclusively devoted to the reception of sick mariners, as well as the care of sick and distressed mariners generally, are entrusted to the Minister of Marine and Fisheries, who is required to make an annual report and statement to the Governor-General of the receipts and expenditure under this Act, for the purpose of being laid before Parliament. The statements required to be made will be found in Appendices Nos. 12 and 30. The total amount collected on account of this branch of the Public Service during the year ended 30th June, 1871, was \$29,683.41, as appears by the returns made to this Department by the officers who collect the dues. The amount paid into the Receiver-General's Department, as appears by the Public Accounts, differs slightly from this amount, as it is probable collections have been made during the fiscal year at some of the small ports which may not have been paid over for some time after.

Of the total amount collected, the Province of Quebec contributed \$15,316.50; New Brunswick, \$7,698.32; and Nova Scotia, \$6,668.59.

The total amount collected on account of this service during the year ended 30th June, 1870, was \$31,410.46. During year ended 30th June, 1869, it was \$31,353.78; and for the year ended 30th June, 1868, it was \$21,049.68.

At the Port of Quebec the sick mariners are provided for in the Marine and Emigration Hospital there, which is under the management and control of the Department of Agriculture, and which is used for the reception not only of sick mariners, but of immigrants, and inhabitants of the City of Quebec. The total expenditure of this hospital during the last fiscal year was \$19,823.18. Of this amount the local Government of Quebec paid its annual contribution of \$4,000, in consideration of the expenses incurred in treating and maintaining patients from the Province of Quebec. The amount contributed by paying patients during last fiscal year was \$235.40, and there were some other minor receipts, amounting in all to the sum of \$656, including the amount received from the paying patients, leaving the sum of \$15,167.18 to be defrayed by the Government of Canada. Of this amount the authorities of the hospital estimate the cost of providing for the sick mariners who were treated there during last year to have been \$12,948.54. Nearly all this amount was on account of seamen from sea-going vessels, which amounted to \$12,760.86, leaving the amount incurred on account of sick seamen from coasting vessels to be \$187.68. The amount expended by this Department for the treatment of sick mariners at other ports in the Province of Quebec during that period, including Montreal, was \$2,318.13, and for shipwrecked or distressed seamen \$172.09, making a total expenditure in the Province of Quebec, on account of this service, of \$15,438.76. As the amount collected in the Province of Quebec was only \$15,316.50,

and the amount expended was \$15,438.76, there appears to be a deficit of \$122.26 on the receipts as compared with the expenditure, after providing for all the sick and distressed mariners in the Province who are entitled to relief.

At Montreal the sick mariners are well taken care of in the Montreal General Hospital, where the accommodation is excellent, and the medical attendance probably unsurpassed in any part of the world, at a cost of \$4 20 per week. The amount paid to that Institution for this service during last fiscal year was \$1,824. The average cost of maintaining the sick mariners at the Hospital of Quebec was \$9 66 each per week. The accommodation in this Hospital is also excellent, although more expensive, than at the Montreal General Hospital.

In New Brunswick the total expenditure during last fiscal year on account of Marine Hospitals and sick and distressed mariners, was \$6,516 13, of this amount the sum of \$4,036 41, was expended on the Marine Hospital at St. John, which is devoted exclusively to the care of sick mariners, and is under the medical superintendence of Dr. Botsford, one of the Physicians of that city. The Hospital, although an old building, is very comfortable, and is surrounded by pleasant and well laid out grounds, which are entirely reserved for the use of the convalescent patients. There are also small Marine Hospitals at St. Andrews, Miramichi, Richibucto and Bathurst. Deducting the expenditure in New Brunswick, viz :—\$6,516 13 from the amount collected as tonnage dues, viz :—\$7,698 32, there remains an excess of receipts over expenditure of \$1,182 19 in that Province.

In Nova Scotia there are no Marine Hospitals ;— the sick mariners being provided for in Halifax at the Provincial and City Hospital, at a cost of \$5 each per week, and at the outports they are taken care of by the Collectors of Customs, who make the necessary arrangements to provide for them in private boarding houses.

The total amount collected in Nova Scotia, during last fiscal year, on account of the sick mariners fund, was \$6,668 59 and the total expenditure was \$7,023 42, shewing an excess of expenditure over receipts in that Province.

At Quebec there were 760 sick mariners treated in the Marine and Emigrant Hospital during last fiscal year ; at Montreal there were 214 sick mariners treated during the year ended 30th November, 1871 ; and at St. John the number of sick mariners treated during the year ended 30th June, 1871, was 129. In connection with the Marine Hospital at St. John, there is a pest house at Partridge Island, for infectious diseases, under the charge of Dr. Harding, and during last fiscal year there were four small-pox patients admitted and taken care of until they were fit for discharging in a healthy state.

The total expenditure by this Department on account of this service, including distressed or shipwrecked seamen in the Provinces of Quebec, New Brunswick, and Nova Scotia, during last fiscal year was \$16,029 68, and the cost of maintaining the sick mariners in the Hospital at Quebec, for the same period was \$12,948 54 making a total expenditure of \$28,978 22 for the maintenance and treatment of the sick and distressed mariners in these Provinces during that period. Deducting this amount from the amount

of the receipts viz :—\$29,683 41 leaves a surplus of \$705 19 to the credit of the fund in the hands of the Government.

The amount of receipts and expenditure on account of this service during the last three years was as follows :—

	Receipts.	Expenditure.
For the fiscal year ended 30th June, 1869	\$31,353 78	\$26,987 04
" " " 1870	31,410 46	27,029 34
" " " 1871	29,683 41	28,978 22
	<hr/>	<hr/>
	\$92,447 65	\$82,994 60
Deduct Expenditure from Receipts.....	82,994 60	
	<hr/>	
Balance to the credit of the fund in the hands of the Government	\$9,453 05	
	<hr/>	

The amount voted by Parliament for the Marine Hospitals, sick, distressed and shipwrecked seamen at all the ports of the Provinces of Quebec, New Brunswick, and Nova Scotia for the last fiscal year (with the exception of the Port of Quebec) was \$18,526, and the amount actually expended by this Department on account of this service was \$16,029 68 leaving an unexpended balance of \$2,496 32 which reverted to the Public Treasury.

The receipts for the current financial year on account of sick and distressed mariners' fund may be estimated at \$30,000, and the expenditure about the same, or a little more, as the claims on this fund have been unusually heavy this year on account of there having been so far a large number of wrecks, and distressed mariners to take care of and clothe.

The tonnage duty on account of sick and distressed mariners is not levied in Ontario, and no expenditure was made on account of this service during last fiscal year in that Province, with the exception of the sum of \$500 which was voted by Parliament in the estimates of last fiscal year, as a contribution in aid of sick mariners at the Saint Catharines Hospital. This sum was not a charge on the sick mariners' fund collected in the three Maritime Provinces, but was paid out of the general revenues of the country. The Hospital at Saint Catherines has been of very great service to many of the mariners sailing on the upper Lakes who may have fallen sick in their vessels, or met with accidents while on duty; and as the Hospital is close to the canal, through which a large portion of the Lake shipping passes, it has been found very convenient to bring sick or disabled mariners to that place, either on the voyage up or down, on account of its central position, and the facilities, for moving sick men from the vessel to the Hospital.

A petition, signed by a large number of persons interested in the lake navigation, was presented to the House of Commons last session, by Thomas R. Merritt, Esq., M.P. for Lincoln, praying for the imposition of a small tax on the shipping passing through the Welland Canal, for the purpose of establishing and maintaining a marine hospital at Saint Catherines on a permanent footing, for the benefit of the sick mariners belonging

to vessels trading on the Lakes ; but no action has been taken thereon as yet. This department, however, has been in communication with Mr. Merritt on the subject, with the view of ascertaining what description of tax would be most agreeable to the interests concerned. It is supposed that the sum of \$4,000 per annum will be sufficient to maintain such a hospital. The tax, therefore, on each vessel will be very small, if such a measure is adopted by the government and legislature. In British Columbia there is no tax levied on shipping trading to that Province at present ; but, by the terms of the agreement under which the Colony agreed to enter the confederation, it was provided that a Marine Hospital should be built by the Dominion Government, and a suitable sum (probably \$20,000) will be inserted in the estimates to be submitted to Parliament at its next session, for the purpose of constructing the building alluded to. Arrangements will also be made for extending to British Columbia the operation of the laws at present in force in Canada relating to the care of sick and distressed seamen, and for the imposition of the tonnage duty in force in Quebec, New Brunswick, and Nova Scotia.

STEAMBOAT INSPECTION.

Under the law for the inspection of steamboats in the Dominion, all steamers registered in Canada must be annually inspected, if they are running or navigating in the waters of Canada. This duty is performed by inspectors appointed by the Government, who are skilled persons, competent to inspect steamboats, their machinery, and boilers. These inspectors form a board, with one of their number as chairman, and meet occasionally at different parts of the Dominion for the purpose of examining engineers of steamboats, and granting them licenses, and such other purposes as may be necessary under the act. Any regulations made by them must be approved by the Governor in Council. The board have the power to revoke the license of an engineer upon proof of negligence, unskilfulness, or drunkenness, or upon the finding of a coroner's inquest. They can also revoke an engineer's certificate for any other cause, but not until the Minister of Marine and Fisheries has certified that such cause is deemed sufficient by him.

The supervision of the board and all subjects connected with the inspection of steamboats, is entrusted to the Minister of Marine and Fisheries, to whom the chairman is required to make an annual report of the proceedings of the board, and a return of all steamboats inspected, and penalties collected under the Act.

In order to defray the expenses of the board and the salaries of the steamboat inspectors, a small fee is charged by the government for the inspection of steamboats and the examination of engineers of steamers, which fees are paid over to the Receiver-General, and form the "Steamboat Inspection Fund." No money is expended out of this fund, however, until it has been voted by Parliament in the usual way.

The chairman receives an annual salary of \$1,400, but he performs the duty of an inspector of the largest district in the Dominion, as well as that of chairman of the board, which involves much correspondence and other onerous duties. The inspector of New Brunswick and Nova Scotia receives a salary of \$1,000 per annum, and the other

inspectors at Montreal, Kingston, Sorel, and Quebec receive \$800 each. All of them receive their travelling expenses and subsistence while from home on duty.

The fees received by the Government for the inspection of steamboats and the examination of engineers, are more than sufficient to cover all the expenses incurred by the government in connection with the board of steamboat inspection—the inspection of steamers and the examination of engineers—thereby relieving the general revenue of the Country from any expenditure whatever on account of this service.

The chairman of the board, Mr. Samuel Risley, is inspector of the West Ontario, Lake Huron, and Lake Superior division ; and inspected, during last calendar year ended 31st December, 1871, 119 steamers, against 102 inspected by him in 1870. His duties have so much increased during the last few years, that it will now be necessary to appoint another inspector for that division, so as to render the inspection thoroughly efficient and safe for the public ; and also provide for the performance of the duties of the inspector in that large district while the chairman is absent from Western Ontario on board duties.

Mr. Thomas Taylor is inspector of the East Ontario Division, and inspected during last calendar year sixty-four steamers, against sixty-one the previous year.

Mr. Thomas Fessenden is inspector of the Montreal Division, and inspected eighty-four steamers last year, against eighty-two the previous year.

Mr. F. X. Befort is inspector of the Sorel or Three Rivers District, and inspected forty-one steamers last year, being the same number as he inspected the previous year.

Mr. Joseph Samson is Inspector of the Quebec Division, and inspected 65 steamers last year against 63 the previous year.

Mr. William M. Smith is Inspector of the New Brunswick and Nova Scotia Division, and inspected 65 steamers last year against 54 the previous year.

The total number of steamers inspected during the calendar year, 1871, was 438, against 403 in 1870, and 401 in 1869, shewing a gradual increase in the number inspected. Of the number inspected in 1871, 157 were passenger steamers, 87 were freight steamers and 194 were tug steamers ; 236 of the number inspected were paddle steamers, 78 propellers, and 124 screw tugs.

The amount of tonnage duties and fees paid in to the Collectors of Customs in Ontario for the inspection of steamboats during last fiscal year was \$3,609 12, while the amount paid to the inspectors for salaries and other expenses in that Province was \$3,465 38. The amount collected in the Province of Quebec for the same period was \$3,929 50, while the amount of expenses paid \$3,164 30, shewing a considerable surplus of receipts over expenditure. The amount collected in New Brunswick and Nova Scotia for the same period was \$1,757 34, while the expenses were \$1,298 36. The expenses in connection with the Board were \$392 96. The total amount of collections made during last fiscal year on account of steamboat inspection dues was \$9,295 96. The total amount paid into the Receiver-General during the last fiscal year on account of engineers' certificates issued was \$1,074, making altogether the sum of \$10,369 96 collected on account of fees and dues for inspection of steamboats and engineers' certificates. Although the sum \$10,369.96 only was received on account of this service for the last

fiscal year, the sum of \$10,692 13 was actually paid into the treasury. The explanation of this apparent discrepancy is that officers of Customs who collect the steamboat inspection fees sometimes have balances on hand at the close of one fiscal year, which they pay over into the treasury after the commencement of the next fiscal year.

The amount actually expended by this Department on account of this service during last fiscal year, including salaries, travelling allowances and contingencies, was \$8,321, and the amount voted by Parliament for the same period was also \$8,321 ; but there were several liabilities remaining unpaid at the close of the last fiscal year, which had to be defrayed out of the vote for the current year.

Deducting the amount of expenditure on account of this service for last fiscal year from the amount of receipts for the same period would leave a surplus of receipts over expenditure of \$2,048 96 on the year's operations.

The receipts and expenditures on account of this service, including the receipts from fees for engineers' certificates for the three last fiscal years were as follows :—

	Receipts.	Expenditure.
For the fiscal year ended 30th June, 1869	\$11,914 63	\$7,999 00
“ “ 1870	12,521 29	7,399 18
“ “ 1871	10,369 96	8,321 00
	<hr/>	<hr/>
	\$34,805 91	\$23,719 18
Deduct expenditures from receipts	23,719 18	

Leaving a clear surplus of.....\$11,086 73

in three years of receipts over expenditure, which reverted to the Consolidated Revenue of Canada.

During the calendar year ended 31st December, 1871, the Board issued 625 engineers' certificates, of which 165 were for examinations and 460 were for renewals without examination.

The report and returns which are required to be made to the Minister of Marine and Fisheries are made up for the calendar year ended 31st December, 1871, and will be found in the appendix, while the financial statements relating to this service are made up for the fiscal year ended 30th June last, so as to appear in the public accounts along with the other financial statements of the Dominion.

There were no penalties incurred or collected on account of violations of the Steamboat Inspection Act during last fiscal year.

In the report of the chairman, which will be found in the appendix, there is a list of the accidents which happened to the steamers in the Dominion during last calendar year.

On the 15th April last, the screw of the propeller *Magnet*, when entering Côté St. Paul lock, Lachine Canal, got foul, the engine became unmanageable, and the vessel struck the pier and sunk in the lock. The hull was subsequently condemned.

On the 17th October last the passenger steamer *John Greenway* was burnt at the

wharf at Pictou, Prince Edward County: total loss: fire supposed to have been accidental.

On the 26th April the passenger steamer *Lotbinière*, when fitting up in her winter quarters, at Lotbinière, Quebec, took fire from heating pitch in the kitchen, and was burned.

On the 22nd July the steam whistle of the market boat *Tiger* in going down to St. Famille on the lower St. Lawrence blew out and frightened a woman, who, it is supposed, jumped overboard and was drowned.

A few other unimportant steamboat accidents took place during last year, which were not attended with loss of life.

I avail myself of this opportunity of stating that there is no branch of the Public Service with the administration of which this Department is charged, which is a subject of more anxiety to me, than the Inspection of Steamboats in the Dominion, numbering as they do 438 vessels, scattered all along an immense extent of territory, and carrying during the season of navigation great numbers of passengers, foreign as well as Canadian, on our seacoasts, our rivers and lakes, and it is a matter of great satisfaction for me to know that with such an immense passenger traffic as is carried on the St. Lawrence and the other extensive waters of Canada, no accident occurred during last year involving loss of life to any of the large crowds of passengers who travelled on our Canadian boats, through any defect in the steamers, their boilers or machinery, and I think it bears high testimony not only to the efficiency and safety of our Canadian steamers, but also to the carefulness, patience and vigour of our steamboat inspectors, who I believe have well and faithfully performed their very onerous and responsible duties, and so far as I can learn, to the general satisfaction of the owners of the boats. The reputation of our passenger steamers on the lakes and rivers of Canada, for speed, comfort and safety stands high both at home and abroad, and it has been the means of drawing large numbers of our neighbours from the adjoining states to our waters for the purpose of enjoying the splendid scenery and cool invigorating breezes which are to be found on our lakes and rivers during the summer months.

In British Columbia there are several steamers running, including one owned by the Government engaged in the transport of mails and passengers, but there is no Colonial law in existence there providing for their inspection, although it is probable a measure will be introduced into Parliament at its next session extending the operation of the Canadian Steamboat Inspection Laws to that Province as well as to Manitoba, and thus render the laws relating to this service uniform throughout the Dominion.

In the appendix will be found a list of the steamers lost, broken up or laid aside as unfit for service during last year numbering 29; also a list of new steamers which have been added to our fleet of steamers, during the year ended 31st December, 1871. The number added during that period was 58, of which 49 were built of wood and 6 of iron, and 3 not reported. The average value of these steamers might be stated at the sum of \$20,000 each, including the boilers and engines, thus giving an aggregate value of \$1,160,000 for the steamers added to the Dominion Shipping during last calendar year.

SHIPPING-MASTERS AND SHIPPING SEAMEN.

There are only two ports in the Dominion at which there are duly appointed shipping-masters, viz : at Quebec and St. John, New Brunswick. At Quebec, the shipping-master is also chief of the river police, and receives a salary of \$1,200 per annum for the performance of the duties of both offices. At St. John the Shipping-Master receives as remuneration all the fees of the office, out of which he has to defray his expenses, including office rent, assistant, stationery, &c., amounting to \$1,256 70. He is allowed by law 50 cents for shipping each man, and he reports that he shipped during last fiscal year 4,471 men, realizing \$2,235 50, from which his expenses are to be deducted, leaving him as the net proceeds of his office \$978 80. The number shipped the previous year was 4,020 men. He reports that the supply of men had been equal to the demand, only four crews having been imported from Boston since last spring. Wages by the *run* home had ruled high, sailors receiving \$55 against \$45 for the previous year. Monthly wages had increased in proportion. The *run* home is generally accomplished in a month, yielding the sailor a very high remuneration for his services. At Quebec, Mr. Russell, the chief of the river police entered on his duties as shipping-master, on the 22nd of April, 1871, at the opening of navigation, and from the date to the close of the season he collected as fees of the office, the sum of \$1,881 35. Of this amount \$1,492 were received for shipping 1,492 men, at \$1 each, on board British vessels, but he charges no fee for shipping men on board colonial or new vessels. The balance of his fees collected, viz : \$389 35, was for discharging men and granting certificates. The amount expended by him on account of his office was \$144 90, including stationery, and \$100 paid to his clerk for arrears of salary, and the amount deposited by him was \$1,680 41, leaving a balance in his hands of \$56 64 to be accounted for by him during the current year.

Since the amalgamation of the offices of shipping-master and chief of river police, at Quebec, much benefit has already ensued, as the shipping-master has now a competent force to enable him to look after deserters and keep the crimping business in check. A short act was passed during last session for the purpose of punishing crimps with imprisonment instead of by fines, and it has already had a most beneficial effect, as under it crimps have been arrested and punished for loitering in their boats alongside of ships, or going on board without permission. Although the crimps are now afraid to risk their personal liberty and go on board ships themselves for the purpose of enticing men away, still they have not abandoned the business which has hitherto been so lucrative, and from the large profits of which they could well afford to pay the fines formerly imposed for an infraction of the law, as they now employ runners, who go on board vessels and induce seamen to accompany them in their boats, not being aware of the severe punishment under the new law to which they render themselves liable, if arrested. The following is a list of cases which were brought last season before the notice of the Court, under the Act 31 Victoria, cap. 32, entitled "An Act for more effectually preventing the desertion of seamen in the Port of Quebec."

JUNE 5th, 1871.—*William Lloyd* and *George Franklin*, charged with loitering in a

boat alongside the ship *Aaron Brown*. Case dismissed owing to omission of copy of affidavit, which ought to have accompanied service of summons.

6th.—*Daniel Burns* and *John Burns*, runners for a crimp named Ward, charged with boarding ship *Julia* without permission. Each fined \$12.00 and costs or one months' imprisonment with hard labour.

NOTE.—One of these men left Quebec and the other was committed.

15th.—*Christian Oulsen*, runner for a crimp named Huck, charged with loitering alongside the bark *Baticola*. Discharged.

NOTE.—When this man was arrested his boat was found fastened to the ship and he himself sitting on the ship's rail, but when brought up for trial was furnished with a written paper from the Master of the vessel to the crimp Huck, stating that he (the prisoner) was not the man the Master complained of.

26th.—*Thomas Doherty*, runner for a crimp named Hayden, charged with boarding the bark *Cornelia* without permission. Found guilty and committed for 30 days with hard labour.

The same *Thomas Doherty*, charged also with assaulting the Master, Chief Mate and Carpenter with a knife while on board the *Baticola*. The Carpenter was slightly cut on the hand. Found guilty and fined \$40 and costs, and two months' imprisonment with hard labour. If at the end of two months the fine was not paid, additional imprisonment for one month to be undergone.

27th.—*Thomas Brell*, a crimp, and *Henry Newson*, his runner, arrested while loitering in a boat alongside the bark *Patagonia*. The ship having proceeded on her voyage to Montreal five hours after their arrest, the prosecution was not followed up.

29th.—*George Thomas*, runner for a crimp named Parker, charged with boarding the ship *King of Algeria* without permission. Found guilty and committed to prison for 60 days with hard labour.

15th.—*Stuart McConnell*, a crimp, charged with harbouring two seamen, deserters from the bark *Home*. Sentenced to three months' imprisonment with hard labour.

AUGUST 7th.—*John Wilhelm*, runner for Gallagher, a crimp, arrested for unlawfully boarding the bark *Frazer* on her arrival in port. Ship having proceeded to Montreal same night, the prisoner was discharged.

21st.—*James O'Brien, jr.*, runner for his father, charged with boarding the ship *Helden* without permission. Found guilty and fined \$8 and costs, or one month's imprisonment with hard labour. Fine paid.

William Williams and *Charles Mason*, runners for O'Brien, Senr., found guilty of boarding the ship *Helden*. Each committed to prison for 60 days with hard labour.

21st.—*James Walsh*, runner for Parker, found guilty of loitering in Parker's boat alongside the ship *Helden*. Fined \$8 and costs or 60 days' imprisonment with hard labour. Committed.

24th.—*Ellen O'Brien*, seamen's boarding house keeper, found guilty of detaining the effects of a seaman. Fined \$8 and costs, or one month's imprisonment; also, to give up the effects or pay their value. Delivered up the effects. Was in bed sick.

The same *Ellen O'Brien* fined \$8 and costs, or one month's imprisonment for a similar offence. Gave up the effects in this case also.

25th.—*Daniel Burns*, formerly runner for the crimp Ward, found guilty of boarding the ship *Cherokee* without permission. Fined \$8 and costs, or one month's imprisonment with hard labour. Fine paid.

SEPTEMBER 5th.—*Thomas Harrington*, a crimp, found guilty of boarding the ship *Helden* without permission. Fined \$8 and costs or one month's imprisonment with hard labour. Paid.

OCTOBER 2nd.—*Alexander Mitchell*, runner for Newman, a crimp, found guilty of boarding the ship *Gertrude* without permission. Fined \$20 and costs, or 40 days' imprisonment with hard labour. Committed.

3rd.—*Neilson Anderson*, runner for the crimp Newman, found guilty of boarding the ship *Gertrude* without permission. Fined \$20 and costs, or 40 days' imprisonment with hard labour. Committed.

8th.—*William Kerrigan*, a crimp, charged with boarding the barque *Louandun* without permission, accompanied by his two runners, *John Williams* and *John Dibbin*. Case dismissed. Note.—When the prisoners were arrested, one of whom (Kerrigan) was found hid in a bunk in the fore-castle; the Chief Mate, who was in charge of the vessel, then stated that they had no permission to come on board; but when he appeared as a witness on the trial he stated that he saw the prisoners on board, but took no notice of them, thus tacitly allowing them permission.

26th.—*Hugh Kelly*, runner for Mrs. McCall, found guilty of boarding the ship *Illustrious*, without permission. Fined \$20 and costs, or 40 days imprisonment with hard labour. Fine paid.

November 2nd.—*Andrew Clark*, a crimp, found guilty of detaining the effects of two seamen. Fined in each case \$8 and costs, or fifteen days' imprisonment with hard labour. Note.—The crimp left Quebec at once.

At all the other seaports in the Dominion, the Chief Officers of Customs act as Shipping Masters, under the Imperial Act, so far as relates to British or British Colonial vessels, registered out of Canada, with the exception of the Port of Halifax, where the Registrar of Shipping acts in that capacity, under the 39th section of the 75th chapter, Revised Statutes of Nova Scotia. An application has been made to me, however, by a number of shipowners and merchants of Halifax, urging the appointment, at Halifax, of a Shipping Master, to superintend the shipping and discharging of seamen, for vessels registered in Canada, as well as those registered out of it, and it is probable a Bill may be introduced next Session of Parliament to carry out their wishes.

At present, the laws regulating the shipping and discharging of seamen in the Dominion, are different in each of the Provinces, and in order to remedy this objectionable state of affairs, a Bill was prepared some time ago, under the directions of my Department, and introduced into Parliament by the Government, and subsequently withdrawn, as it was understood at that time, that the British Government were about to introduce a Bill on the same subject, in the Imperial Parliament; and they expressed

a wish to the Canadian Government, that any legislation on this subject, in Canada, should be deferred until their Bill had become law, as it was most important in a matter like this, in which both countries were interested, that the legislation in both places should be in harmony. Up to the present time therefore, I have abstained from advising legislation here, on this important branch of the public service, in the hope, from year to year, that the Merchant Shipping Code, which has been before the Imperial Parliament for the last three years, would become law, and that our Shipping Laws could then be assimilated throughout the Dominion, and made in harmony with the Imperial Act ; but as yet, it has not passed the British Parliament, and it now appears doubtful whether it will even be discussed during the present Session.

In the event of its not passing this Session, I think it would not be advisable to delay our legislation on the subject any longer than this year, and at the close of the present Session of Parliament in England, I will be prepared to recommend action on our part accordingly.

CERTIFICATES TO MASTERS AND MATES.

Since the last annual report of this Department was made, the Act 33 Vic., cap. 17, passed by the Canadian Parliament respecting certificates to masters and mates of sea-going ships registered in Canada has gone into full operation, and so far has proved most successful. The Act was specially confirmed by Her Majesty in Council on 14th January, 1871, and the rules and regulations under which the examinations were to be made in Canada, and certificates of competency granted to masters and mates having been reported to Her Majesty as satisfactory by the Board of Trade, and that the examinations to be held in Canada would be so conducted as to be equally efficient with the examinations held in the United Kingdom, and to show like qualifications and competency on the part of persons possessing them, Her Majesty, by Order in Council, dated 19th August, 1871, proclaimed that the certificates of competency granted by the Minister of Marine and Fisheries of Canada would be recognized by the British Government and its officers in the United Kingdom and elsewhere as of equal value with those granted by the Board of Trade in Great Britain. A copy of this important Order in Council will be found in the Appendix, also a copy of the rules and regulations which have been approved by the British Government, and forms of certificates of competency and service. As soon as this information was received last year by the Canadian Government, I immediately proceeded to make the necessary arrangements for organizing the requisite Boards of Examination at the principal seaports where they would be required, and in the meantime it was considered advisable to establish such Boards at three of the ports where they would be most required, viz., at Quebec, St. John, New Brunswick and Halifax.

It was also considered desirable that the Chairman of each of these Boards should be one and the same person, who should move about from place to place, and preside over their meetings when candidates were ready for examination. Under this system the examinations before each of the Boards are conducted on an uniform plan, and the

Chairman is held responsible for the efficiency of all the examinations, as he must certify to each of the examination papers along with the local members of each of the Boards, before the certificates of competency are granted by this Department. On my recommendation, Capt. Scott, of Her Majesty's Royal Navy, was appointed by Order in Council, dated 7th March, 1871, Chairman of the respective Boards of Examination, and as he had been for some time previous to this appointment in the employment of this Department as commander of the Canadian Government steamer *Lady Head*, stationed on the Nova Scotia coasts for the protection of the fisheries, and as he also had the supervision of the marine police force in that district, I had full confidence in the ability, zeal and judgment which he would bring to bear in the performance of the important duties of the office to which I had recommended him. At St. John, two highly respectable and experienced retired shipmasters were appointed his colleagues on the Board, viz., Capt. Prichard and Capt. Cronk, both of them possessing the entire confidence of the maritime people of that place.

At Halifax, Capt. G. A. McKenzie and Capt. John Taylor, also two very respectable and successful retired shipmasters were appointed his colleagues at the Board for that port.

At Quebec, Capt. Armstrong, the harbor-master of that place was offered a seat at the Board, but declined to accept it on account of his other duties requiring so much of his time. Commander Ashe of the Royal Navy, Director of the Quebec Observatory, a gentleman of the very highest scientific attainments, along with Capt. Marmon, of the Government steamer *Druid*, and Capt. Gourdeau, of the Government steamer *Napoleon III.*, were then appointed members of the Board for the Port of Quebec. Both Commander Ashe and Capt. Marmon having passed the necessary examination before two examiners, as required by the Act, and having been found duly qualified have taken their seats at the Board, but Capt. Gourdeau, having been absent at the time the examination was held has not yet qualified to take his seat. The salary fixed by Order in Council for the Chairman is \$1,600 per annum, and the amount of remuneration allowed to each of the local members of the Board is four dollars per diem when engaged on the duties of the Board.

As the examination for certificates of competency is very strict, and the candidates require a thorough knowledge of the science of navigation in addition to a practical acquaintance with all the branches of seamanship and the handling of ships at sea under all circumstances, it could not be expected that the majority of our masters and mates could successfully pass the examination in the scientific branch of their profession until they had some opportunity of obtaining instruction in the subjects on which they would be required to pass examinations. I believe it is generally admitted that the masters and mates of New Brunswick and Nova Scotia cannot be surpassed as seamen in any country, but very many of them, while they are masters of their profession as seamen, have not had opportunities to acquire sufficient knowledge of the science of navigation, and consequently would be unable to pass the strict examination in this branch of their business required both in this country and the United Kingdom, to obtain certificates of com-

petency, without some instruction previous to their examination. At nearly all the principal seaports of the United Kingdom, where Boards of Examiners are established, there are nautical instructors located, who make it a business to instruct candidates for certificates of competency in the science of navigation, previous to examination, and the consequence is, that in that country no great difficulty has been experienced by sober able seafaring men, who have had the requisite amount of sea service, and who are willing to devote a short time to obtain such instruction, and to pay a reasonable fee to the instructors for their services in procuring their certificates of competency, first as mates, and afterwards as masters. In Great Britain, where the law has been compulsory, and has required for several years all masters and mates to have certificates of competency, there are always numbers of new candidates coming forward requiring instruction, and consequently there has generally been at the principal seaports there, sufficient encouragement to induce instructors to devote their time to the business without the necessity of any government aid, but I am of opinion that in this country where the candidates as yet are not very numerous at some of the ports, that some slight subsidy or aid from the government to start nautical schools of instruction may be advisable. At St. John, New Brunswick, where the principal number of candidates have offered, it does not appear necessary to assist with government aid the nautical instructors who have established themselves there, but at Quebec and Halifax, where the number of candidates as yet is very limited, I think it very desirable that some bonus or subsidy be given by the government to the instructors in addition to the fees they charge the candidate for every master or mate instructed by them who may succeed in passing a successful examination, and obtaining a certificate of competency. A bonus of \$10 to the instructor for each candidate instructed at either of these places who passes a successful examination, would probably be sufficient to induce competent instructors to keep nautical schools open for the purpose of imparting instruction to candidates, until the number of candidates offering, increases sufficiently to make such schools self sustaining. Two gentlemen who, I believe, were nautical instructors in the United Kingdom, have recently established themselves at St. John, N. B., and I am informed they have been very successful in preparing candidates. One of these gentlemen, on my suggestion, has also commenced giving instructions at Quebec, where, I have no doubt, he will be equally successful, and I will endeavour to obtain a similar advantage for the Port of Halifax as soon as the necessary arrangements can be made, so that the seafaring population of that part of the Dominion may be able to avail themselves of the great advantages now procured for them under this admirable system, by which our masters and mates can prepare themselves and procure certificates at their own homes, and feel when they go to the United Kingdom or other countries with such certificates in their possession that they are under no disability as formerly, which would prevent them from obtaining such employment there as their abilities would entitle them to, and which they could not formerly obtain without such certificates. Canadian certificated masters and mates will now feel themselves in the United Kingdom or any British Possession abroad placed in as good a position as officers of similar grades who hold certificates granted by the Board of Trade in England. and will

not now be under the necessity of giving up charge of their ships on their arrival in England, as was formerly the case unless they could succeed in passing their examination there, which in the majority of cases required time and money.

Although this subject has caused much anxiety and labor to myself and my Department to secure this great advantage to our maritime population, and organize the necessary machinery to carry it into successful operation, still I feel that it has been worth all the trouble and the trifling expense which it has cost, as in the Dominion of Canada with its extensive sea coasts, numerous harbors and immense inland navigation, both on the Atlantic and Pacific, and the great facilities it enjoys for ship building and ship owning, seafaring pursuits must always hold a prominent part in the occupations of its people, and we already know by the example of that great country to which we have the honor to belong, and other maritime nations, that there is nothing which tends to establish a country's greatness and build up her material prosperity more than the possession of a hardy and intelligent population on her sea coasts, who in time of peace go down to the sea in ships and do battle with the mighty deep in the interests of trade and commerce, and in time of danger when her shores are threatened by the invading forces of a foreign foe, are not only willing but able to serve on board their ships of war and defend their coasts from the attack of the enemy, for it must be remembered that sailors cannot be made in a day, neither can navigating officers of ships be procured when the emergency arises and when they are most needed, unless prudent measures are adopted beforehand, such as Canada is now inaugurating, to educate and prepare a certain proportion of her population to the mercantile naval profession, which to a sober industrious man is not only remunerative in the meantime, but presents a fine field for advancement in life by enabling respectable men who rise to be shipmasters to become eventually wealthy shipowners. The number of candidates who passed successful examinations between the 7th August, 1871, when this new system fairly commenced, and the 31st December of the same year, was twenty-eight masters and nine mates, all of whom passed at St. John, N.B. Up to that time none had passed either at Halifax or Quebec, although a number were under instruction at both places, and no doubt would succeed in obtaining their certificates within a short time.

The total expenditure on account of this service for the fiscal year ended 30th June last was \$1,396 03, incurred principally for the salary and travelling expenses of the Chairman, furnishing offices, books, stationery and forms.

The amount voted by Parliament for this service for the year alluded to was \$6,000, leaving an unexpended balance of \$4,603 97, which reverted to the Public Treasury.

The amount expended during the half year ended 31st December, 1871, on account of this service was \$1,861 98, and the amount of fees received by the Government from successful candidates, for their certificates during the same period was \$385. The fee charged is \$10 for a master's certificate of competency, and \$5 for a mate's certificate of competency.

The 6th and 7th sections of the Act alluded to, provide that after the 1st July, 1872, no ship over 150 tons register is to be cleared for any place out of Canada, not

being a port or place in Newfoundland, Prince Edward Island, or the United States of America, unless the master and first or only mate possess either certificates of competency or service for sea-going ships appropriate to their several stations in such ship, granted either by the Board of Trade in the United Kingdom, or the Minister of Marine and Fisheries of Canada, or by the authorities of any British possessions whose certificates have been recognized by the British Government.

As there are many elderly, respectable shipmasters in Canada, who do not feel themselves able to pass the examination for competency, or who do not wish to do so, it was provided in the Act referred to, that certificates of service might be granted to meet such cases, to shipmasters and mates who had served as such previous to the 1st January, 1870, without undergoing any examination as to their competency, but merely on their producing satisfactory evidence of their sobriety, experience, ability, and general good conduct on board ship. The fee charged for these certificates is \$5 for a master, and \$3 for a mate.

A specimen form of a master's certificate of competency, as also of service, are given in the appendix. Certificates for mates are similar, the word mate being substituted for master.

A number of communications have reached me from time to time, urging on my notice the necessity of providing for examinations of masters of inland vessels, and granting them certificates on something like the plan adopted for sea-going ships, though of course the examination would be of a different kind, but I am not aware that the time has yet arrived, when the shipowners and traders of the lakes and inland waters really desire such a measure, and until I can ascertain that such is the case, it would not be advisable to recommend action in the matter. The time will come shortly however, when shipowners, traders, and underwriters, will desire that such a measure should be placed on the Statute-book, in order to provide greater security to life and property.

ENQUIRY INTO WRECKS AND REWARDS FOR SAVING LIFE.

The weather on the sea coasts of North America during the latter part of the last calendar year has been unusually boisterous and stormy, causing much damage and loss to Canadian shipping. A number of vessels have been lost at sea, owing to stress of weather, while there have been numerous shipwrecks on our sea coasts during last year, in some cases attended with considerable loss of life. Many of our Canadian vessels have also been much damaged at sea, causing them to put into foreign ports for repairs, which under any circumstances, is generally a serious loss, both to owners and underwriters. In the River St. Lawrence, the weather suddenly changed at the end of November last, a cold fierce north-west wind having set in, which rendered the atmosphere so exceedingly cold, that ice immediately formed, and many parts of the river between Montreal and the lower Saint Lawrence became frozen over, and effectually prevented the ships which were proceeding to sea from reaching open water, and a number of them became total wrecks, as no assistance could reach them to bring them out of the ice. Many of the Government buoys which mark the channel, were also frozen

in before they could be taken up, and will be carried away with the ice in the spring, causing considerable loss thereby.

Every effort has been made by this Department to obtain as accurate a return of each wreck which comes to the knowledge of the Department as it is possible to obtain, and when such returns are procured, they are immediately entered in the Wreck Register, and forwarded to the Marine Department of the Board of Trade, London, in accordance with the wishes of Her Majesty's Government, and it is gratifying to be able to state that the efforts made by this Department to procure those Returns for the Board of Trade have been duly appreciated by that body.

It has also been found very important to obtain such returns for the information of the Government of Canada and the maritime interests of the Dominion, so that a record may be kept of the disasters which may occur from time to time on our coasts, and the cause thereof ascertained in order that the necessary measures may be taken to remedy the difficulty in future, in cases where additional lights, fog alarms, signal guns, buoys or beacons may be required.

In addition to the numerous new lights and fog alarms which have been established on the shores of Canada since the date of Confederation, for the purpose of rendering more safe and secure the approaches to our coasts, and thereby reducing the number of marine disasters which take place in our waters, I am of opinion that the new system which has just been inaugurated in this country of making it compulsory on masters and mates of certain vessels to be provided with certificates of competency or service before they can clear their vessels, will have a most beneficial effect on our mercantile marine, and will tend materially to improve the character and efficiency of the men who are entrusted at sea with the lives of those on board their vessels, as well as their own, and a large amount of valuable property. No master or mate can now obtain in Canada a certificate either of competency or service until he has produced evidence of his sobriety, a most important element in our examinations for either description of certificates, as there was reason to believe in former years that many of our marine disasters were caused by the too free use of intoxicating liquors. There is no occupation which requires more careful sober men than that of navigators in charge of sea-going vessels, as, in making a dangerous rocky coast, a slight mistake in defining their position on the chart on the part of the master or mate, may cost them not only their own lives, but also the lives of all on board the vessel under their charge, instances of which are frequently occurring, and many of our shipowners aware of the danger of allowing the use of liquor on board their vessels, have prohibited it altogether, either by officers or crew, except for medicinal purposes.

The Act relating to masters and mates, although it renders it compulsory for vessels over 150 tons clearing for any place except the United States, Prince Edward Island, Newfoundland, or any part of Canada, to have certificated masters and mates, exempts vessels under that size, and also all vessels of any size clearing for any of the places mentioned, from the operation of the Act. A vessel clearing from Montreal for New Orleans, for instance, or from Quebec, or St. John, New Brunswick, or St. John's, New-

foundland, is now exempt from the operation of this Act, and does not require to have a master or mate possessing a certificate either of competency or service, as it was not considered advisable to compel vessels engaged in such voyages which might be termed coasting voyages, to have certificated officers at the commencement of the system, until a sufficient supply of such officers could be obtained, but I am of opinion, in the course of a few years when there will be a larger supply than at present of certificated officers for the mercantile marine, that vessels engaged in our sea-going coasting trade, which is very extensive, should also be compelled to have at least one certificated officer on board, which would probably be the means of preventing many of the disasters to our coasting vessels, which are but too common on our shores, and which I regret to say are too frequently attended with fatal results.

I am also of opinion that very many of the disasters which happen to our coasters, result from the defective state of such vessels, as regards their hulls, outfit and ground tackle, and I feel confident that many of the wrecks which take place on our shores might be avoided if there was some kind of Government classification, rendered compulsory on all our Canadian shipping, which would require all vessels registered in Canada, to be surveyed and classed by Government Inspectors, something similar to the system now in operation with reference to our steamers, and which has tended to make life and property on board steam vessels in Canada, much more safe and secure than if no Government inspection existed.

Heavy deck loads and overloading have in my opinion tended in past years to swell our list of marine disasters, and it is the opinion of many persons engaged in seafaring pursuits, that until some Government inspection and classification is established, and heavy deck loads prevented, the casualties of the North American trade will still continue, and overloaded vessels with heavy deck loads will become unmanageable, property will be lost, and valuable lives will be sacrificed.

The feeling existing among many shipowners, however, is that any Government supervision over their vessels either as regards their quality or the quantity of their cargo should be left entirely to the shipowner and the underwriters, who are most interested in the matter, and that any Government interference would only increase their expenses and diminish their profits, losing sight of the fact that the crews of these vessels, who, when they are shipped, have not generally the means of ascertaining the actual condition of the vessel on board of which they have to sail, and whose lives are frequently lost on account of some defect in the vessel or outfit, or on account of her being overloaded with too much deckload.

The Government may expend large amounts of the public revenue, as Canada has done, in erecting and maintaining expensive lighthouses and steam fog-whistles on her shores, but unless Government supervision is exercised over the qualifications of the men in charge of our mercantile marine, and a proper inspection and classification of our vessels required, and overloading prevented, serious disasters will still continue to take place in our waters, and loss of life and property will thereby ensue.

Not only would it tend, in my opinion, to the safety of life and property if our

Canadian shipping was required to be inspected by Government surveyors, and classed accordingly, but I think it would have a very beneficial effect on the value of the vessels thus classed, as it would probably improve their quality, reduce the rate of insurance, and increase the profits of the shipowner.

The number of lives lost during last calendar year on our coasts, and in connection with Canadian vessels, so far as the returns shew, was 75, but there is little doubt the actual number lost was much in excess of that number.

In the United Kingdom, a very large proportion of the coasting and small vessels which trade on the coasts of that country are classed at Lloyds' or some other office, so that their owners may be enabled to procure insurance on them at moderate rates, and I believe *all* the large vessels in that country are classed in some office. In this country nearly all the large vessels are also classed in some office, either English, French, or American Lloyds, but many complaints have been made by shipbuilders, shipowners, and others interested therein, that Canadian interests were not sufficiently considered in the rules laid down for the Government of these institutions, and the great objection has been that these rules were made by parties who could not be reached by the public opinion of Canada, and who in many cases were concerned with rival interests. While therefore I highly approve of the system of classification, I think it should be such a one as would be amenable to the public opinion of our own country, and capable of being reached by the maritime interests of the Dominion.

As regards the small vessels and coasters in this country, I am informed that very few of such craft are classed in any office, and that the outfit and ground tackle of this class of vessels are in many cases scanty and defective, and it is for such vessels more particularly that it appears very desirable to have some kind of Government inspection.

The principle of Government supervision as regards vessels suspected of being unseaworthy has been recently adopted by the British Legislature in the Merchant Shipping Act, 1871, which comes into operation this day, the 1st January, 1872. The 10th section of the Act alluded to provides that if a complaint is made to the Board of Trade, that any British ship is, by reason of the defective condition of her hull or equipments, unfit to proceed to sea, the Board may cause her to be surveyed, and if such ship is found to be in such a state that she could not proceed to sea without serious danger to human life, the Board may declare her unseaworthy, and she may be detained by any principal Customs' officer. The 11th section of the same Act also provides that every person who having authority as owner or otherwise to send a ship to sea, sends her to sea in an unseaworthy state so as to endanger the life of any person belonging to or on board the same, shall be guilty of a misdemeanor, unless he proves that he used all reasonable means to make and keep the ship seaworthy, and was ignorant of such unseaworthiness, or that her going to sea in an unseaworthy state was, under the circumstances, reasonable and unavoidable, and for this purpose he may give evidence in the same manner as any other witness.

It might tend to the safety of life and property, if some such provision was made with reference to vessels in this country which might be suspected of being unseaworthy,

and might be the means of making owners of small unclassed vessels more careful to equip their vessels properly before going to sea. At present no supervision exists over them, except such as underwriters may exercise when insurance is applied for.

A reference to the wreck returns in the Appendix, Nos. 32 and 33, will show that the number of sea-going casualties during last calendar year, so far as the department has obtained information, amounted to 209, of which sixty-one were ships and barques, forty-four were brigs and brigantines, 101 were schooners, and four were steamers, and the probable loss may be estimated about the sum of \$1,800,000. The number of casualties to lake and inland vessels during last season, so far as is known to this Department was sixty-five, of which fifteen were steamers, forty-two schooners, seven brigantines and barquentines, and one barge, and the estimated loss about \$300,000.

For the fiscal year ended 30th June, 1871, no vote was made by Parliament for the purpose of procuring rewards for saving life, but for the year ended 30th June, 1872, the sum of \$3,600 was voted by Parliament for the purpose of procuring rewards for saving life, and for the purchase of life-boats and life-buoys. The amount of \$292 was expended between the 1st July and the 31st December, 1871, for rewards for saving life, and \$315 for a new metallic life-boat which has been placed at Salmon Point, Prince Edward County, Ontario, near which place a vessel was wrecked sometime ago and all hands drowned. Another life-boat has also been placed at Nottawasaga Island, near Collingwood, in the Georgian Bay, under the charge of Captain Collins, the lighthouse keeper there, who has hitherto shewn much skill and courage in saving life from wrecks in his neighbourhood. It is also my intention to place a life-boat in Lake Huron, and it is probable that the Harbour of Kincardine will be as suitable a place as can be found if the necessary arrangements can be made for taking care of it. The expenditures made during the current year on account of this vote of \$3,600 will appear in the financial statement of the Department for the fiscal year ending 30th June, 1872.

In my last annual report, I mentioned the case of the second officer of the British steamer, *Wisconsin*, who, with a crew of volunteers, manned the life-boat, and went to the assistance of the crew of the ship *J. S. De Wolfe*, of St. John, New Brunswick, which vessel foundered at sea on the 5th October, 1870, while on a voyage from Liverpool to Philadelphia, and that the sum of \$80 was remitted to the Board of Trade in England, with the view of purchasing a testimonial for Mr. McDermott; as also the sum of \$80, to be divided among the boat's crew, as an acknowledgment from the Canadian Government, of their noble conduct.

I have since been informed by the Board of Trade that they purchased a sextant with the amount remitted, on which the following inscription was engraved:—

“Presented by the Canadian Government to Mr. Charles McDermott, 2nd officer of the steamer *Wisconsin*, of Liverpool, for his gallant conduct at the rescue of the crew of the ship *J. S. De Wolfe*, on the 5th of October, 1870.”

The Board of Trade also divided the sum of \$80 amongst the crew.

With reference to the case of the brigantine *Export*, of Annapolis, Nova Scotia, which foundered at sea on the 6th of November, 1870, the crew of which vessel were res-

cued by a boat's crew of the United States steamer *George Cornwall*, of New York, I have now to report that the necessary funds have been voted by Parliament, for procuring a testimonial to the chief mate of the vessel alluded to, and I have made arrangements for presenting him, in the name of the Government of Canada, with a handsome aneroid, value \$50, in acknowledgment of his gallant conduct at the rescue of the crew of the brigantine referred to.

I have also been authorized to present the crew with the sum of \$80, in acknowledgment of their services in this case.

With reference to the case of the the brig *Antecello*, of Halifax, N. S., foundered at sea on the 31st of October, 1870, on a voyage from New York to Aspinwall, as stated in my last year's Report, the crew of which vessel were rescued by a boat's crew of the United States ship *Horatio Harris*, of Boston, I have made the necessary arrangements, under the authority of Council, to present Mr. W. S. Samuels, the second officer of the ship alluded to, with a marine glass, value \$30, in acknowledgment of his gallant conduct at the rescue of the brig referred to; and a similar glass, of the value of \$30, to Mr. James Norton, the third officer, in acknowledgment of his gallant services on this occasion; and also the sum of \$20 to each of the two seamen who, along with the second and third officers, formed the rescuing party in this case.

With reference to the case of the brig *Three Sisters*, of Windsor, N. S., which was dismasted during a heavy gale, on a voyage from St. John, N. B., to Havannah, the crew of which vessel were rescued by the French bark *New Mexico*, bound to Bourdeaux, and were afterwards put on board the British schooner *Brilliant*, bound for Savannah, and landed at that port, I made the necessary arrangements, under the authority of Council, for paying the owners of the *New Mexico*, the sum of \$158 50, to reimburse them for the expenses incurred in taking care of the wrecked crew of the vessel alluded to.

In the case of the schooner *Matilda*, of St. Paul's Bay, Quebec, bound on a voyage from Miramichi to Quebec, on the 29th November, 1870, and which during a violent tempest was disabled, and was drifting at the mercy of the wind and waves, when she was observed by Captain Louis Dugal, of the Isle of Orleans, master of the schooner *Glen*, who, notwithstanding a strong gale blowing at the time, lowered his boat, and after great exertions, succeeded in rescuing the captain and crew of the wrecked vessel. I have made the necessary arrangements, under the authority of Council, to present Captain Dugal with a handsome marine binocular glass, value \$40, with a suitable inscription, in acknowledgment of his services at the rescue of the crew of the vessel alluded to.

In the case of the schooner *Morning Star*, of Miramichi, which became a wreck while on a voyage from Cape Haytien to Boston, and on the 30th of October, 1870, a boy the sole survivor of the wreck, was rescued by Mr. A. Coombs, master of the American brig *Ellen Bernard*, of Boston, who, by his unrenitting kindness and attention, restored the boy from a dying condition, to comparative good health, I have made arrangements under the authority of Council, to present Captain Coombs with a marine glass, value \$30, with a suitable inscription on it, in acknowledgment of his kindness on the occasion referred to.

Allusion was made to all the cases already mentioned, in my last Annual Report, but as no funds had been voted at that time by Parliament, for the purpose of acknowledging the services rendered by these persons, I was not then in a position to state what action was taken regarding them.

The following mentioned cases have come under my notice since the publication of my last Annual report :—

The brigantine *Ida Cullen*, of St. John, N. B., while on a voyage from St. John to Matanzas, met with a succession of gales, which dismasted the vessel, washed overboard all the boats, and caused her to become waterlogged. While in this perilous condition, the brig *Canada*, of Jersey hove in sight, and although the weather was very rough at the time the master sent his boat and rescued the *Ida Cullen's* crew, and carried them to Queenstown. I have made the necessary arrangements under the authority of the Privy Council, to present Captain Orsato, of the brig *Canada*, with a handsome aneroid, value \$40, with a suitable inscription on it, in acknowledgment of his humane conduct in the rescue of the crew alluded to; and also to present the sum of \$60, to be divided equally among the crew of the boat who formed the rescuing party.

The Brig *Aflon*, of St. John, N. B., while on a voyage from Sackville, was lost on Machias Seal Islands, on the 9th of January, 1871; the crew managed to get on shore on the island; and, after suffering much from cold and exposure, arrived at the lighthouse. Heavy guns were fired from the signal station, and signals of distress made to the mainland, which were observed at Cutler, State of Maine, a distance of twenty miles from the island; and, though the distance was so great, and the weather very stormy, a party of four men set out in a small schooner, and succeeded in landing on the island, and took off all the crew, with the exception of the captain, who was too ill to be moved. The British vice-consul at Eastport, Maine, paid the sum of \$50 for this service; but, at the same time, reported that he was of opinion that another \$50 should be paid, considering the risk which the men incurred, not only to their vessel, but their lives; and under the authority of Council, I made arrangements accordingly to pay the parties another \$50, making \$100 in all, to be divided amongst the four men who performed this gallant service.

The schooner *Minnie Arnold*, while on a voyage from Port Medway, N. S., to St. Kitts, was totally dismasted, and the deck swept by a hurricane, on the 15th February, 1870; and, after continuing in this condition for a month, the vessel was fallen in with by the *Alfred Richards*, on the 15th March, and the crew, with all their effects, taken by her to Barbadoes. The usual amount was paid to the master of the *Alfred Richards* for the subsistence of the wrecked crew while on board; but, as no risk was incurred in the matter by the master or crew of vessel referred to, I did not consider it advisable to recommend the award of a testimonial, but, under the authority of council, I conveyed the thanks of the Government of Canada to the master of the *Alfred Richards* for his kind treatment of the wrecked crew while on board his vessel.

A claim having been made by the Board of Trade, London, for the repayment of the sum of £9 19s. 6d., which had been paid by them to the master of the ship *Agnes*

Campbell, of Weymouth, Nova Scotia, for subsistence on board that vessel, of the master and five seamen, of the ship *Catharine John*, of St. John, New Brunswick; under the authority of Council, the necessary steps were taken by me to repay that body, as the *Catharine John* was owned by a person resident in Canada, and the Board anticipated that the Canadian Government would be willing, on this account, to bear the expenses incurred in the case.

The brigantine *Callie Allie*, of St. John, New Brunswick, while on a voyage from Rosario, in the Argentine Republic, to Liverpool, foundered on the 9th of January, 1871, when the master and crew, eight in number, took to their boats, and were picked up by the Spanish ship *Clotilda*, after being five days without food, exposed to the mercy of the winds and waves. The master of the *Clotilda* finding his stock of provisions was insufficient for the increased number on board, resolved to make for Pernambuco, for the purpose of landing the rescued men. While making for that port, the *Clotilda* fell in with the barque *Hyack*, of St. John, New Brunswick, and transferred two of the crew to that vessel, by which they were carried to Barbadoes. The usual subsistence money was paid to the captain of the *Hyack*, for the shipwrecked men while on board his vessel, but Captain Ferrer, the master of the *Clotilda* after landing the remainder of the crew at Pernambuco, generously refused to accept any remuneration for services rendered by him to the shipwrecked men, and under the authority of Council, I have made arrangements to present to him, a handsome gold watch, value \$100, in acknowledgment of his great kindness to the rescued mariners referred to.

The ship *Valiant*, of Halifax, while on a voyage from Halifax to Jamaica, was completely destroyed by a storm, both masts being carried away, and while in this condition the rescue of the crew was effected, at considerable risk by Captain Drummond, of the German barque *Christel*, who boarded the vessel with his own boat, while a strong wind was blowing, with a high sea, and succeeded in saving the crew, seven in number, and after treating them with great kindness for ten days, on board his vessel, conveyed them to Bremerhaven. The usual subsistence money, and amount disbursed for clothing these men, has been reimbursed to the Board of Trade, who defrayed it in the first instance, and under the authority of Council I have made arrangements for presenting Captain Drummond with a gold watch, value \$80, in acknowledgment of his humane conduct at the rescue of the crew of the ship referred to.

Captain Craig, late master of the Barque *Speedaway*, while on a voyage from Liverpool to Havannah, fell in with the Schooner *St. Mary*, of Sandy Cove, Digby, N. S., on the 8th September, 1870, in great distress, and after taking on board his crew, made every effort to keep the vessel afloat, but was finally obliged to abandon her.

The crew were cared for by Captain Craig, until the 13th September, when an opportunity offered of transferring them to the Schooner *M. S. B. Aitchok*, bound for Boston, which he availed himself of, and placed them on board that vessel, with a supply of provisions and clothing. Captain Craig was drowned three months afterwards at Havannah, and as no acknowledgment had been made to his widow, or the family, of

the services rendered, I remitted to his widow under the authority of Council, the sum of \$150, in recognition of the kindness shewn by her late husband to the rescued crew.

The ship *Beacon Light*, of St. John, N.B., was destroyed by fire in November, 1870, while on a voyage from Greenock to Rangoon, and the crew took to their boats and reached the Island of Tristan d'Acunha, from which they were rescued by the Ship *Northfleet*, and conveyed to Aden. Under the authority of Council, I remitted to the Board of Trade the amount paid for subsistence of the rescued crew of the *Beacon Light*, amounting to the sum of £86 6s. 9d. sterling.

I have also made arrangements, under authority of Council, to present to Mr. Thomas Cartier, Light house keeper at River Thames, Lake St. Clair, a gold watch, value \$75, with a suitable inscription on it, in acknowledgment of his gallant conduct in saving life during the last thirteen years, he having been instrumental in saving the lives of thirteen persons at great risk to his own life.

I have also made arrangements, under the authority of Council, for presenting Mr. George Collins, Light house keeper at Nottawasaga Island, Georgian Bay, with a gold watch, value \$75, with a suitable inscription on it, in acknowledgement of his gallant conduct on several occasions in saving life in the Georgian Bay, at great risk to his own life.

The crew of the schooner *Uber*, of Parrsboro', Nova Scotia, were recently taken from that vessel while she was in a disabled state, by one of the boats belonging to the barque *Saga*, of Norway, manned by the mate and two seamen, and considerable risk was incurred in so doing. The captain of the *Saga* declined to take any remuneration for subsistence of the crew while they were on board his vessel; and under the authority of Council, I have made arrangements to present to him a marine binocular glass, value \$30, with a suitable inscription on it, in acknowledgment of his kindness to the rescued crew; also an aneroid, value \$40, with a suitable inscription on it to the mate of the vessel alluded to, who took charge of the boat, in acknowledgment of his exertions at the rescue of the crew referred to, and the sum of \$15 to each of the two seamen who manned the boat, in recognition of their services on that occasion.

The barque *Blue Bird*, of Windsor, Nova Scotia, on the 26th of August last, while in a dangerous position on a lee shore, on the coast of Sweden, was observed by certain fishermen belonging to the village of Grafverna, who, at the risk of their lives, while it was blowing a storm, with a heavy sea, put off to the vessel some three miles distant, and succeeded in bringing the captain and crew ashore. As the salvage was effected with much risk and exertion, I made arrangements, under the authority of Council, to forward to the Board of Trade the sum of \$100 to be divided among the parties who effected the rescue, and at the same time conveyed the thanks of the Government of Canada to the salvors for their humane conduct.

The Schooner *Ocean Bird*, of La Have, Nova Scotia, when on a voyage from La Have to Boston, was discovered, to be on fire on the night of the 1st November, 1871, and it being found impossible to get the fire under, the crew were obliged to scuttle the vessel, which being done, after considerable exertion, the fire was extinguished. The

crew remained on the wreck without water or provisions till the afternoon of the 3rd November, 1871, when they were discovered by Captain Kirk, of the Brigantine *New Dominion*, of Yarmouth, Nova Scotia, lashed to the rigging. He immediately endeavoured to render assistance and after passing the wreck five times before he was near enough to help her, succeeded the sixth time in heaving to his ship within six feet of her, when the wrecked men provided with their life lines, jumped into the water, and were pulled on board. Captain Kirk, treated the rescued men with great kindness, and kept them for eight days on board his vessel, until his arrival at Gloucester, Massachusetts. As the thorough seamanship and courage displayed by Captain Kirk was the means of saving the lives of the shipwrecked men, I made arrangements, under the authority of Council, to present Captain Kirk, in the name of the Government of Canada, with a gold watch, of the value of \$100, with a suitable inscription on it, in acknowledgment of his humane exertions at the rescue of the vessel referred to.

The brig *John Jeffrey*, of Liverpool, Nova Scotia, while on a voyage from Barbadoes to St. Johns, Newfoundland, was overtaken by a hurricane on the 10th October last and dismantled, her rudder also being partially parted from the stern. The vessel having in consequence, become unmanageable, the crew were left at the mercy of the waves, and remained in this perilous condition for twenty-three days, when they were perceived by the master of the ship *John Patton*, belonging to the United States, who boarded the wrecked vessel personally, and rescued the crew with his boats, in which they were conveyed to his own vessel, where they remained on board for eight days, until they were landed at Savannah.

Her Majesty's Consul at that port reports that Captain Hill's conduct to the rescued crew was marked with the greatest humanity and kindness, and that he refused all remuneration for the time during which he supported the rescued crew, eight in number, on board his vessel. I have made arrangements, under the authority of Council, to present Captain Hill, the commander of the *John Patton*, with a handsome gold watch, value \$120, with a suitable inscription on it, in acknowledgment of his humanity and kindness to the rescued crew of the wrecked vessel referred to.

The ship *W. H. Moody*, of Yarmouth, Nova Scotia, while on a voyage from Liverpool to Philadelphia, was completely disabled by a hurricane on the 5th March last, and after lying in this condition for three days, was sighted by the American barque *Cremona*, of New York, the captain of which vessel, on being signalled for assistance, sent his boat, and though a heavy sea was running at the time, which swamped one of the boats of the *W. H. Moody*, succeeded, after eight hours' hard labor, in rescuing the crew, thirteen in all, and brought them to Liverpool. I have remitted the amount of £5 7s. 6d. sterling to the owners of the *Cremona*, to reimburse them for the subsistence of the wrecked crew, while on board their vessel; and I have made arrangements, under the authority of Council, to present to Captain Burrows, the master, a marine binocular glass, value \$30, with a suitable inscription on it, in acknowledgment of his services in the rescue of the shipwrecked crew referred to.

The schooner *Albutross*, of Nova Scotia, while on a voyage from Nevis, West Indies,

to Yarmouth, in November last, was disabled by a gale, and the master and crew were taken off the wreck by the American schooner *Daylight*, and landed at Barbadoes, when the sum of £3 16s. sterling was paid to the captain of that vessel, for the subsistence of the wrecked crew while on board his vessel, which sum has been reimbursed by this Department to the shipping master, who paid it. As no risk, however, appears to have been incurred in the rescue of the shipwrecked crew, I did not consider it necessary to recommend a testimonial in this case, but under the authority of Council, I conveyed the thanks of the Government of Canada to the master of the *Daylight*, for his services in the rescue of the shipwrecked crew, on the occasion referred to.

The Collector of Customs at Quebec drew the attention of this Department to the circumstances connected with the rescue of the captain and crew of the barque *Alma*, one of the vessels caught in the ice in the lower St. Lawrence, last fall, by Mr. Damase Babin, of St. Jean, Port Joli. It appeared that on the morning of the 30th of November last, Mr. Babin was the first to arrive in his canoe to the rescue of the crew of the *Alma*, at that time caught in the ice, at a distance of two miles from the beach; but the crew had in the meantime abandoned their vessel, and were endeavoring to make their way over the ice to the shore, and that while in this perilous condition, they were rescued by Mr. Babin and others, who came from shore to their assistance. It also appeared that on the day following, Mr. Babin displayed great energy and some daring, in endeavoring to save the crew of the barque *Viola*. The captain of the *Alma*, represented to the collector at Quebec, the gallantry displayed by Mr. Babin, and the generosity shewn by him in declining to accept any remuneration whatever for his services, and under the authority of Council, I have made arrangements for presenting Mr. Babin with a marine binocular glass, value \$30, in recognition of his services in connection with the rescue of the shipwrecked crews of the ships *Alma* and *Viola* referred to.

The following mentioned circumstances connected with the wreck of the barque *Breamish*, near Devil's Island, Halifax, on the 14th December last, were recently brought under my notice. It appeared that the vessel referred to, during a terrific gale, was thrown on her beam ends, on Devil's Island, and that while in this position she was sighted by Mr. Charles Hutt, Mr. B. Fulker the lightkeeper and others, who, at the cries of the crew, who were lashed to the side of the vessel's rail, put off to their assistance, and after great exertions, succeeded in rescuing all, eleven in number, from a watery grave. Under the authority of Council, I have made arrangements to pay the parties alluded to, the sum of \$114, in recognition of the services of the six men who were engaged in the rescue.

In a maritime country, such as Canada, with her ships and crews navigating in every part of the world, I consider it of great importance that every well authenticated case of saving life at sea from Canadian vessels more particularly when danger to the rescuing party is incurred, should be publicly recognized and rewarded, so that it may be generally known amongst maritime people that such services are highly appreciated by the Government of the country, and I am of opinion that the small amount of public funds thus expended, is of essential service to our maritime interests.

THE FISHERIES.

PRODUCE OF FISHERIES.

The general condition of the Fisheries throughout the Dominion during the past year has been prosperous. In most of the fishing districts the steady improvement of the sea coast and inland fisheries is highly encouraging, and has proved of great advantage to the inhabitants. This is more especially the case in the Province of Nova Scotia.

The actual value of the produce of Fisheries in the Confederate Provinces this year, for purposes of trade, is \$7,573,200, being an excess over that of the preceding year of \$998,160. It is estimated that the quantity used for domestic supply amounts to about six hundred thousand dollars worth. The value of the annual catch by Canadians, for export and home consumption, therefore exceeds eight millions of dollars. The amount of capital thus engaged is estimated at fifteen millions of dollars; and the number of persons employed at about eighty-seven thousand.

In making any comparison of total values, it is necessary to bear in mind that the market prices of certain kinds of fish ruled much lower in 1871 than in 1870. Take, for example, the case of mackerel: in 1870 it was rated at \$12 to \$16 per barrel for the cheaper grades, and in 1871 at only \$4 to \$5. Although the quantity taken was about three times greater in the latter year than it was in the former year, the total value is actually less. We must also recollect that the nature of the fishing business is such, much of it being carried on in very remote places, and often in a fitful and desultory manner, that it is impossible to procure complete statistics. Many vessels, for instance, fitted out at ports in Quebec, New Brunswick and Nova Scotia, fishing at various localities on and off the shores around these Provinces, find their way eventually to markets in Prince Edward Island, and their fares are there sold for shipment to the United States. Most of the fishing trade of that Island is carried on by United States citizens, or with American capital; and large quantities of the fish marketed and shipped there, are taken by Provincial and foreign fishermen in the waters of Canada. The Department has not yet made any allowance for such uncertainties by reckoning the probable, instead of the actual, yield from Canadian Fisheries; but the difference might be computed safely at ten per cent. on the official returns.

The following abstracts from tabular statements show that, with the exception of the salmon trout and whitefish fisheries, other branches of the fishing industry have increased very considerably during the past season. Salmon were even more abundant than usual, but the severity and duration of summer freshets and boisterous weather in the earlier part of the fishing season sensibly affected the catch, as the fishermen could not use their nets with advantage. The numbers of salmon which ascended to their breeding places was unusually large. We may, therefore, anticipate a successful fishery in the coming season. Regarding the decrease in the quantity and value of inferior fishes and fish oils in Quebec, it should be remarked the bulk of such decrease relates rather to the marine animals, such as whales, seals and porpoises, and their oils, than as among the fish products

proper. The falling off in seals and seal-oil alone amounts to about eighty per cent. ; in whale oil thirty per cent. ; and in various smaller kinds of fishes formerly used as manure, but now made use of for home consumption, about sixty-three per cent.

Nova Scotia.

	1870.		1871.
Codfish	399,809 qtls. ...		447,168 qtls.
Mackerel	85,254 brls. ...		228,152 brls.
Herring	125,863 „ ...		203,512 „
Salmon	8,347 „ ...		7,371 „
Other fish and fish oils.—Value	\$668,530 ...		\$1,363,343

Quebec.

Codfish	152,414 qtls. ...		204,966 qtls.
Mackerel	8,208 brls. ...		9,403 brls.
Herring	35,623 „ ...		79,805 „
Salmon	5,840 „ ...		3,728 „
Other fish and fish oils.—Value	\$484,550 ...		\$221,205

New Brunswick.

Codfish	21,167 qtls. ...		9,296 qtls.
Mackerel	3,282 brls. ...		4,515 brls.
Herring	105,736 „ ...		150,871 „
Salmon	11,796 „ ...		8,579 „
Other fish and fish oils.—Value	\$413,965 ...		\$395,812

Ontario.

Value	\$291,182 ...		\$217,024
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STATISTICS.

The statistical details comprised in the several condensed statements and returns of the Fishery Officers, published herewith as Appendices, afford minute information of the yield and value of the Fisheries of Canada for the purposes of trade.

There is always considerable special expense attending the preparation of these detailed returns. The enquiries of the Fishery Officers have been, therefore, this year limited to the principal and most accessible districts, it being expected that the decennial census returns now in course of compilation will be soon available for more complete data concerning our maritime wealth and industry. Hitherto, the immense quantities of fresh and cured fish consumed by our coast and inland population for domestic use, have been under estimated. Also much of the fish that is exported fresh to the United States, along the boundary between the two countries, not being liable to customs duty, and therefore but irregularly noticed as exports, has escaped being duly reckoned

among our trade resources. With the concurrence of the Minister of Agriculture, the undersigned purposes, for next year's report, to prepare an analytic and comparative statement of the entire fishery business of the several provinces, and to offer some recommendations affecting the further development of the fisheries, and the extension of fish trade.

FISHERY COLLECTIONS.

The collections during the fiscal year amount to \$12,408.97, and are derived from the following sources :—

Ontario.

Collections as fishing rents, license fees, fines and confiscations	\$5,039 85
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Quebec.

Collections as fishery rents, license fees, fines and forfeitures	6,290 35
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Nova Scotia.

Collections as license fees, fines and forfeitures	36 74
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New Brunswick.

Collections as fishing rents, taxes on salmon nets, fines and forfeitures	1,042 03
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Total	\$12,408 97
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EXPENDITURE.

The Fisheries expenditure for the same period amounts to \$42,592.44, and is divided in the following manner :—

Ontario.

Fishery Overseers' salaries and disbursements, fish-breeding, &c...	\$10,707 18
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Quebec.

Fishery Overseers' salaries and disbursements, expenses of "La Canadienne," &c.	16,084 37
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New Brunswick.

Fishery Overseers' salaries and disbursements, &c. . .	7,006 52
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Nova Scotia.

Fishery Overseers' salaries and disbursements, &c. . .	8,794 37
	<u>\$42,592 44</u>

MARINE POLICE CRUISERS.

A further special expenditure was incurred for the Marine Police Service. The undermentioned vessels were equipped for such duty, and continued to cruise on their respective stations until the close of the fishing season :—

Steamer *Lady Head*, Capt. P. A. Scott, R.N., in general Command.

Schooner *New England*, D. M. Browne, Esq., R.N., Commander.

Schooner *Sweepstake*, J. A. Tory, Esq., Commander.

Schooner *S. J. Marshall*, G. W. Creighton, Esq., Commander.

Schooner *Water Lily*, G. V. Story, Esq., R.N., Commander.

Schooner *Ella G. McLean*, H. E. Betts, Esq., Commander.

Schooner *Stella Maris*, L. H. Lachance, Esq., Commander.

Schooner *La Canadienne*, N. Lavoie, Esq., Commander, was incidentally engaged in the same service.

Reports of their cruising operations will be found among the Appendices.

The cost of maintaining six of the sailing vessels specially engaged in this force throughout the season amounts to about \$55,000 ; to which must be added a proportion of the cost of the Government steamers and *La Canadienne* whilst engaged in connection with the same, amounting to \$29,000 more. The whole expense for Marine Police being about \$84,000. A sum of \$70,000 was appropriated by Parliament for this special service.

SEIZURES EFFECTED.

Three United States' fishing vessels found trespassing on the inshore fishing grounds have been seized. These were the *Samuel Gilbert*, the *Franklin S. Schenck*, and the *E. A. Horton*. The first-named has been condemned in the Court of Vice Admiralty at Quebec ; the second is still in suit before the same Court ; and the third was stolen, by or on behalf of her former owners, from the custody of the Customs' Collector at Guysboro', N.S., while the judicial proceedings instituted against her were in actual progress.

An official investigation of the circumstances connected with this theft leaves the impression that there was culpable negligence (if not connivance) on the part of those persons having the captured vessel immediately in charge.

It since appears, through a despatch from the Secretary of State for the Colonies, that new papers have been issued to this schooner by the United States' Government.

At the instance of the Government of Prince Edward Island, American fishermen were allowed to fish unrestrictedly, and to avail themselves provisionally of all the privileges proposed in the Treaty of Washington, to be conveyed by that instrument to subjects of the United States. The operations of the Marine Police were therefore confined exclusively to Canadian waters.

A statement included in the Appendices, describes the various seizures made since the Marine Police was first organized, and states how each of the captures has been disposed of.

INSTRUCTIONS ISSUED.

The usual instructions, as Your Excellency is already aware, under which officers commanding the Canadian cruisers have acted in the past season, differ somewhat from those issued for their guidance during previous seasons.

In conformity with the expressed wish of Her Majesty's Government, fishing vessels belonging to United States' citizens were subjected to molestation or seizure solely for the flagrant offence of fishing within the three-miles limit.

The several claims of Canada in respect of the definition of her various bays by headland boundaries, in accordance with International Law, and with the terms of the Convention of 1818; and also of her right to exclude all foreign fishing vessels from her ports and harbors for bait and supplies, and trading and transshipping cargoes incident to their fishing pursuits, were thus put, for the time being, in abeyance. These circumstances have rendered it very much more difficult to detect or prevent trespasses. Hence the small number of seizures. It is probable also that fewer foreigners were actively engaged in fishing around our coast this year than usual.

It is extremely desirable that during the consideration of pending treaty proposals, there may exist no uncertainty as to the necessary measures of protection which, in the meantime, will be adopted and enforced by Canada. There seems to me to be always more danger of collisions where delays and uncertainties occur than is possible in the face of decisive preparations and timely instructions. These operate as a distinct notification, and in many instances no doubt attain the real object of protective measures, namely: to avert intrusion without exposing either innocent parties to the chances of doubt and misinformation, or tempting designing persons to incur the penalties of seizure and confiscation.

OFFICIAL INSPECTION OF FISH.

The voluntary system which at present exists for the official inspection of fish does not either prevent the frauds practised in curing and packing fish, nor enhance the value of the produce of our fisheries in foreign and home markets. Complaints are rife of the vexatious impositions and losses to which purchasers of pickled fish are now exposed, and of the consequent depreciation of the character and price of this commodity, especially throughout the agricultural districts and amongst the population of the interior. The Department has received from various quarters urgent representations on this subject. It is still under consideration; but although unprepared as yet to suggest legislation, I hope soon to be in a position to submit to the Government a measure on the subject which may prove acceptable to the fishermen and the trade, and also beneficial to consumers.

CONSTRUCTION OF FISH-WAYS.

The enforcement of the fishery laws requiring owners of mill-dams to construct fish-ways in such of their dams as entirely obstruct the course of any river frequented by migratory fishes, has materially improved the river and estuary fishings. This is more

particularly the case in Nova Scotia. In that province so many streams empty themselves more or less directly into the sea, and are resorted to by different kinds of fish requiring access to fresh water for reproducing their species, it was more urgently necessary to effect such improvement than in the other provinces where fewer obstructions exist, and the various descriptions of fish inhabit chiefly the lakes and fresh water streams. The majority of salmon and trout streams in Quebec and New Brunswick are now either freed from similar barriers, or are made accessible by means of artificial fish-ways. In Ontario, it will soon become indispensable to require passes on mill-dams across those rivers to which salmon are now returning in large numbers from the restocking adopted in connection with the process of artificial hatching.

REFUSE IN RIVERS AND HARBORS.

The damage caused to our fresh water fishings and navigation by polluting and obstructing the waters with refuse from manufactories, which was referred to at length in the report of last year, is fast increasing. Unless Parliament shall see fit to provide some special remedy for practices which threaten serious permanent injury to the navigation and fisheries, they must very soon attain proportions so formidable as to defeat all efforts to promptly reduce them. In the end, the private interests which are now profiting by neglect of a duty due to the public, will probably suffer most, and be placed in antagonism to the public generally who may be taxed to restore navigation and restock the rivers. The question of devising means to obviate such extensive injuries is really one of expense. A moderate and judicious outlay, representing but a trifling percentage on the profits of manufacturing, would certainly provide effectually against the injurious consequences of present neglect. A very great deal of forbearance has been exercised towards manufacturers for several years past. Many of them have made repeated promises to requite such consideration by devoting some little attention towards remedying the evil. Instead of doing so, however, they would seem to have rested securely in the belief that the tolerated practices having at length become a sort of recognized privilege, excused at least if not justified by the importance and wide-spread benefits of manufacturing industries, are meant to be subjected merely to the formality of a periodical protest and abortive remonstrance—nothing more. It is very much to be regretted that men of such vast energy and practical resources will not earnestly consult or combine together with a view to mitigating (if they cannot remove entirely) the evils of which the public so justly complain. After so many years of unavailing and futile warning, it appears hopeless to expect any voluntary improvement. Parliament should therefore interfere early and effectively; otherwise, tacitly accept the responsibility of suffering the navigation and fisheries of many of the finest streams in the country to be ruined wholly or partially, for the mere temporary convenience and profit of interested parties.

This expression of my views is placed on record with sincere regret. Nothing but the paramount conviction that public interests demand it, could impel me to do so. It is

impossible to conceal from oneself that persuasive efforts have utterly failed. Instead of earnest endeavor and active co-operation, in many instances nothing but delusive promises, evasions and neglect have occurred.

The manufacturing interest deserves so much and such careful consideration in Canada, that it is peculiarly difficult and even embarrassing, in this respect, to reconcile the slightest coercive interference in its operation with the progress and prosperity which every Canadian heartily desires to witness. It is, however, becoming yearly more evident to everybody that sooner or later something must be done in this matter; and the longer it is delayed, and the more burdensome shall become the cumulative effects of these abuses, so much the more onerous will be the private expense of remedying them, and so much the more urgent the public demands for justice.

CULTIVATION OF FISHES.

The reproduction of fish by artificial means has been further prosecuted with most favorable results at the public establishment conducted by Mr. Wilmot. An interesting account of his operations is printed among the Appendices to this Report. These transactions establish beyond all question, the entire feasibility of reproducing unlimited quantities of any species of fish which it is at all desirable to multiply beyond the natural facilities afforded by our streams and lakes, for the purposes of commerce and domestic supply. It is my opinion that this process may now be safely extended to the Provinces of Quebec, New Brunswick, and Nova Scotia, and it is to be hoped that steps will be taken for such extension in the course of the ensuing season. It would be very desirable also to provide for the hatching and raising of certain of the more valuable species of spring fishes, and to devote increased attention to the cultivation of whitefish and trout. Also the breeding of vast quantities of shad and alewives, besides producing bait for supplying the estuary fishes and carrying on the coast and deep-sea fisheries, are branches of this enterprise which might, with great benefit, be promoted in the maritime counties.

DISTRIBUTION OF SALMON FRY.

In distributing the salmon-fry bred at Newcastle, Ontario, last year, especial care was taken to place them in the most favorable streams. These streams were therefore chosen along the shores of Lake Ontario, on either side of the locality in which the fish were reproduced. About 150,000 of healthy young salmon have been thus disposed of, the aggregate market value of which would be about \$15,000. After allowing liberally for casualties, and for the cost of capture and marketing, there remains the probability of these fish becoming, within two years, available food worth at a fair estimate, \$130,000. When it is considered that the salmon affords a delicious and nutritive diet, the abundance of which will reduce its cost even below that of other edible fishes, the great importance of being enabled to increase the supply by means at once so certain and so extensive, can scarcely be over-estimated. And in order that we may thus realise the

benefits of such re-stocking, every reasonable effort, consistent with economy, will be made to preserve these valuable fish from injury or destruction. After supplying several suitable streams, there remained about 200,000 more of the fry, worth about \$8,000. An experimental sale was made to the United States' Fishery Commissioners at \$1,320. Many of the remainder have since been supplied to Canadians, free of charge, to re-stock small streams which salmon had in bygone days inhabited.

The quantity of salmon eggs obtained last fall from the regular stock which now revisits the creeks connected with the Government fish-breeding establishment—many of both the old and young breeders having been identified as visitants of former seasons—exceeds a quarter of a million, and they are now in process of development. The eggs are all in a most healthy condition, and promise fair to hatch out with an insignificant per centage of failures.

PROTECTION OF INLAND WATERS.

Numberless large and small lakes, many of which are isolated and others are connected with important rivers or streams, are found in different parts of the provinces. The fish inhabiting these bodies of water belong mostly to non-migratory species, and are not considered generally as supplying any commercial fishery. They are taken chiefly for domestic consumption and for sport. In some exceptional instances, they are sought after to satisfy the growing demand for fresh fish on the part of dealers from the neighbouring states. This demand has led to the better kinds of inland lake fishes being caught by residents and strangers somewhat more extensively of late than in former seasons. Consequently, complaints have been made to the effect that many of these interior lakes are now being overfished, and the settlers call upon this Department for protection. Were any efficient supervision to be maintained over the fishing carried on in such remote localities, it would entail considerable expense for Fishery Overseers and local Guardians. This outlay could not well be reimbursed from any charge for license fees, because it would fall rather on the settlers who are employed for strangers, than on the foreigners who actually furnish means for carrying on the fishery. If, however, the residents would exert themselves a little, they could easily prevent excessive and unlawful fishing. The prohibitions contained in the fishery laws are ample for all necessary and reasonable protection; and the Department would mutually co-operate with the settlers in such protective measures of a lawful character as they might find it advisable to take.

There are, on the other hand, some reasons why the public funds should be charged entirely with the requisite protection. It is urged by the inhabitants of the border cities, that so long as no Government authority is exercised in the premises, foreigners succeed in obtaining, by their connection with the settlers, a monopoly of the produce of these inland waters, which they export and sell at high prices to purchasers in the United States, so that fresh fish are extremely scarce and very high priced in the frontier cities as well as in the interior towns of Canada. Direct interference with this sort of trade, however desultory and peculiar, is undesirable. But it might be regulated in such

a manner by discriminating licenses as to deprive it of many of its objectionable features, and determine some portion of the local supply towards home markets. Whether or not the Parliamentary appropriations for the Fisheries' service contemplate the engagement of numerous fishery officers for inland waters, to supervise whatever fishing operations are being carried on there by residents and strangers, for themselves or for foreigners, and to bring parties so engaged within the control of a licensing system, is a point on which doubts may be entertained.

SCIENTIFIC INQUIRIES.

The Natural History Society of Montreal, having, through Professor Dawson, requested that such facilities should be afforded for prosecuting scientific researches in the Gulf of St. Lawrence as could be conveniently extended to them through the Government vessels engaged in the fisheries service in that district, the undersigned has admitted on board one or two of these vessels competent persons detached for that purpose by the Society, with the understanding that any enquiries made, should, so far as practicable, comprehend a cursory investigation of the subject of food for fishes in the waters of the Gulf and River St. Lawrence. A report of the experiments made will be found in the Appendices.

These dredging operations might very profitably take a wider scope. There are so many valuable and interesting points of enquiry connected with the locality and condition of food on which the deep-sea fishes frequenting our coasts subsist, all having an important bearing on the question of preserving and developing these great resources, that it cannot fail to be of advantage to the country to obtain accurate information on the subject. Although we have not yet arrived at that stage of decline which marks the present state of most of the inshore fishings on the coast of the Northern United States, the desired knowledge may be serviceable to avert any similar exhaustion. The American Government are now employing scientific men, as Commissioners, to investigate this subject in Lakes Michigan and Superior, and on the Atlantic Coast. Their proceedings last summer are extremely interesting even to Canadians. The undersigned thinks it desirable to pursue like enquiries on a very limited scale in Canada during the ensuing summer, and will ask Parliament for a small grant of money for such purpose.

TOTAL EXPENDITURE.

The total amount expended by this Department on account of Marine and Fisheries' Services under its control and supervision, for the fiscal year ended 30th June, 1871, was \$575,316.93, against \$408,159.31 for the previous fiscal year, and \$369,409.77 for the year ended the 30th June, 1869. The increased expenditure on last year as compared with that of the previous year, was partly owing to the number of new lighthouses, new lightship, and steam fog whistles constructed, the largest number of which was erected in the River and Gulf of St. Lawrence. There were also extensive and much needed repairs made to the Dominion steamers under the control of this Department.

DEPARTMENTAL STAFF.

A reference to the Addenda herewith accompanying, will show that the number of persons employed on the outside staff of this Department during the last year, including the officers and crews of the Marine Police Vessels, was 972, while for the previous year it was 931. These numbers do not include the staff of the Department, at Ottawa, and the amount herein stated as the expenditure of the Department does not include the salaries and other expenses of the Department here, but only the expenditure for outside services.

Respectfully submitted,

P. MITCHELL,

Minister of Marine and Fisheries.

OTTAWA, 1st January, 1872.

ADDENDA.

The Outside Staff of this Department numbered as follows, 31st
December, 1871:—

Superintendent, Foremen, and Light Keepers in Ontario and above Montreal	75
Officers of Trinity House, Montreal, receiving pay, and Light Keepers ..	42
Captain and Crew of <i>Richelieu</i>	6
Officers of Trinity House, Quebec	7
Agency at Quebec, and Lighthouse Keepers below Quebec	80
Agent, Superintendent, Messenger, Light Keepers, Fog Whistle Keepers, &c., in New Brunswick	40
Agent, Clerk, Superintendent, Messenger, Light Keepers, Fog Whistle Keepers, and Humane Establishments in Nova Scotia	93
Officers and Crews of <i>Napoleon III</i> , <i>Lady Head</i> and <i>Druid</i>	81
Inspectors of Steamboats and Clerk	7
Harbor and River Police, Montreal and Quebec	50
Employés in Marine Hospitals managed by this Department in New Brunswick	16
Shipping Masters and Deputies at Quebec and St. John	4
Employés of Observatories	9
Board of Examiners of Masters and Mates	7
Ontario.—Fishery Overseers	23
„ Guardians	25
Quebec.—Commander of <i>La Canadienne</i> and Crew	24
„ Fishery Overseers	24
„ Guardians	27
Nova Scotia.—Fishery Officer	1
„ Overseers	27
„ Wardens	127
New Brunswick.—Inspector for Nova Scotia and New Brunswick	1
„ Clerk	1
„ Fishery Overseers	31
„ Wardens	36
Marine Police and Crews employed on the six vessels forming the Marine Police	108
	972

APPENDICES
OF THE
MARINE BRANCH
OF THE
Department of Marine and Fisheries.

APPENDIX No 1.

STATEMENT of Expenditure on account of Lighthouses above Montreal for the Fiscal Year ended 30th June, 1870.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
LIGHTS ABOVE MONTREAL.					
SALARIES AND ALLOWANCES OF LIGHTHOUSE KEEPERS.					
John Norton.....	Salary as keeper, Lachine Pier, light ship No. 1.....		401 00		
W. Shannon.....	do Grosse Point lighthouse.....		435 00		
E. S. Johnson.....	do Cherry Island.....		447 00		
T. Hill.....	do Lancaster Pier.....		333 00		
C. Cook.....	do Gananoque Narrows.....		400 00		
J. Buck.....	do Spectacle Shoal.....		560 00		
N. Orr.....	do Snake Island.....		435 00		
J. Dunlop.....	do Nine Mile Point.....		435 00		
F. Swetman.....	do False Ducks.....		435 00		
W. A. Palen.....	do Point Peter.....		435 00		
H. Bentley.....	do Scotch bonnet.....		435 00		
G. B. Simpson.....	do Presque Isle.....		333 75		
G. Roddick.....	do Gull Island.....		500 00		
G. Durnan.....	do Gibraltar Point.....		435 00		
G. Thomson.....	do Burlington Beach.....		300 00		
J. Woodall.....	do Port Dalhousie.....		400 00		
D. Fortier.....	do Port Colborne.....		400 00		
J. Burgess.....	do Mohawk Island.....		435 00		
P. Baile.....	do Port Maitland.....		369 43		
H. H. Woodward.....	do Long Point.....		435 00		
A. Sutherland.....	do Point Burwell.....		320 00		
P. McIntyre.....	do Point Pelee Reef.....		390 25		
J. Edwards.....	do Asst. do.....		368 75		
J. Cummins.....	do Pelee Island.....		435 00		
A. Hackett.....	do Bois Blanc.....		435 00		
T. Cartier.....	do River Thames.....		435 00		
H. Fidler.....	do Goderich.....		325 00		
J. Young.....	do Point Clark.....		435 00		
D. McG. Lambert.....	do Chantry Island.....		435 00		
D. McBeath.....	do Isle of Coves.....		435 00		
W. McBeath.....	do Asst. do.....		300 00		
V. C. Hill.....	do Griffith Island.....		435 00		
G. Collins.....	do Nottawasaga.....		435 00		
J. Hoar.....	do Christian Island.....		435 00		
J. Pringer.....	do Point Pleasant.....		300 00		

P. Proulx.....	do	Killarney.....	500 00	
T. Lamphier.....	do	St. Ignace Island.....	300 00	
D. McKenzie.....	do	Little Current.....	300 00	
C. Patton.....	do	Clapperton Island.....	350 00	
W. Shepherd.....	do	Sulphur Island.....	325 00	
J. Eagan.....	do	Lonely Island.....	300 42	
O. Madore.....	do	Lachine Pier, light ship No. 2.....	276 00	
B. Picard.....	do	do do No. 3.....	276 00	
J. Meloche.....	do	Beauharnois.....	225 00	
G. Shannon.....	do Asst.	Grosse Point.....	175 00	
A. McDonald.....	do	McKie's Point.....	175 00	
G. H. Johnson.....	do Asst.	Cherry Island.....	300 00	
D. Illiott.....	do	Cole Shoal.....	250 00	
A. Root.....	do	Grenadier Island.....	250 00	
J. Wallace.....	do	Lindoe Island.....	250 00	
J. Mervin.....	do	Burnt Island.....	250 00	
R. Gillespie.....	do	Wolf Island.....	250 00	
R. Roddick.....	do Asst.	Gull Island.....	175 00	
W. J. Sweetman.....	do	Range light and buoys.....	351 25	
R. K. Chisholm.....	do	Oakville Pier.....	200 00	
H. Morgan.....	do	Port Dover.....	200 00	
C. Ead.....	do	Port Stanley.....	200 00	
R. A. Lambert.....	do Asst.	Chantry Island.....	175 00	
C. Collins.....	do do	Nottawasaga.....	175 00	
A. Glode.....	do	Point (Clair light ship No. 1.....	276 00	
M. Leclair.....	do	do do No. 2.....	240 00	
A. Laberge.....	do	Green Shoal.....	250 00	
J. Mason.....	do	Telegraph Island (one quarter).....	50 00	
J. Eccles.....	do	Pigeon Island do.....	75 00	
J. C. Darke.....	do	Fox Island do.....	50 00	
W. McGowan.....	do	Parry Sound, 20th April to 30th June.....	58 33	
E. Schofield.....	do	Port Maitland, 10th April to 30th June.....	77 76	
Darius Smith.....	For twelve months' salary as Acting Superintendent.....		1,093 75	21,703 94
do.....	Travelling expenses.....		659 43	
do.....	Superintendent's pay lists and accounts for the year.....		6,006 31	
	<i>Supplies, Repairs, etc.</i>			8,269 49
A. Laberge.....	For work at Green Shoal.....		836 84	
J. Hays & Co.....	Glass.....		327 33	
D. Morris & Co.....	4,499 galls. oil, at 27 cents, and cartage.....		1,240 03	
E. Chanteloup.....	Annular lamps, &c.....		1,493 75	
J. Mathewson.....	Soap, &c.....		184 44	
Morland, Watson & Co.....	Sundries.....		250 93	
Clark & Francis.....	Contract for oil.....		1,262 80	
C. Garch & Co.....	Sundries.....		58 08	
J. R. Fleaming.....	Land, Green Shoal.....		100 00	
	<i>Carried forward.....</i>			29,973 43

STATEMENT of Expenditure on account of Lighthouses above Montreal, &c.—*Continued.*

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.	cts.	\$	cts.
LIGHTS ABOVE MONTREAL.— <i>Continued.</i>								
<i>Brought forward.</i>						29,973	43	
<i>Supplies, Repairs, etc.—Continued.</i>								
W. M. Smith	For Testing oil			142	45			
R. Lowe	Delivering supplies			1,536	87			
E. D. David	Freight, &c.			22	21			
D. McKenzie	Embankment, Little Current			100	00			
W. Davis	Construction of Wade Shoal			300	00			
A. LaBerge	New Buoys			73	17			
J. Ryan	Fences, Spectacle Shoal			86	40			
A. Hackett	Boat Service, Detroit River			109	05			
A. Perry	Survey of Presque Isle Peninsula			492	14			
Antoine Mongeon	Wages for keeping Wade Shoal			36	67			
M. Leclair	Boat hire			30	00			
J. Tomlinson	Expenses as General Superintendent and Constructive Engineer			750	00			
W. Davis	Work at Wade Shoal			13	25			
H. Moore	do Fox Island			30	00			
J. Eccles	Keeping Pigeon Island			121	88			
J. C. Dark	do Fox Island			76	39			
J. & W. Beatty	Work done at Parry Sound			22	00			
J. Mason	Keeper at Telegraph Island			75	12			
Canadian Express Co.	Sundries			18	20			
N. & A. Woodward	Removing building at Long Point			800	00			
F. A. Fitzgerald & Co.	On account of Oil			1,836	26			
J. Harvey	Cartage of Oil			27	00			
Dyde & Major	Storing Supplies			114	00			
H. M. Perrault	Plans, &c.			40	00			
Prowse Bros	Oil Tanks			214	50			
J. L. Beveau	Supplies			1,026	11			
Sundry persons	Sundry small accounts			252	71			
						14,080	53	
CONSTRUCTION.								
<i>Fox Island.</i>								
W. Davis	For Contract	1,000	00					
E. Chanteloup	Lantern, &c	107	30					
				1,107	30			

	<i>Lonely Island.</i>				
J. B. Spence.....	Contract.....	1,800 00			
E. Chanteloup.....	Lantern.....	189 53			
C. Garth & Co.....	Lamps, &c.....	201 92	2,191 45		
	<i>Telegraph Island.</i>				
R. Cameron.....	Contract.....	1,725 00			
C. Garth & Co.....	Sundries.....	194 90			
E. Chanteloup.....	do.....	71 45	1,991 35		
	<i>Pigeon Island.</i>				
R. Cameron.....	Contract.....	1,925 00			
C. Garth & Co.....	Sundries.....	194 78			
E. Chanteloup.....	Lantern.....	285 95	2,405 73		
	<i>Parry Sound.</i>				
E. Chanteloup.....	Lantern.....				
C. Garth & Co.....	Lamps.....				
J. & W. Beatty.....	Contract.....				
				8,575 53	
Hon. Receiver General.....	Unexpended balances, 1869-70, paid him, and credited			52,629 56	
	Casual Revenue.....			577 55	
				53,207 11	
	LESS.—Balance in 1869-70, <i>vide</i> Public				
	Accounts of that year, part I. p. 192..			1,609 69	
	Total.....				52,137 42

DEPARTMENT OF MARINE AND FISHERIES,
2nd January, 1872.

WILLIAM SMITH,
Deputy of the Minister of Marine and Fisheries.

APPENDIX No. 2.

REPORT OF TRINITY HOUSE, MONTREAL, FOR THE YEAR ENDED 30TH JUNE, 1871.

THE TRINITY HOUSE OF MONTREAL,
MONTREAL, 16th December, 1871.

SIR,—In compliance with your letter of 21st October last, requesting me to forward my report of the operations of the Trinity House for the financial year ended 30th June last, in order that it might be laid before Parliament when it assembles. I have the honor now to submit the following :—

The operations of the Trinity House during the year have, as formerly, consisted in the usual works detailed in the reports I had the honor to forward to you the two preceding years.

FLOATING LIGHTS.

The three floating lights, the hulls of which are of iron, were, as ordered by the Board on their last visit, redecked by the Messrs. McCarthy, and the woodwork repaired at a cost of about \$1,500, this was the first important repairs they have required since they were built about eighteen years since. They appear now to be in perfect order, and unless some accident occurs, will require nothing but to have the hulls painted every two or three years.

BUOYS.

In former years the floating lights were removed, and the buoys taken up so soon in the fall as the ice rendered it necessary ; but within the past five or six years, sea-going vessels have remained so late, and the obvious duty of not moving any of the marks till the last had gone down, have rendered it impossible for the Board to take up all the buoys. Of these some are recovered when they appear by cutting them out of the ice, but many are annually lost. The loss, however, is of small importance compared with the immense benefit to these vessels for whose use they are left down so late. The permanent buoying of the dredged channel in the lake, effected by large iron buoys, has been found to answer well, most of them remaining during the winter, some however are annually lost, and these last winter have been replaced by some of a less heavy description, which, it is supposed by practical men, who have been consulted, will answer the purpose equally well for permanent buoying, cost less and be far less liable to cause damage to any boats which might unfortunately run against them. This winter will give the test of their efficiency. The long cedar spars, which for many years have been used for the wooden buoys, are being gradually replaced by a buoy made of the same wood, of twelve feet long, instead of twenty, hollowed out in the centre with a copper tube inserted. Two were made, one without a tube, one with, and both were tested at Sorel in your presence; the one with the tube was found so much more buoyant that it was adopted, and about twenty-five have been laid down, replacing those carried away by the rafts. The Board is satisfied that a great saving will be effected, as experience has proved that they are not so liable to be carried away as those for which they have been substituted.

LIGHTHOUSES.

These continue to be in good order and well kept, all require yearly some small repairs, but as usual they have been trifling and the expense little.

The quays, however, suffer more, the action of the ice every year doing considerable

damage. As I mentioned in my last report, all ought to have ice breakers, but as this would involve much expense, and the quays, although yearly requiring considerable repairs, have been built for a long time, the Board has not thought it expedient to recommend it.

The quay of the large light at Port St. Francis has been considerably moved from its level, and it will be absolutely necessary that something should be done this winter to prevent its being altogether carried away. The subject is receiving the attention of the Board. I am happy to say that all the moveable lighthouses were this year, unlike the last, removed in safety to winter quarters.

The shoal which for so long had obstructed the channel at Pointe aux Trembles, having been, as I mentioned in my last report, removed in accordance with the recommendation of Mr. Page, Chief Engineer of the Board of Works, it became necessary to place lights to ensure safe navigation of the new channel. A small lighthouse was consequently erected on Isle St. Therese, at a cost of \$252⁷⁰/₁₀₀, and an additional lamp placed in the high lighthouse, already there, making a perfect leading light, thus saving the expense of a second lighthouse.

An accident having happened to the steamer *Quebec*, belonging to the Richelieu Company, the Board caused a quay and small lighthouse to be erected on Isle de Grace, at an expense of \$1,066²⁰/₁₀₀. This, with an additional lamp which they have placed in the lighthouse at Isle à la Pierre, will prevent a recurrence of a similar casualty.

The lighthouse at Isle à la Pierre was originally erected at Nicolet. The improvements in the channel having rendered it useless there, it was removed and re-erected on Isle à la Pierre, having originally been built as a *land* lighthouse. It is unsuited for a dwelling, and as you yourself in your visit noticed, it is absolutely necessary to erect an addition in order to enable the keeper to live, as it must be piled. This will cost about \$500.

The immense increase in the size of the vessels arriving in this port, compelled the Board to erect two temporary lights at Lothinière. Representations having been made by the pilots and some important shipowners, the Board in view of seven lights already in that locality, thought any additional ones unnecessary; but a committee having been named and a careful examination made, the committee saw the importance of acceding to the application, and as no appropriation had been made for this purpose, tripods made of oars of rafts were erected temporarily, as well for the approval of the Honorable the Minister of Marine and Fisheries, and also to test their utility, they are found now to be absolutely necessary.

The low lighthouse at Grondines was found, owing to the growth of trees, to be too low; and as the expense of cutting yearly about twenty acres of brushwood was far more expensive, the Board has caused it to be raised about four feet, at an expense of about \$50.

A painful accident occurred to Narcisse Arcand, light keeper of No. 2 light vessel, Lake St. Peter, who was accidentally drowned while coming up to Sorel for supplies. He was an old and valued servant of this corporation. His place with the approbation of the Honorable the Minister was filled by his brother Edward Arcand, who had long been his assistant. The light keeper of No. 2 is the party employed to give the depth of water on the flats of Lake St. Peter. This is done by a gauge and in the day time pilots passing see the depth in large figures on the floating light, near which they must pass. At night this result is obtained by an illuminated lamp made by Mr. Chanteloup. The report is conveyed every morning to the Trinity Houses of Quebec and Montreal, by the two mates of the Richelieu Company's steamers *Quebec* and *Montreal*, for which they receive each \$50.

John Long, another old and valued servant, a sailor in the British Service, was compelled from old age to resign his situation of light keeper at Isle à la Pierre, which he had taken instead of a floating light, on which he had been for near a quarter of a century. His place was filled by Joseph Lamoureny, whose appointment was approved of by the Honorable the Minister.

PILOTS.

Three pilots have died during the year : Pierre Page, Joseph Paquin, and Oliver Abelle ; and five have been branched, Joseph Pieau, Joseph Chandonnet, Pierre Beaudet, E. Belisle and L. A. Bouillie.

As usual many differences between captains and pilots were arranged. No complaint involving a suit was made.

The immense increase in the number of vessels constantly in port, rendering their removal from one point to another, a matter much more arduous, and of much more responsibility than formerly, the Board passed a byelaw fixing the rate of removal at \$5, instead of \$2⁵⁰/₁₀₀. The byelaw was approved by the Honorable the Minister, and on his recommendation received the sanction of His Excellency the Governor-General.

A new trade having sprung up in lumber at Sorel, and vessels having a full cargo to discharge at Montreal, and going down light for a return cargo, it was found that the tariff of fifty cents was a positive loss to the pilot who was compelled, after taking the vessel to Sorel, to come either to Montreal or go to Quebec at his own expense. The Board, consequently, in justice to the pilot, raised the tariff to one dollar per foot, which met the approval of the Minister, and received the sanction of His Excellency the Governor-General.

Augustine Naud, who had been suspended, received a new branch.

THE STEAMER "RICHELIEU."

The imperative necessity, in an artificial channel like that between Quebec and Montreal, of having a steamer at once to replace any displaced buoys, has long since been recognized, and the *Richelieu* has most efficiently performed this service ; but I regret to say, with great care only, can she be made to serve another year, in reality I am yet unable to say whether she can do that awaiting the report of the Steamboat Inspector, who, with two other competent persons, will make the examination. She has on your suggestion and very properly acted as a Police Boat to see that proper lights and other regulations of the Navigation Act and Trinity House byelaws were enforced. These services have on all hands been recognised.

The former captain of the steamer, J. L. Bernabé, has, from constant complaints of the crew and other causes, been relieved of his command, and with the usual approval, Onesime Naud was named to succeed him.

GENERAL REMARKS.

A reference for a beach and deep water lot at Grondines having been submitted by the Government of Quebec, a committee of the Board availed themselves of their visit to the lights to make the examination and report.

A very large trade in lumber having lately sprung up at Repentigny, and sea-going vessels of large tonnage going there to load, it became of importance to ascertain whether a channel of greater depth of water than that usually used (14 feet) could not be discovered. Capt. Cotté, Superintendent of Pilots, accompanied by Mr. A. G. Nish, the able Harbor Engineer, proceeded to the spot, and I am happy to state discovered a channel by which vessels can go to Repentigny, and load to any depth of water permissible in the new channel. This channel the Trinity House has this year buoyed and marked out.

A committee of the Board, as usual, visited the lights, which as formerly during the summer, on every occasion on which the boat was compelled to go down, were again visited by either myself or the Superintendent of Pilots.

The committee on their visit had the good fortune to be accompanied by you, and the Board feels highly gratified at the testimony you have had the goodness to bear to the economical and careful way in which the lights are maintained.

I beg to annex a copy of the report of their visit.

Your valuable suggestions have been adopted, and the magnitude of the lights have been increased.

The amount voted for the year was \$22,464. The expenditure was \$22,461 $\frac{50}{100}$.
 Before closing this report I have to offer you my most sincere thanks for the extreme courtesy which you have had the goodness to extend to me in our official intercourse.

I have the honor to be, sir,
 Your most obedient servant,

E. D. DAVID,
 Registrar.

WM. SMITH, Esq.,
 Deputy Minister of Marine and Fisheries,
 Ottawa.

REPORT OF VISIT OF COMMITTEE TO LIGHTS.

On Thursday, the 7th day of July, pursuant to a resolution to that effect, passed on the 15th June, Captain Cotté, accompanied by William Smith, Esq., Deputy Minister of Marine and Fisheries, and the Registrar, proceeded in the steamer *Richelieu* to visit the Lights.

1. At Pointe-aux-Trembles, everything was found in perfect order.
2. At Isle Ste. Thérèse, the same. A third light was recommended.
3. At Repentigny, the same good order.
3. Isle à la Bague, the same. The keeper was instructed to collect some large stones and have the same piled round the quay, to prevent it from damage by the ice.
5. Contreecour. The lights were in good order. The keeper was instructed to cause additional timber to be placed in the ice breaker, to ensure the safety of the lighthouse.
6. At Isle aux Prunes the lamps were in fair order, but the blinds were off their hinges, and the lighthouse in a very dirty state. The keeper was severely reprimanded, and notified that a recurrence of such negligence would cause his dismissal.
7. At Lavaltree were in excellent order. The keeper was directed to procure much larger stone, in addition to what was already there, for the purpose of protecting the quay from ice. Additional repairs to the quay were ordered. The wind was so high as to render it impossible to visit the store-house, which was reported by the keeper to be in excellent order.
8. At Sorel the lights were in good order.
9. At Isle à la Pierre the lamp was in good order, but the building requires repairs, which were ordered to be made. A second light is required, which could be put in at the time of repairs.
10. At Isle aux Raisins the high light was in excellent order; the low Light was reported by the keeper to be also in a good state; it was not visited, owing to the almost impassable state of the road.
11. Floating light No. 1 was visited and found in excellent order.
12. Floating light No. 2 was visited, but, owing to the heavy wind, it was impossible to board her. The keeper reported everything in order.
13. Floating light No. 3 was as No. 2.
14. Point du Lac. This light was not visited owing to the tempestuous state of the weather, but the keeper is so noted for the strict performance of his duties that the committee felt satisfied it was in good order.
15. Port St. Francis. The lights were in excellent order.
16. Cap de la Magdeleine. These lights were in good order.
17. At Champlain. The lights were in good order.
18. Batiscan. The lights were in excellent order.

19. St. Pierre les Bequets—the same.

20. Cap Charles—the same.

21. At L'Islet—the same.

22. At Lotbinère—the same.

23. Grondines—the same. The low light requires to be raised.

24. The River du Chêne lights were not visited, owing to the lowness of the tide.

Mr. Smith suggested the use of circular burners, and, in accordance with his suggestion, the Registrar has caused a lamp to be prepared for the inspection of the Board.

The Committee has great pleasure in reporting that the lights never were in better order, with the exception of these at Isle aux Prunes and Isle à Pierre, the lamps and lights were clean and in good repair.

Mr. Smith expressed himself pleased with the economical and careful way in which these lights were maintained.

A very small light is required to replace the beacon on Isle Ste. Thérèse, and to make the new Point aux Trembles Channel available at night.

The report having been read, was adopted, and the several suggestions therein contained having been discussed, *seriatim*, were ordered to be carried into effect without delay.

All the lights were carefully repaired and attended to in the spring previous to the visit, which will account for their being in good order.

(Certified.)

E. D. DAVID,
Registrar.

APPENDIX No. 3.

REPORT OF THE TRINITY HOUSE OF QUEBEC, FOR THE YEAR ENDING 30th JUNE, 1871.

The Board held eighty-six sittings during the year.

Eighteen cases of prosecutions against pilots and others, for infringement of the pilot and harbor regulations, were brought before the board, and adjudged upon.

Nine salvage cases were submitted to the arbitration of the Board. Bye-laws of the Corporation of Pilots, relating to Pilot service, were considered, one of which was sanctioned by the Board.

Fourteen boys were examined, previous to being indented as apprentice pilots, and sixteen apprentices obtained their branches.

Two hundred and seventeen letters were laid before the Board and disposed of, and three hundred and thirty-three written and dispatched. A contract was entered into with Messrs. Rosseau and Patterson, for the removal of the wreck *Glanmore* and the work satisfactorily performed.

LIGHT HOUSES.

The following light houses were visited and supplied with the under-mentioned quantities of oil, and with other stores during the season of 1870, viz.,

	Gallons.
Belle Isle.....	209
Forteau	92
East end, Anticosti.....	207
Bird Rocks	167½
South-west Point of Anticosti.....	684
Cape Rosier.....	224
West Point of Anticosti	224
Seven Islands	174
Point des Montes	437½
Father Point.....	203
Biquet	441
Green Island.....	384
Red Island	699
Brandy Pots	87
Pilgrim Island	101
Grosse Isle, Kamouraska.....	253
Traverse Light Ship.....	206
South Pillar	534
Crane Island	257
Belle Chasse.....	226
Point St. Laurent.....	225
Monte du Lac	50
Portneuf	258
St. Antoine	84
St. Croix	39
Peninsula, Gaspé	15

Total.....6,481

SIGNAL GUNS.

The following quantities of powder were sent to the following stations, viz.,

	Lbs.
Green Island	2,000
Biquet.....	1,200
Father Point	400
Point des Montes	500
West Point, Anticosti	1,500
Cape Rosier	1,600
Forteau	1,000
Belle Isle	3,000

Total.....11,200

REPAIRS TO LIGHT HOUSES ON THE SOUTH-WEST POINT OF ANTICOSTI.

The tower was painted. A gun shed was built at Belle Isle, the barn was clad-boarded and sundry repairs done to the house and buildings.

PROVISION DEPOTS.

No change was made in the provisions this year.

A house was built at the South-west Point of Anticosti, for shipwrecked mariners.

SUPERINTENDENT OF PILOTS.

Reports received from pilots and recorded in office :—

Of pilotages up the river	1,034
„ down „	1,083

HARBOR OFFICE.

Seven hundred and fifty-six arrivals were reported at this office, and recorded. Reports were received of the following effects picked up in the harbor, viz. :—

Boats	31
Drift Timber.....	2,131 pieces.
Anchors and Chains	6

Thirty-two casualty returns were received, recorded and reported upon.

MEMORANDUM.

The Board continued their supervision of the several light houses, buoys and beacons, until the 1st March last, when the Department of Marine and Fisheries assumed the direct control of the same.

In consequence of the passing of the Act of the Federal Parliament, 34 Victoria, chap. 31, the staff of the Trinity House was reduced. Mr. Lindsay, the late clerk, and the Water Bailiff were superannuated, the Junior Superintendent of Pilots was transferred to the office of the Agency of the Marine Department at Quebec.

The present said officers consist of the Master, Harbor Master, Superintendent of Pilots, Secretary, Treasurer, Assistant Secretary, Treasurer and Messenger.

The Harbor Masters at Gaspé Basin, and at Amherst Magdalen Islands, also receive salaries through the Secretary-Treasurer of the Trinity House.

 DECAYED PILOT FUND.

Number of pensioners on the Fund, 31st December, 1870 :—

Decayed Pilots	38
Widows of Pilots	88
Children of Pilots	41

Total.....	167
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Number of Pilots relieved	10
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Total receipts for the Fund, during the year ended 21st December, 1870 :—

Poundage	\$7,158 27
Capital and interest on loans	13,846 54
Fines.....	292 00

Total.....	\$21,296 81
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Payments out of the Fund.

Pensions	\$10,091 17
Relief	584 21
Disbursements	683 18
Investments	9,836 27

Total	\$21,194 83
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State of the Quebec Decayed Pilot Fund, 31st December, 1870.

Money lent	\$57,972 02
Interest due.....	1,280 40
Cash on hand	3,139 01

	\$62,391 43
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Deduct arrears of pensions due.....	246 20
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Total.....	\$62,145 23
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 RECEIPTS AND EXPENDITURE OF TRINITY HOUSE, QUEBEC, DURING THE YEAR
 ENDED 30TH JUNE, 1871.

Receipts.

Amount received from the Public Chest through the Department of Marine and Fisheries..	\$29,239 44
Proceeds of sale of condemned provisions, fees in prosecutions before the Trinity House, &c.	252 39

	\$29,491 83
--	-------------

Expenditure.

	\$	cts
Salaries, Trinity House officer's and employés	9,789	78
Salaries, Light House keepers	5,839	30
„ Provision Dépôt keepers...	200	00
Contingencies	1,741	62
Light Houses	3,662	54
Harbor Office	527	91
Buoys and Beacons	504	98
Oil Account	1,277	21
Miscellaneous	2,465	67
Light Ship	1,355	28
Provision Dépôts	620	67
Wreck <i>Glanmore</i>	1,021	98
Harbor of Gaspé	232	50
		<hr/>
		29,239 44
Paid to the Receiver-General		252 39
		<hr/>
Total	\$29,491	83
		<hr/>

Trinity House, Quebec,
27th October, 1871.

A. LEMOINE,
Secretary-Treasurer.

APPENDIX No. 4.

REPORT OF AGENT OF QUEBEC BRANCH OF DEPARTMENT OF MARINE AND FISHERIES, FOR THE YEAR ENDED 30TH JUNE, 1871.

DEPARTMENT OF MARINE AND FISHERIES,
QUEBEC BRANCH, Nov. 18, 1871.

Hon. P. MITCHELL,
Minister of Marine and Fisheries.

SIR,—I have the honor to lay before you the Annual Report of this Branch of the Department, for the fiscal year ending the 30th June, 1871.

The duties coming under the supervision of this Agency of the Department of Marine and Fisheries, have constantly increased since the formation of the Department; and now comprise the disbursing and keeping the Accounts of the Dominion Steamers, Maintenance and construction of Lighthouses, Fog Alarms, Buoys, Beacons and Humane Establishments for the relief of distressed mariners, river police, armed cruisers and marine police for the protection of the Fisheries, and such other matters as may be required to be attended to here.

Remarks connected with the several services will be placed under their respective headings.

MARINE SERVICE.

DOMINION STEAMERS.

These vessels, owing to the greatly increased number of light houses now in operation and under construction, are constantly employed during the season of navigation; and on far off service are frequently three to five weeks absent. The steamers belonging to the Government of Canada and stationed at Quebec, under the control of this agency, comprise two sea-going vessels, viz., the "Napoleon III" and "Druid."

The "Napoleon III" (Captain: E. Gourdeau; Chief Engineer: Wm. Barbour) is a powerful iron screw steamer of 300 combined horse-power, 494 $\frac{9.5}{100}$ gross tonnage, 211 $\frac{9.8}{100}$ tons register, with two oscillating engines, and was built by Messrs. Napier & Sons, Glasgow, in 1856. During the past winter she has been thoroughly overhauled and repaired, and about \$8,000 expended in making new decks, iron bulwarks and stanchions, skylights and other improvements, which now renders her in every respect, a first class vessel. A screw propeller upon a recent improved principle, has been put on, increasing her speed and saving fuel; new tubes are on hand to replace those now in her boilers (and seven years in use); her machinery is in perfect condition; side fins, 60 feet long, fore and aft, have been attached to the bilges, which have prevented her rolling as much as formerly when at sea. The increased height of bulwarks and other improvements will enable her to carry a larger deck load than heretofore. The addition of new lighthouses, and those already in the Gulf of St. Lawrence and Straits of Belle Isle, require all her carrying capacity for necessary supplies, this vessel being employed during the season of navigation upon far-off lighthouse duty. She has performed good service for many years past in assistance of ships and ocean steamers (as far as Newfoundland) in distress, many of which she has rescued from perilous positions, thereby saving life and property. She is provided with a fire proof powder magazine capable of storing 10,000 lbs. of powder, and being flooded with water in case of danger from fire. She can convey about 1,700 to 1,800 barrels, besides 300 tons of coals; and is freighted to her fullest extent with supplies on every trip, to enable her to perform the service required in every season.

The "Druid" (Captain: A. Marmen; 1st Engineer: S. Carroll) is an iron side paddle-wheel steamer, built by Messrs. Todd and McGregor, of Glasgow, in 1856. A new boiler

was placed in this steamer during the past winter ; her shafts, wheels, and main deck raised one foot higher than formerly ; and improvements made in the distribution of her compartments (by which an additional carrying capacity of about 300 barrels has been effected), the whole at a cost of about \$7,000. Her machinery consists of two oscillating cylinders and steeple engines of a combined 170 horse-power, and is in excellent condition. Since the new boiler has been put in her speed has been increased to about 12 miles an hour, with a saving of 10 tons of fuel a day and the services of four hands. Her light draft of water renders her a very serviceable river boat, besides being every way seaworthy for trips to the Gulf of St. Lawrence, when required ; she is also a powerful tow-boat, and when necessary can render good assistance to distressed vessels. She supplies the lighthouses, lays down and takes up the buoys in the River St. Lawrence as far as Point des Monts and Cape Magdalene, and during the construction of new lights has performed services at the Island of Anticosti, Bird Rock, Magdalen Islands and the Newfoundland Coast in the Straits of Belle Isle.

MOVEMENTS OF THE S. S. "NAPOLEON III." AND "DRUID," DURING THE
YEAR ENDING 30TH JUNE, 1871.

S. S. Napoleon III.

1870.

July 8th.—Left Quebec at 4 p.m., to supply the lighthouses and provision depots in the River St. Lawrence as far as Father Point.

July 12th.—Arrived at Quebec at 7 p.m.

July 15th.—Left at 3 p.m. to supply the lighthouses and provision depots for distressed mariners in the Gulf of St. Lawrence and Straits of Belle Isle.

August 11th.—Arrived at Quebec at 5 p.m.

August 15th.—Went into dock for repairs.

August 28th.—Came out.

August 29th.—Left for Bird Rock, South Point, Anticosti, Magdalen Islands, Cape Ray, Newfoundland, with lanterns, materials and supplies for the new lighthouses recently constructed and located, having on board the Hon. P. Mitchell, Minister of Marine and Fisheries, J. Tomlinson, Esq., General Superintendent, and J. U. Gregory, Esq., Agent of the Department of Marine and Fisheries at Quebec, on an official visit. Encountered great difficulty in landing at Bird Rock, where the new lighthouse was being constructed ; visited and landed supplies at the other lights.

September 16th.—Arrived at Quebec.

October 12th.—Left at 3 p.m. with supplies for the lighthouses in the Gulf of St. Lawrence and Straits of Belle Isle, with Mr. Tomlinson, General Superintendent of Lighthouses, and the keeper of the new lighthouse at Point Rich.

October 28th.—Arrived at Quebec.

October 30th.—Left at 2 a.m. for Fox River, to assist the wrecked bark "Eleanor," which was found too much injured to be moved.

November 4th.—Arrived at Quebec.

November 9th.—Left at 7 a.m. with material and supplies for the Bird Rock and other new lighthouses in the Gulf of St. Lawrence, with J. Tomlinson, Esq., General Superintendent of Lighthouses, and Captain John Smith, superintendent on board.

November 21st.—Arrived at Quebec with the ship "British Queen" in tow. Received \$200 for towage.

November 28th.—Left at 3-30 p.m. for the Traverse Light Ship reported adrift, found her at St. Anne's and placed her on the station.

November 29th.—Arrived at Quebec.

December 2nd.—Left at 1-30 p.m.

December 3rd.—Arrived at Quebec at 5 p.m. with the Traverse Buoys.

December 5th.—Left at 3:30 p.m.

December 7th.—Arrived at Quebec with the Traverse Light Ship in tow for winter quarters at Blais' Booms.

1871.

April 17th.—Arrived at the Government Wharf from winter quarters at 7 a.m.

April 18th.—Left at 6 a.m. with Captain J. Smith, to lay down the buoys and place the Traverse Light Ship at her station.

April 24th.—Arrived at Quebec at 11 a.m.

April 27th.—Left at noon with the remainder of the buoys for the North and South Channel of the River St. Lawrence.

May 6th.—Arrived at 11 a.m.

Steamer Druid.—1870.

July 3rd.—Left at 8 a.m. with material and supplies for the new lighthouses in course of construction in the Gulf of St. Lawrence.

July 22nd.—Arrived at Quebec at 2 p.m.

August 6th.—Left at 1:30 a.m. to replace a buoy carried away at St. Anne's.

August 7th.—Arrived at Quebec at 7:30 p.m.

August 23rd.—Left at 11:30 a.m. to replace a buoy in the Traverse.

August 24th.—Arrived at Quebec at 4 p.m.

August 31st.—Left at 4 p.m. to tow up the prize American fishing schooner "Lizzie A. Tarr," seized by the Dominion cutter "La Canadienne," Commander N. Lavoie, for illegal fishing near Seven Islands.

September 2nd.—Arrived at Quebec at 1 p.m.

September 5th.—Left at 4:30 p.m. with F. Gourdeau, Esq., Superintendent of Pilots, and the apprentice pilots to explore the North Channel in accordance with the Act 12 Vic., chap. 114.

September 13th.—Arrived at Quebec at 11:30 a.m.

October 15th.—Left at 1:30 p.m. with the supplies for the lighthouses in the River St. Lawrence, as far as Father Point.

October 21st.—Arrived at Quebec at 6 p.m.

October 27th.—Left at 3 a.m. for the inspection, and with supplies for the lighthouses above Quebec as far as Port Neuf.

October 28th.—Arrived at Quebec at noon.

October 29th.—Left at 1 p.m. to replace a buoy in the Traverse and inspect the new lighthouse at Montee du Lac.

October 30th.—Arrived at Quebec at 7 p.m.

November 15th.—Left at 3 a.m. to take up the buoys in the Lower St. Lawrence.

November 21st.—Arrived at Quebec at 1 p.m.

November 22nd.—Went into dry dock for wintering and repairs.

1871.

May 6th.—Arrived at the wharf from winter quarters, having received new boilers and repairs.

May 20th.—Left at 3 p.m. to replace a buoy in the Traverse.

May 21st.—Arrived at Quebec at 4 p.m.

May 25th.—Left at 2:30 p.m. to replace a buoy in the Traverse.

May 26th.—Arrived at Quebec at 10 p.m.

May 29th.—Left at 11:30 a.m. with a new buoy for Platon and supplies for the lighthouses above Quebec as far as Port Neuf.

May 30th.—Arrived at Quebec at 10 a.m.

June 5th.—Left at 8 a.m. to place new and repair the beacons in the Lower St. Lawrence.

June 13th.—Arrived at Quebec at 4:30 p.m.

June 21st.—Left at 11 a.m. with supplies and material for the new lighthouses in the Gulf of St. Lawrence, as far as Cape Ray, Newfoundland.

LIGHT HOUSES, FOG ALARMS, BUOYS AND BEACON SERVICE IN THE GULF AND RIVER ST. LAWRENCE AND STRAITS OF BELLE ISLE.

Until the 31st March, 1871, this branch of the Department only attended to the requirements connected with the construction of new lights, &c., but upon the above date the whole of the Lighthouse Service, formerly managed by the Quebec Trinity House, was also transferred in accordance with an Act of the Parliament of Canada, 33 Victoria, Chap. 18, (placing the control of all Light-houses, Fog Alarms, Buoys and Beacons, under the management of the Department of Marine and Fisheries), consequently my report on this service can only cover the period over which I have had supervision, with such general information as I have been able to obtain. The supervision of this branch begins in the River St. Lawrence at Port-neuf, about 40 miles above Quebec; and also comprises the Gulf of St. Lawrence and Straits of Belle Isle.

LIGHT-HOUSES, AND FOG ALARMS.

Port Neuf Light House.

Latitude N. $46^{\circ} 41' 48''$; Longitude W. $71^{\circ} 52' 10''$.

On the north shore of the River St. Lawrence, three-quarters of a mile off the river, two lanterns nearly 180 yards apart, each containing two fixed white lights, showing in one lead up the Richelieu Channel to the light on Richelieu Island.

The lower lantern, painted white, is placed on top of the keeper's dwelling (a stone house), about 120 feet above high water mark, and contains two lamps, the one showing to the south-west, the other north-east. The second lantern is on top of a square tower, painted white, about 200 feet above high water mark, with one lamp, exhibiting south-west; first lighted up in 1842, and should be seen five miles off. Complaints were made of the inefficiency of the lights in the lower lantern, and this has since been remedied by putting a catoptric light, two circular burners, No. 1 lamp with twenty inch reflectors in lower tower, and one flat mammoth burner and reflector in upper tower, and the lights are now said to be equal to any in the River St. Lawrence. In consequence of the buildings being about twenty-nine years old, repairs estimated to cost about \$250.00 are necessary, and have since been authorized by the Department.

Lighted during the season of navigation.

F. RODRIQUE, Keeper.

Saint Croix Light House.

Latitude N. $46^{\circ} 37' 45''$; Longitude W. $71^{\circ} 44' 10''$.

On the south shore of the River St. Lawrence, near high water mark, lantern thirty feet above. One fixed white light, consisting of a catoptric light, two circular burners, No. 1 lamps and twenty inch reflectors exhibiting up and down the river. A lantern on top of a square tower painted white, to enable vessels to keep in the channel. Requires re-shingling, and some repairs to the lantern. First exhibited in 1842, and should be seen about ten miles off.

Lighted during season of navigation.

J. THURBER, Keeper.

*St. Antoine Light House.*Latitude N. $46^{\circ} 39' 43''$; Longitude W. $71^{\circ} 36' 10''$.

On the south shore of the River St. Lawrence, on a high land, ninety-six feet above high water mark, one fixed white light with two circular burners, No. 1 lamps and twenty inch reflectors on a square tower painted white, to assist vessels in keeping the channel for some distance up and down the river. First exhibited in 1858, and should be seen about eight miles off. Some repairs are required, estimated to cost about \$60 00, and have since been authorized.

Lighted during the season of navigation.

L. LAFLEUR, Keeper.

*Point St. Lawrence Light House.*Latitude N. $46^{\circ} 50' 0''$; Longitude W. $71^{\circ} 02' 0''$.

On the Island of Orleans, south channel of the River St. Lawrence, at the end of the wharf. Square tower painted white, thirty-eight feet above high water mark. Fixed white catoptric light, with five flat mammoth burner lamps and seven inch reflectors, to assist vessels up and down the river. First exhibited in 1869, and should be seen eight miles off. Repairs estimated at \$113.00 are required, and have since been authorized and made.

Lighted from 1st April to 10th December.

J. CHABOT, Keeper.

*Belle Chasse Light House.*Latitude N. $46^{\circ} 56' 0''$; Longitude W. $70^{\circ} 46' 0''$.

Catoptric light, five flat mammoth burner lamps, twenty inch reflectors, on east end of Island, south side of the River St. Lawrence, square tower, painted drab, seventy feet above high water mark ; fixed white light to assist vessels up and down the channel. First lighted up in 1862. Some repairs to slip costing, \$25.00 have been authorized and made.

Lighted from 1st April to 10th December.

E. THIVIERGE, Keeper.

*Montee du Lac Light House.*Latitude N. $47^{\circ} 7' 20''$; Longitude W. $70^{\circ} 42' 45''$.

On north shore, Cape Rouge, North Channel, River St. Lawrence, square tower, painted white, 175 feet above high water mark, fixed white catoptric light, consists of two flat No. 1, and one circular burner No. 1 lamp, with fifteen inch reflector, to assist vessels in keeping the channel for some distance up and down the river. First exhibited 28th October, 1870. The great difficulty ascending the steep and rocky cape necessitated the adoption of some means to enable the landing of supplies. Stairs and roads have been made, also a stone house erected, with a safety railing around the tower, at a cost of about \$500.00. This light should be seen twelve miles off.

Lighted from 1st April to 10th December.

E. SIMARD, Keeper.

*Crane Island Light House.*Latitude N. $47^{\circ} 3' 0''$; Longitude W. $70^{\circ} 33' 0''$.

On the island, one and a-half miles from the west point, square tower on block painted white, forty-four feet from high water mark; fixed white catoptric light, consists of five flat mammoth burner lamps, twenty inch reflectors; to assist vessels up and down the river. First exhibited in 1862; should be seen ten miles off.

A small building for oil and stores is necessary, and is estimated to cost \$200.00. This has since been erected to the west of the tower and painted white.

Lighted from 1st April to 10th December.

J. PAINCHAUD, Keeper.

*Stone Pillars Light House.*Latitude N. $47^{\circ} 12' 25''$; Longitude W. $70^{\circ} 21' 36''$.

A revolving catoptric light, fifteen flat No. 1 burner lamps, twenty-one inch reflectors on the islet, fifty fathoms from the south point, white light, revolving every minute and a-half. On conical tower, painted white, sixty-eight feet above high water mark. First exhibited in 1843, and should be seen thirteen miles off; to assist vessels up and down the channel. The crew of the steamer "Druid" did all the slight but necessary repairs required.

Lighted from 1st April to 10th December.

D. BABIN, Keeper.

*Upper Traverse Light Ship.*Latitude N. $47^{\circ} 22' 30''$; Longitude W. $70^{\circ} 17' 0''$.

This vessel will be put on the station in October next.

*Lower Traverse Light Ship.*Latitude N. $47^{\circ} 22' 10''$; Longitude W. $70^{\circ} 14' 56''$.

Moored north-east point of the St. Roch Shoals. Vessel painted red, two main lights four feet difference in height, each on mast. First exhibited in 1836. Should be seen nine miles off. The ship's bell is kept tolling during fog and snow storms. When the light ship is out of place, the bell at the mainmast head is taken down during the day, and she exhibits one light instead of two during the night, until moored again in her proper place. Repairs were necessary, authorized and made during the winter. The lighting apparatus consists of sixteen lamps, eight inch lanterns, flat inch lamp for burning fish oil, small reflectors.

Captain J. GOURDEAU, Keeper.

*Grand Isle Kamouraska Light House.*Latitude N. $47^{\circ} 38' 0''$; Longitude W. $69^{\circ} 52' 0''$.

On the island, 120 fathoms from north-east end and eighty fathoms from water edge, white wooden tower, 166 feet from high water mark. Fixed white catoptric light, consisting of seven mammoth burner lamps, with twenty inch reflectors. To assist vessels up and down the channel. Variations in 1869, nineteen degrees west. First exhibited in 1862, and should be seen eighteen miles off.

Lighted from 1st April to 10th December.

F. ROY DESJARDINS, Keeper.

*Long Pilgrims Light House.*Latitude N. $47^{\circ} 43' 15''$; Longitude W. $69^{\circ} 45' 20''$.

On the island twenty fathoms west from the centre and fifty-four fathoms south from the water edge, eighteen feet from high water mark. Fixed white dioptric light of 4th order, with one flat inch mammoth burner. To assist vessels up and down the river. First exhibited in 1862, and should be seen twelve miles off. Repairs are required which are estimated to cost \$260.00, and have been authorized.

Lighted up from 1st April, to 10th December.

J. C. MARQUIS, Keeper.

*Brandy Pots Light House.*Latitude N. $47^{\circ} 52' 30''$; Longitude W. $69^{\circ} 40' 35''$.

On an islet forty-one fathoms from south east end, drab brick house, lantern on top seventy-eight feet from high water mark. Fixed white dioptric light of 4th order, with one flat inch mammoth burner. Exhibiting up and down the river. First exhibited in 1862. Some necessary repairs are required to this house, which are under consideration.

Lighted up from 1st April, to 10th December.

J. B. PICARD, Keeper.

*Red Island Light House.*Latitude N. $48^{\circ} 4' 20''$; Longitude W. $69^{\circ} 32' 56''$.

In the centre of the islet, a circular grey stone building, seventy-five feet from high water mark. Red light, comprising twenty-four flat wick burner lamps and twenty-one inch reflectors. First exhibited in 1848, and should be seen twelve miles off. Repairs estimated to cost \$50 00 have been found necessary, which have been authorized and made.

Lighted up from 1st April, to 10th December.

P. FRASER, Keeper.

*Red Island Light Ship and Fog Whistle.*Latitude N. $48^{\circ} 6' 0''$; Longitude W. $69^{\circ} 32' 0''$.

This staunch built iron vessel is moored in ten fathoms water, north east from Red Island, with red buoy lying about half a mile in a west south-west direction. A fixed white catoptric light is exhibited from the foremast, during the season of navigation, at an elevation of seventeen feet from the deck in fine weather; and four feet lower when rough, and will probably be seen ten miles off. The light was first exhibited on the 9th July, 1871. The vessel is painted red with name "Red Island Light Ship" in white letters on each side. The steam fog whistle during thick foggy weather and snow storms, is sounded ten seconds in every minute, thus making an interval of fifty seconds between each blast.

The whistle will probably be heard at the following distances:—

1st. In calm weather	15 miles off.
2nd. With the wind	20 do.
3rd. Stormy weather	5 to 8 do.
4th. Against the wind	3 to 5 do.

Since this vessel has been on her station, most favorable reports of her efficiency have reached this agency, through some of the pilots and ship masters sailing up and down the river.

Should the vessel by any cause be off her station during the day, a ball will be hoisted at the foremast head; and at night a globe lantern will also be at the foremast head, that the ship may appear like an ordinary vessel at anchor. The fog whistle will not be sounded ten seconds in every minute, but irregularly as any ordinary steamer would in a fog.

CAPTAIN J. LEVESQUE, Keeper.

Green Island Light House.

Latitude N. $48^{\circ} 3' 17''$; Longitude W. $69^{\circ} 25' 3''$.

On the north west point of the island, an octagonal tower painted white, sixty feet above high water mark, fixed white catoptric light, with thirteen flat No. 1 burners, with twenty-one inch reflectors. Exhibiting up and down the river. First exhibited in 1809. Should be seen thirteen miles off. There is a cannon here, which during fogs and snowstorms is fired every half hour.

Lighted up from 1st of April, to 10th December.

GILBERT LINDSAY, Keeper.

Bicquétte Island Light House.

Latitude N. $48^{\circ} 25' 18''$; Longitude W. $68^{\circ} 53' 20''$.

On an islet nearly in the centre, 112 feet above high water mark, tower painted white, revolving catoptric white light with twenty-one flat No. 1 burner lamp, with twenty-one inch reflectors every two minutes. First exhibited in 1844, and should be seen seventeen miles off. A cannon is also stationed here which is fired every half hour during snowstorms.

Lighted up from 1st April, to 10th December.

J. F. BECHARD, Keeper.

Father Point Light House.

Latitude N. $48^{\circ} 31' 25''$; Longitude W. $68^{\circ} 27' 18''$.

On the point a square white tower, with fixed white catoptric light, consisting of five mammoth flat burner lamps with twenty-one inch reflectors, forty-three feet above high water mark. First exhibited in 1859, and should be seen ten miles off.

Lighted up from 1st April, to 10th December.

D. LAWSON, Keeper.

Point des Monts Light House.

Latitude N. $49^{\circ} 19' 35''$; Longitude W. $67^{\circ} 21' 55''$.

About one and a quarter mile north east from the point, circular white tower 100 feet above high water mark. Fixed white catoptric light, consisting of seventeen flat No. 1 burner lamps with twenty-one inch reflectors. First exhibited in 1830, and should be seen fifteen miles off. A cannon is stationed here and fired every hour during fog or snowstorms. A depot of provisions for shipwrecked persons is kept here.

Lighted from 1st April, to 20th December.

P. POULIOT, Keeper.

*Seven Islands Light House.*Latitude N. $50^{\circ} 5' 40''$; Longitude W. $66^{\circ} 22' 44''$.

Catoptric light with one No. 1 flat, and two No. 2 circular burner lamps, with fifteen inch reflectors.

A square tower painted white, surmounting keeper's dwelling, on Carousal Island, 195 feet from high water mark. First exhibited in 1870, and should be seen fifteen miles off. This light is not giving satisfaction, but means are being taken to put it in proper working order.

Lighted from 1st April, to 10th December.

A. RIVERIN, Keeper.

*South Point or Bagot's Bluff, Anticosti, Light House and Fog Whistle.*Latitude N. $49^{\circ} 4' 0''$; Longitude W. $62^{\circ} 15' 0''$.

Catoptric flash light, twelve circular No. 1 burner lamps, with twenty inch reflectors.

On the south point of the Island of Anticosti, square tower, painted white, seventy-five feet above high water mark, flash light every twenty seconds. First exhibited 15th August, 1870. Should be seen fourteen miles off. Visible from all points of approach.

Lighted from 1st April to 20th December.

A powerful steam fog whistle is also stationed here, about 300 feet east of the light house. And in fog and snowstorms will be sounded ten seconds in every minute, thus making an interval of fifty seconds between each blast.

The whistle will probably be heard at the following distances :

1st. In calm weather	15 miles.
2nd. With the wind	20 „
3rd. In stormy weather	5 to 8 miles.
4th. Against the wind	3 to 5 „

First sounded on the 12th of August.

D. TETU, Keeper.

*West Point, Anticosti Light House, and Provision Dépôt.*Latitude N. $49^{\circ} 52' 30''$; Longitude W. $64^{\circ} 32' 0''$.

A dioptric light, second order, five flat mammoth burners attached to a fountain lamp.

On extreme west point of the island, 112 feet above high water mark. A round white tower. Fixed white light. First exhibited in 1858. Should be seen fifteen miles off. During fogs and snowstorms, the cannon stationed here is fired every hour. There is also a dépôt of provisions here. Some slight repairs are necessary, and have been authorized.

Light from 1st April to 20th December.

L. MALOUIN, Keeper.

*South West Point, Anticosti, Light House.*Latitude N. $49^{\circ} 23' 45''$; Longitude W. $63^{\circ} 35' 46''$.

On the south-west point of the island, 100 feet above high water mark. Round white tower, revolving white light, consisting of twenty-one flat No. 1 burner lamps, with twenty-one inch reflectors. Every minute. First exhibited in 1831, and should be seen fifteen miles off. Visible between the bearings N.N.W. round by S. to S.E. by E.

Lighted from 1st of April to 20th December.

E. POPE, Keeper.

Heath Point, Anticosti, Light House and Provision Dépôt.

Latitude N. $49^{\circ} 5' 20''$; Longitude W. $61^{\circ} 41' 48''$.

On east end of the island, round white tower, 110 feet from high water mark. Fixed white catoptric light, consisting of seventeen No. 1, flat burner lamps, with twenty-one inch reflectors. First exhibited in 1835. Should be seen fifteen miles off, and must always be kept open to the southward of Cormorant Point. Visible between the bearings S. W. by E. to W. A dépôt of provisions for shipwrecked mariners is kept here. Some repairs to outbuildings have been authorized to the extent of about \$50.

The horse kept at this point is baulky, and will not work at ploughing. The light house keeper states he could cultivate enough hay and vegetables, if the horse would plough. Horses are necessary on all the points of Anticosti, to haul wood, water and supplies.

This light is lit from the 1st of April to the 20th of December.

THOMAS GAGNÉ, Keeper.

Provision dépôts on the Island of Anticosti, Ellis Bay, in charge of Captain Robert Setter, for the purpose of affording assistance to distressed mariners, has a stock of provisions, &c., consisting of 17 barrels flour, 9 barrels pork; 8 barrels pease; some tea and sugar; 24 flannel shirts; 12 coats; 12 pairs pants; 24 pairs socks; 24 pairs drawers; 12 caps; 12 comforters; 12 pair mittens; 10 pairs snow shoes.

Shallop Creek dépôt in charge of B. Bradley, has a stock similar to Ellis Bay dépôt and for the same purposes.

N.B.—It has been decided, owing to the erection of a light house at South Point, to do away with the depot at Shallop Creek, and remove the provisions to South Point Light House.

Cape Rosier Light House.

Latitude N. $48^{\circ} 51' 37''$; Longitude W. $64^{\circ} 12' 0''$.

On the cape, round white tower, 136 feet above high water mark. Fixed white dioptric light of first order with five mammoth burners. First exhibited in 1858, and should be seen sixteen miles off. A cannon is also kept here, which is fired every hour during fog and snowstorms. Some slight repairs are necessary to the flooring and other portions of the building, valued at \$20. It is not considered necessary to retain the horse here any longer, as the inhabitants are prepared to do all the cartage required. The light house keeper is also a telegraph operator, and reports inward and outward bound vessels.

Lighted from 1st April to 20th December.

A. TRUDEAU, Keeper.

Gaspé Basin.

One red catoptric light, consisting of a mammoth burner lamp, and reflectors on O'Hara's Point, Eden's Wharf, thirty feet above high water mark, and should be seen seven miles off. In charge of J. Eden, Esq., Harbor Master, Gaspé.

Lighted during the season of navigation.

Peninsular Light.

One catoptric light and mammoth burner on the peninsula, N. W. by W. twelve miles from Cape Gaspé. Forty feet from high water mark. First exhibited in 1867, and should be seen eleven miles off. To be replaced in August next by a floating light on Sandy Beach (red light). Also in charge of J. Eden, Esq., Harbor Master, Gaspé.

Paspebiac Light House.

Latitude N. $48^{\circ} 0' 51''$; Longitude W. $65^{\circ} 14' 17''$.

A square wood tower, fifty-five feet above high water mark, situated near the extremity of the point. A fixed white catoptric light, with three powerful lamps and reflectors, facing east, west and south. Should be seen thirteen miles off. First exhibited in 1870. Visible from all points of approach seaward.

Lighted from 1st April to 20th December.

J. F. GALLIE, Keeper.

Amour Point or Forteau Light House, Labrador.

Latitude N. $51^{\circ} 27' 35''$; Longitude W. $56^{\circ} 50' 53''$.

Dioptric light, second order, five flat mammoth burners attached to one fountain lamp.

On the south east side of Forteau Bay, round tower painted white, 155 feet above high water mark. First exhibited in 1858, and should be seen eighteen miles off. A cannon is fired here every hour during fog and snow storms.

P. GODIER, Keeper.

Belle Isle Light House.

Latitude N. $51^{\circ} 53' 0''$; Longitude W. $53^{\circ} 22' 15''$.

Dioptric light, first order, five flat mammoth burners attached to one fountain lamp.

Round white tower, 470 feet above high water mark. On the extreme south point of the Island visible from about N. W. by N., and round by South to East. First exhibited in 1858, and should be seen twenty-eight miles off. A cannon is fired every hour during fog or snow storms. Provisions for shipwrecked mariners are kept here. The horse kept for the use of this station died of old age, and has since been replaced. Some repairs were required and made to the dwelling and outhouses.

Lighted from first of April to 20th December.

M. COLTON, Keeper.

Cape Norman Light House, Newfoundland Shore.

Latitude N. $51^{\circ} 38' 0''$; Longitude W. $55^{\circ} 53' 40''$.

In course of construction. Will be a revolving white light, and will be in operation in October next.

*Point Rich Light House, Newfoundland Shore.*Latitude N. $51^{\circ} 1' 50''$; Longitude W. $57^{\circ} 8' 50''$.

In course of construction. Will be a flash white light, and in operation in August next.

*Cape Ray Light House, Newfoundland Shore, West Side.*Latitude N. $47^{\circ} 37' 0''$; Longitude W. $59^{\circ} 18' 0''$.

In course of construction. Will be a flash light, and in operation in July next.

*Amherst Light House, Magdalen Islands.*Latitude N. $47^{\circ} 13' 0''$; Longitude W. $61^{\circ} 58' 0''$.

In course of construction. Will be a red and white revolving light, and in operation in July next.

Bird Rocks Light House, Magdalen Islands.

Hexagon white tower, 140 feet above high water mark. A fixed white light. First exhibited in 1870, and should be seen twenty-one miles off. Great difficulty is experienced in supplying this light. Several ineffectual attempts were made last fall to land on the island, provisions, stores and fuel, and it was with the greatest difficulty that three men were taken off in November last, by the steamer *Napoleon*, as they could no longer remain without necessary supplies. Two men and supplies were left at Amherst island, where they wintered, and went over in a sailing schooner early in March, and succeeded in landing on the island, and put in order and exhibited the light on the 1st April, 1871, which has continued to give good satisfaction. This is a dioptric light, 2nd order, with one powerful circular burner lamp.

*Cape Chatte Light House.*Latitude N. $49^{\circ} 5' 50''$; Longitude W. $66^{\circ} 45' 50''$.

In course of construction. A low square tower with dwelling house combined, 110 feet above high water mark, and painted white. A white flash catoptric light with six circular No. 1 burner lamps, with twenty-inch reflectors on a revolving frame. Will be exhibited, with an interval of thirty seconds between each flash, visible from all points seawards except the east, which is obscured by Chatte Point and Cape Ann. Will be exhibited for the first time on the 11th of August next, and should be seen eighteen miles off.

Lighted from 1st of April to 20th December.

Jos. Roy, Keeper.

*Cape Magdalen Light House.*Latitude N. $49^{\circ} 15' 40''$; Longitude W. $65^{\circ} 19' 30''$.

In course of construction. Hexagonal wooden building, painted white, 147 feet above high watermark. A red and white revolving catoptric light, consisting of four circular No. 1 burner lamps, with twenty-inch reflectors, exhibiting red and white every four minutes, with an interval of two minutes between each flash, and should be seen, the red light fifteen miles off, and the white light twenty miles off. Will be exhibited for the first time on the 21st August next.

Lighted from 1st April to 20th December.

P. SAVAGE, Keeper.

Egg Island Light House.

Latitude N. 49° 38' 0"; Longitude W. 67° 10' 0".

A catoptric flash light with four circular No. 1 burner lamps, and twenty-inch reflectors. In course of construction. An octagonal building, thirty-five feet in height, surmounting the keeper's dwelling; seventy feet above high water mark; 600 feet from the south end of the island. A revolving white light, showing a flash every minute and a half. Visible from all points of approach seaward, and will be exhibited on the 23rd October next, and should be seen fifteen miles off.

Lighted from 1st April to 20th December.

NEW LIGHT HOUSES IN COURSE OF CONSTRUCTION AND EXPECTED TO BE IN OPERATION
IN 1872.

Point Prairie, River Saint Lawrence, on Courdres Island.

Lark Islet, River Saint Lawrence, at the entrance of the Saguenay River.

Cape Despair, Gulf of St. Lawrence.

Carleton Point, Bay des Chaleurs.

Manicouagan Shoals, River Saint Lawrence,—Lightship and Steam Fog Whistle.

BUOYS.

This branch has under its supervision fifty-one buoys, situated between Red Island and Cape Santé in the River St. Lawrence; and Amherst Harbor, Magdalen Island, and Gaspé Basin in the River St. Lawrence. They are frequently carried away or injured by passing vessels, and require to be carefully attended to, by being replaced, put in position or repaired; which service is performed by one of the Dominion Steamers stationed at Quebec.

In the River St. Lawrence, all black buoys are on the south side of the Channel, excepting the ones at Beaugan's Patch and White Island, which can be passed on either side, and Vache's Patch near the Saguenay, which is passed on the south side only. The red buoys are all placed on the north side of the Channel. The white and checkered buoys indicate rocks or ends of shoals, which can be passed on either side, except the white and checkered buoys off the Saguenay, which are to be left to the north.

The green buoys indicate sunken rocks.

\$251.47 was expended in repairs, painting, &c.

BEACONS.

The beacons under the supervision of this branch of the Department of Marine and Fisheries number forty-seven.

Those in the River St. Lawrence act as bearings to station buoys, and leading marks for vessels up and down the Channel; on the Island of Anticosti, to enable vessels to distinguish the different points, owing to the general sameness of the character of the shores of the Island; between Cape Chatte and Cape Rosier for the same purpose. The two on the Labrador shore also distinguish the points of the coast, and mark the entries to Bonne Esperance, and Coachoo Bays, both excellent harbors of refuge. The total number forty-seven, are distributed thus:—

- 1 at St. Valier.
- 9 at Crane Island.
- 2 at Goose Island.
- 1 at Wood Pillar.
- 1 at St. John's Parish.
- 3 at St. Roch's.
- 2 at Grand Island, Kamouraska.
- 3 at Hare Island.
- 1 at Cacouna.
- 1 at Green Island.
- 3 at Red Island.
- 3 at Saugenay.
- 3 at Bic Island.
- 2 at St. Fabien.
- 4 on Anticosti, south side.
- 3 on Anticosti, north side.
- 2 on Labrador Coast.
- 5 between Cape Chatte and Cape Rosier.

47

QUEBEC RIVER POLICE AND SHIPPING OFFICES.

The accounts and disbursements of these services are also under the supervision of this branch of the Department. Reports of the operations are made by R. H. Russell, Esq., Chief of the River Police, and Shipping Master.

The Board of Steamboat Inspection and the Board of Examiners for Masters and Mates hold their sittings in the rooms of the offices of this branch.

FISHERIES SERVICE.

The fitting out, keeping of the accounts, and supervision of the expenditure of the Dominion schooners *La Canadienne* and *Stella Maris*, for the protection of Fisheries, and such other matters as may be required to be attended to by this branch.

The operations of the different vessels are reported by their Commanders.

"LA CANADIENNE."

The Dominion schooner *La Canadienne* was built by the late Thomas C. Lee, of Quebec, in 1854, 110 tons register. She generally leaves on her service at the end of April, and returns in November following. She has during the past sixteen years' service encountered a good deal of rough weather, and owing to her age, requires considerable outlay every winter to make her seaworthy. The repairs made last winter, and the copper sheathing which it is intended to put on next winter, will greatly strengthen her for some years' future service. Her proceedings are reported upon by her Commander, N. Lavoie, Esq.

"THE STELLA MARIS."

This schooner is sixty-one tons register, and is chartered from L. Roy, Esq., of Cape Chatte, at \$300.00 per month. The owner to keep her in a perfectly seaworthy and working condition. She was employed in the Marine Police Service for the protection of the Fisheries (from 6th May to 5th November), under the command of L. H. Lachance, Esq., who reports upon her operations.

The other services performed by this branch in connection with the Fisheries are such as may be required to be attended to here. During the past season, the American fishing schooner, *Lizzie A. Tarr*, was made a prize of by the Dominion Cutter *La Canadienne*, for infringement of the Fishery Laws near Seven Islands, and brought up to Quebec, where the case was tried before the Admiralty Court; she was condemned and forfeited, and sold at public auction to the highest bidder for \$2,801.00.

In closing my report, I have much pleasure in expressing my thanks to the different officers connected with the service coming under the supervision of this branch of the Department of Marine and Fisheries, for the zealous and efficient manner in which they have carried out your orders conveyed through me.

I have the honor to be, Sir,

Your obedient servant,

J. U. GREGORY,

*Agent, Quebec Branch of the Department
of Marine and Fisheries.*

APPENDIX No. 5.

REPORT OF NOVA SCOTIA BRANCH OF DEPARTMENT OF MARINE AND FISHERIES, FOR THE YEAR ENDED 30th JUNE, 1871.

DEPARTMENT OF MARINE AND FISHERIES,
NOVA SCOTIA BRANCH,

HALIFAX, 18th November 1871.

WM. SMITH Esq.,

Deputy Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to report, for the information of the Honorable the Minister of Marine and Fisheries, the operations of this branch of the department, for the year ended 30th June, 1871. The detailed accounts of expenditure and receipts do not in any case go beyond that period; but the report of certain operations commenced within the last fiscal year will be brought down to a later date.

The annual inspection of the lights of Nova Scotia began on the 7th day of July, and was concluded on the 18th day of October; a considerable interval, however, elapsed after the inspection of the eastern lights before those to the westward were visited.

On the 1st July, 1871, a change was made in the Superintendent of lights, Capt. T. P. Jost, taking a situation on the Customs, and Capt. John H. Kendrick filling the vacancy thus occasioned. This gentleman had formerly filled the same office, and therefore brought considerable experience to assist in the discharge of his duties. As, however, the stores for the eastern lights had been prepared and placed on board the vessel under the supervision of Capt. Jost, it was thought advisable that he should proceed to those lights, and with the concurrence of the Customs Department he performed this duty. The schooner *England*, Robert Nicol, master, was chartered to carry lighthouse stores, and she sailed for the eastward on the 7th day of July, and after supplying all the eastern lights, returned to port on the 10th day of August. As the present season of the year is a very busy one as regards the duties in which Capt. Jost is now engaged, I will not be able to obtain from him a report in time to forward with this, but I may state generally with regard to the lights visited by him that they were found in good order, the keepers having been attentive and zealous in the discharge of their duties. Several of these lights have received repairs during the year. Beaver Island had been painted, the roof of the porch shingled, the cellar and barn repaired. At Cranberry Island, the house has been painted, the roof of the dwelling-house shingled, the kitchen floor renewed, a front porch put up with steps, and windows repaired, and new guards were placed round the lantern,—these repairs were urgently required as nothing of the kind had been done for many years. The keeper of Cape St. George Light having reported the deck of the house leaky, a heavy coat of white lead was placed on the seams, which has remedied the evil for a time, until more effectual steps are taken to place it in thorough order. The house has been painted, and has been strengthened by means of wooden supports.

Devil's Island lighthouse has been painted, leaks stopped and a fence built round the premises. In the report to the Minister last year, reference was made to the damage done to Egg Island Station by the terrific storm which visited our coast on the 4th Sep-1870. An enormous destruction to shipping and other property, as well as the loss of numerous lives attested to the violence of this gale, and although most of the light stations escaped with little damage, the result of the storm at Egg Island proved most disastrous, fortunately, however, unaccompanied by any loss of life. The sea washed over the entire island which at the highest part only rises about forty-five feet above the ordinary sea level, the lighthouse standing on a spot some thirty-two feet above this level. The island is almost two acres in extent, and besides the lighthouse, an octagonal wooden

tower, there was a dwelling-house for the keeper and family close by, and two stores for oil, fish, etc. A sea struck the south-west end of the house, carrying away the foundation wall and filling the basement with water. The keeper and family immediately escaped to the lighthouse, where they had scarcely arrived, when the sea carried the dwelling-house a distance of about 150 feet, destroying foundation, chimneys, and everything contained in it. The house was hurled against the stores, which in turn became complete wrecks with their contents. The fresh water tank was destroyed, about one hundred feet of a slip, or landing, leading up from the shore, all boats and fences and erections of all kinds except the light tower were swept away. The shingles of the most exposed side of the tower were torn off, the seams of the deck opened, and the foundation wall so seriously damaged that it had to be entirely renewed. I give these particulars to explain the heavy expense which had to be incurred to place the premises in a state of security for the winter, and subsequently in building the house, etc., the accounts for which do not appear in this year's report. Before the close of the season the foundation wall was rebuilt in a thorough and substantial manner; iron stays securely fastened to posts let into the solid rock were bolted to four faces of the building, and temporary apartments provided for the keeper and his assistant in the lower part of the tower, and the deck made waterproof; the light has been exhibited without any interruption whatever. The rebuilding of the dwelling-house in a better position, and other work done this year, are more particularly referred to in the Superintendent's report, in which it is recommended to place four more stays to the other faces of the tower.

Flint Island, Green Island, Guysboro', North Canso, Pomquet, and Scattarie Lighthouses have been painted. The roof of Port Hood Light shingled and painted. A stone house has been built at Pictou Island, and some very necessary repairs are now being completed at Margaree Island Station. When the repairs now in progress are completed at several stations, the lighthouses and premises generally around the shores of this Province will be in good order. There are, however, some stations, of which perhaps Meagher's Beach is the chief, which will require a somewhat heavy expenditure during next season. The stone tower at the above-named place was seriously injured during the hurricane, which blew with such violence here on the evening of the 12th October last. A breakwater of brush and stones is now being placed a short distance outside the light tower, which will, I trust, prevent further damage to it during the winter months.

I am glad to be able to report that the oil supplied in June, 1870, by Messrs. Clarke and Francis, of Woodstock, Ontario, has proved of excellent quality; the testimony from nearly every station has been to the same effect: "The oil is good and burns well." Two years since, in commenting on the unfavorable reports which in some cases followed the introduction of Canadian oil into the lighthouse service of this Province, I remarked that with greater care and attention, it would eventually be found not inferior to the American oil previously used, and the experience of last year seems to bear out this view.

The contract for the oil required in this Province for the present year, 1871, was awarded to Messrs. F. A. Fitzgerald and Co., of London, Ontario, at twenty-one cents per gallon, the excise duty being remitted as usual. The quantity advertised for was 15,500 gallons, but in consequence of the number of circular burner lamps brought into use, a further quantity of 5000 gallons was found necessary, making the entire supply for the year 20,500 gallons. This was delivered as follows:—

In June, 1871.....	12,525 galls.
In August, „.....	7,975 „
And costing as follows:—	
20,500 gallons at 21 cents.....	\$4,305 00
Paid for draft.....	\$12 90
„ labor.....	18 50
	<hr/>
	31 40
Total cost.....	<hr/>
	\$4,336 40

which amount, after deducting expenses of freight and wharfage, guaging, etc., was forwarded to the contractors.

Samples of both lots of this oil were forwarded to Mr. W. M. Smith, at St. John, N.B., to be tested, and his reports are as follows :—

ST. JOHN, N.B., 4th June, 1871.

SIR,—I have to acknowledge receipt of the samples of oil sent by you for test on the 30th ult. I have tested the samples and find them nearly the same with the exception of the vapor test, as No. 2 of the samples sent me from the department at Ottawa in April last. The following is the result of the test of the samples sent by you on comparison with No. 2.

Result of test and examination of seventeen samples of oil received from the agent of the Department of Marine and Fisheries on the 1st June, 1871. (Halifax, N.S.)

“Non-explosive at 105° F., specific gravity 44° Beaume, has a very good illuminating power, crusted the wick very little, smoked the chimneys but slightly, remained fluid at 10° F.”

“No. 2 tested April 8th, 1871. Proved non-explosive at a vapor test of 112° F., specific gravity 43° Beaume, has a very good illuminating power, crusted the wick very little, smoked the chimneys but slightly, remained fluid at 10° F.”

“I consider the samples sent by you for test as nearly the same quality of oil as No. 2 tested in April, as the difference in the vapor test would admit.”

I have, etc.,

(Signed,) W. M. SMITH.

I may here state that the vapor test has been reduced by Parliament to 105° F., and the oil was manufactured in view of the change.

ST. JOHN, 24th August, 1871.

“Tested twelve samples of oil sent from department of Marine and Fisheries, Halifax, N.S., proved oil similar to samples tested on 3rd June, from samples sent from Halifax, N.S.

(Signed,) W. M. SMITH.

The oil was taken to the several lights to the eastwards of Halifax, in the schooner *England*, and to those situated to the westward in the schooner *Ella G. McLean*, but I have not as yet received information sufficient to enable me to express a decided opinion of its quality in comparison with that of previous years.

During the course of the year the several light stations were furnished with the galvanized iron tanks supplied to the Department last year. No doubt a large saving of oil will be thus effected.

A considerable improvement has been made during the year in the illuminating power of many of the lights, by the substitution of round wick burners of a large size, and of reflectors of from eighteen to twenty-one inches in diameter in place of the small, flat inch burners and twelve inch reflectors formerly in such general use. The new lamps consume a greater quantity of oil, but one of them replaces two or more of the old pattern; and after all the slight increase of expense thus caused is insignificant in comparison with the increased brilliancy obtained. These lamps have up to this time, been distributed as follows :—

Annapolis.....	3	Green Island.....	2
Meagher's Beach.....	4	Louisburg.....	2
Main à dieu.....	4	Low Point.....	2
Sissiboo.....	3	Margaree.....	2
Chester.....	1	North Canso.....	1
Amet Island.....	1	Pictou.....	1
Black Rock.....	2	Pictou Island.....	3
Brier Island.....	3	Sambro.....	4
Cape Canso.....	3	Sand Point.....	1
Devil's Island.....	2	Shelbourne.....	3

and it is proposed to send three more to Annapolis. The fixed lights are the only ones heretofore that have been furnished with the large lamps, as they were not suitable for the revolving apparatus.

An effort has also been made during the past year to improve the power of some of the more important red lights, not only by the substitution of larger lamps and reflectors for those formerly used, but also by using a white chimney, and producing the color by means of a red pane of glass placed in front of the reflector. At Pugwash this arrangement appears to have been very successful. The keeper has received certificates from several shipmasters of the efficiency of the red light which looks seaward; one of them is from Capt. Anderson, of the British barque *Sir G. McDonell*, and under date of 24th August, he states that he saw Pugwash light at least twelve miles off, and believes, with a clear atmosphere, the light could have been seen two miles further. The same distance is certified to by the others.

The light at Baccaro, which was altered last year from a revolving white to a fixed red, has been supplied with some of the largest lamps we have in use, and similarly arranged as to color. It is reported by the keeper and captains of steamers and other vessels vastly improved, as regards the distance at which it is visible. The keeper of Devil's Island light speaks, however, unfavorably of the change. He says that the pilots do not think the light as strong as previously,—that it is too dark a red, and that he has pulled off in his boat at night and observed the same defect. The difficulty here seems to be the depth of the color which might readily be obviated by using a pane of a lighter shade. In ordering ruby chimneys some two years since, I directed the manufacturer to make them of a lighter shade than those previously furnished, and the result has been to improve the power of the light, while preserving sufficiently its color. I think an improvement would be effected if some means could be found to do away with the wooden frames which surround the red panes, as all the rays falling upon these frames are obstructed, and the power of the light impaired to that extent.

Four new lighthouses have been built and put in operation during the past year, besides a Beacon Light at St. Ann's, viz:—

Sissiboo Light.—A wooden tower situated at the entrance to Sissiboo River, Digby County. The contract for the building was taken by Mr. William Holdsworth, for the sum of \$740. It was completed during the autumn, and lighted on the 3rd December, 1870. It shows a fixed white light. Mr. Basil Amereau was appointed keeper at an annual salary of \$200.

Pugwash Light.—Situated on Fisherman's Point, at the entrance to the Harbor. A wooden tower with the dwelling-house for the keeper attached, also an oil store. The contract was given to Mr. John B. Reed for \$1,195. The work was completed during the summer, and the light, which is a fixed red, exhibited on the 1st August, 1871. Mr. Rufus F. Bent was appointed keeper at an annual salary of \$200.

Main-à-dieu Light, situated on the west end of Scattarie Island, is a wooden tower, with dwelling attached, and an oil store. The contract for the building was awarded to Mr. Jacob Bowser for the sum of \$1,600. It was completed, and a fixed red light exhibited on the 1st August, 1870. Mr. James Burke was placed in temporary charge, in which capacity he is still acting. The salary is \$300 per annum.

Ingonish Light.—Situated on Ingonish Island, off Victoria County, C. B., is a similar building to the last mentioned. The contract was given to Mr. Jacob Bowser for the sum of \$1,700. A fixed white light was exhibited here on the 1st August, 1871, and Mr. Samuel C. Campbell was appointed keeper at an annual salary of \$300.

St. Ann's Beacon.—A white light is shown at this point from a wooden lantern placed on a small building used as a ferry house, at the entrance to St. Ann's Harbor, Victoria County. The light is under the charge of Mr. J. Morrison, who receives \$100 per annum for his services.

The oil stores connected with the before-mentioned lighthouses were not included in the contracts, but were built for \$200 each.

Last autumn, the keeper of Bird Island light, Mr. Malcolm Morrison, was killed

by the bursting of a gun. The duties of the station were temporarily discharged by his widow, to whom the salary was paid until the 30th June last. On the 1st July, Mr. Angus Ross was appointed keeper, at an annual salary of \$400.

A vacancy occurred at Cape Sable light by the death of the keeper, Mr. Harvey Doane, in May last; it was filled by the appointment of his son, Mr. Isaac Doane, at an annual salary of \$480.

Mr. Nathan Smith, keeper of Burnt Coat light, was superannuated, in consequence of age and infirmity, during last year. With the assistance of his son, he continues to discharge the duties of the station until the appointment of a permanent keeper.

The following light stations, situated on exposed parts of the coast, were supplied with life-preservers during last December :—

Amet Island	Cape Canso
Carriboo "	Devil's Island
Egg "	Flint "
Gull Rock	Little Hope Island
Meagher's Beach	Sand Point

Three were sent to each of the above-named stations, and they were intended not only for the use of the light-keeper and family in case of any sudden emergency, such as occurred at Egg Island last September, but also to assist in saving life in case of shipwreck, where they could be made available.

In my last report, I had occasion to refer to the very unsatisfactory state of affairs as regarded the fog signals at Cranberry Island and Sambro'. At both these places they had been so frequently out of repair, as to render them worse than useless, and it was proposed, in view of the erection of a steam whistle on Cranberry Island, to transfer the fog trumpet from that place to Sambro'—have both the instruments placed in good order, so that if one became out of repair, the other could be used and thus prevent any interruption of the sound during foggy weather. In the meantime, the stoppage of both trumpets was advertised, and the Cranberry Island one brought to Halifax. It was inspected by competent engineers, and it was found that the expense of putting the engine, &c., in good running order would be very great, indeed much greater than any advantage to be gained thereby would seem to justify; and it was decided, with the approval of the Minister, not to incur any further expenditure in respect of either fog trumpets. In fact, these instruments at their best, are not as reliable and effective as they should be where so many important interests are concerned, and, I learn, are being very generally superseded in the United States and elsewhere, by the steam fog whistle, which is found by experience to be much more efficient. Before the erection of the fog trumpet on Sambro', and since its discontinuance on the 25th July, 1870, guns under the superintendence of the Signal Party of Royal Engineers at that station, had been fired in reply to guns heard at sea, and this has now been extended to the case of steamers' whistles. The formal notice of the final discontinuance of the Daboll fog trumpet, at Sambro', states also as follows :—

"Guns will be fired during thick or foggy weather from the Signal Station, on Sambro', as follows :—Signal guns from ships will be answered by the discharge of two "twenty-four-pounders in quick succession, and the same reply will be made from the "Island to the sound of a steamer's whistle."

This arrangement will prove of advantage to steamers and sailing vessels carrying guns; but the sailing craft not thus provided will still be exposed to the dangers which are so imminent in the neighbourhood of Sambro' Island.

In connexion with this subject, I would beg to call attention to a general impression existing among the captains of steamers and other vessels frequenting this port, that the best means of rendering entrance into Halifax Harbor safe at all times and state of the weather, would be the placing of a Light Ship, provided with a Steam Fog Alarm at some point about ten miles south of Meagher's Beach, where good anchorage can be found—thus placed, a Light Ship with fog signal, would be a guide for vessels approaching from every direction, and would prove a safe-guard against the dangerous shoals,

which, lying along the western shore, make an entrance to the port in foggy weather so difficult and hazardous. As it is not improbable that the Department will shortly be memorialized on this subject, I will not now refer to it at greater length.

A new and very powerful steam fog whistle has been erected on Cranberry Island, on the site of the old Daboll trumpet, about one hundred and fifty yards south of the lighthouse. It sounds eight seconds in each minute, leaving an interval of fifty-two seconds between each blast. Full and definite reports have not yet been received of the distance to which the sound can be heard, but it is expected to be audible, in moderate weather, eight or ten miles to windward, and fifteen or twenty miles to leeward. This fog signal cannot fail to be an assistance to the very large number of vessels passing through the straits of Canso, and others engaged in coasting trade. Mr. John Cormack having passed the examination necessary in such cases, and obtained a certificate of competency, was appointed engineer of this whistle on the 9th September, 1871, at an annual salary of \$450. The boiler is suitable for using salt water, and a pumping apparatus is provided to obtain it from the sea. The supply of fresh water is limited, as on this rocky island, it can only be obtained from the roofs of the buildings and the surface of the rock.

The differences between the engineer of the Yarmouth fog whistle and the keeper of the light at that station, to which I have adverted in my last year's report, continued during the present year, and were only brought to a termination by the resignation of the engineer Wells, in October, 1870. His resignation was accepted, and on the 19th December, Mr. John Findlay, having passed the requisite examination, received a certificate and was appointed to the vacant situation, at a salary of \$400 per annum.

I regret to state that through want of attention and care, the boiler at this station was allowed to get seriously out of repair, and considerable expense was incurred in obtaining boiler makers, &c., from St. John, to remedy the defect. The necessary repairs have since been made under the supervision of Mr. W. M. Smith, who, on the 5th September last, reported that the boiler had been as thoroughly repaired as it could be without removing it and stopping the alarm, and that the alarm was in good order and working well. On the 12th June, John Findlay resigned his position of engineer, and on the recommendation of Mr. Smith, the light keeper, Mr. Fox was placed in temporary charge of the fog alarm, in which position he still remains.

A serious difficulty has been encountered at Seal Island from the supply of water for the fog whistle there running short. The well proved of no value, and the tank under the engine-house was too small to contain a sufficient quantity during the hot weather, when the pond from which it drew its supply became nearly dry. Some expense was thus incurred in hauling water from a distance, but happily the alarm was not stopped. Under these circumstances it was considered advisable to have a reservoir constructed, twenty feet square and eight feet deep, with cemented brick walls, connecting by the drain with the pond and also with the tank under the engine-house. It would thus receive the water collected in the pond during the wet season and retain a sufficient supply for the dry months. The pond itself is shallow and has a large surface, so that the evaporation in hot weather soon exhausts its water. This work was completed under the supervision of Mr. W. M. Smith last month, and will, no doubt, obviate in future any similar difficulty to that experienced last summer. Mr. Reardon, the engineer, has handed in his resignation, and arrangements have been made to fill his place.

Besides the new fog whistle now in operation at Cranberry Island, contracts have been awarded for steam fog whistles to be placed at Digby, Brier Island, Sable Island, and St. Paul's Island.

About the end of last July, a gun for signal purposes was sent to Coffins Island, near Liverpool, and placed in charge of the lighthouse keeper there. He was directed to reply during thick or foggy weather to signal guns from steamers and other vessels in the vicinity of the light, and it has already proved of great value.

Two casualties have occurred in connection with the buoys and beacons of this Province during the past year. The iron can buoy which had been moored on the Bass

Rock, off Canso, was carried away last autumn, and, although diligent search was made after the first discovery of its loss, it could not be found. A buoy answering its description was afterwards seen drifting in the ice near Sheet Harbor, but it could not be got at, and when the weather moderated sufficiently to attempt its recovery, all trace of it had disappeared; a new one had therefore to be made and placed on the same spot. The beacon on Wesse's Ledge, near the entrance to Barrington Harbor, had been reported out of repair, and on being inspected by the superintendent in September, was pronounced unfit to have any great expense incurred in attempting repairs at that late season, as the season was too near its close to permit of very extensive repairs. It was, however, decided to try and place it in a condition to resist the storms of winter; but before anything could be done it was entirely destroyed by the gale of the 12th October. Estimates of the cost of its renewal have been sent to the Department. With these exceptions the buoy service has been performed as usual. Spar buoys have been placed at the entrance to Pugwash Harbor, and a standard buoy placed on Thrum Cap Rock, near Stockport Harbor.

The amount expended for the Humane establishment on Sable Island for the last fiscal year is considerably in excess of that of last year. This is owing to several causes. In consequence of encroachments of the sea, the flag staff and one of the outhouses were washed away at the South End Station, and the safety of the keeper and family required its abandonment. There not being a suitable spot for placing buildings on the south side, it was decided to erect a house and barn about half way between the principal station and that at the foot of the lake, this spot being suitable for farming purposes and near both hay and water. A barn had also to be built for the requirements of the east end. Frames for the buildings and the requisite lumber, &c., had to be sent from here. They have since been completed, and the former outpost keeper at the south end has been established at the new station. This change, of course, involved a considerable expenditure. A quantity of stock was also sent to the island at an expense of over five hundred dollars. It also had been the custom in previous years to wait until the autumn to send the winter supplies, and difficulty in landing was often experienced, sometimes preventing this being done until the spring, which involved the serious danger of the provisions running short, especially if wrecks should occur meanwhile. I therefore decided for the future to send a full supply during the summer when landing is easy. This was done in the month of June, and therefore the present fiscal year is charged with the cost of supplies which otherwise would appear in the accounts of the current year.

It is gratifying to report no wrecks during the past year, and the only casualty which has occurred is as follows:—

On the evening of the 24th May, the keeper of the south end station saw a boat in the breakers, bottom up, he went to the shore for the purpose of securing her, but before she landed, a heavy sea struck and righted her and the current took her off to sea. Two kegs and the oars were washed out of her as she righted, and were saved. The kegs, which were the kind usually attached to trawl lines, were marked on the heads "Laura R. Burnham." The same day a fishing schooner was seen standing off, and on the north shore. The sea was, however, too high to admit of landing. The impression on the mind of the outpost keeper from the position of the boat, was that she had not drifted, but had been pulled to the spot and the men must have been drowned in attempting to land. In addition to the stock sent down last autumn, the schooner *England*, in August, landed six two-year-old and six three-year-old heifers, six one-year-old pigs, six pigs from four to six months old, and twelve one-year-old lambs. The following is a list of the stock on the island on the 1st October, 1871:—

At the principal Station.—One bull, four oxen, thirteen cows, seven heifers, nine calves, six sheep, nine lambs, twenty pigs and two litters of twelve young.

At the New Station (C. Kelly).—One bull, four cows, five heifers, four calves, three pigs, four lambs.

At the foot of the Lake Station (J. Hawkins).—Six cows, two heifers, three calves, three sheep, five lambs, and four pigs.

At the East End Station (D. McDonald).—Three oxen, one bull, eight cows, two calves, twelve pigs, two sheep, two lambs.

From the 1st April to the 1st October, the following increase is reported :—nineteen calves, six lambs, twenty-four pigs; and the following decrease in the same time;

Died.—One cow, four calves, two lambs, two pigs. Killed.—One hog and five roasters.

It is very questionable if there is any economy in raising pigs on Sable Island as the principal part of the food they consume has to be sent from here. The crop of roots on the island is small and contributes very slightly to the maintenance of these animals. On the 3rd October, I purchased at a cost of some \$180, and sent to the island, 9,727 lbs. of biscuit condemned and sold from H. M. Dockyard. I do not think it would be wise to add to the number already sent, and until the island can raise sufficient food to largely assist in the maintenance of the pigs, I think the pork raised there will prove more expensive than that bought here.

The last trip for the season 1870, was made by the *Lady Head* on the 3rd December. She communicated by boat with the island, but was unable to land any supplies or to bring off the cranberries, of which there was an unusually large and fine crop. As no vessel went down until the spring, they were damaged to a large extent, and therefore sold at much smaller rates than ordinary. A portion were brought off on the 13th April, and the remainder on the 20th June. A large quantity had, however, been so injured by the winter's frost as to be unfit to ship.

Last winter was unusually severe on Sable Island, and many of the wild horses died from exposure. Their sufferings were reported by the superintendent as very great from cold, hunger, and thirst. Ponds were occasionally opened for them to drink from, and hay given to any of them that would come for it, but they died in greater numbers than had ever been known before. The schooner *England*, in August, brought off nineteen ponies, which were sold at Pictou. The superintendent reports about one hundred and forty still on the island.

Since the 1st January, 1871, the island has been visited as follows :—

<i>Lady Head</i>	15th March.	<i>Lady Head</i>	15th June.
" "	11th April.	Schooner <i>England</i> ..	19th Aug.
" "	3rd June	<i>Lady Head</i>	3rd Oct.
Schooner <i>S. G. Marshall</i> 3rd June.			

The steamer *Lady Head* is now only waiting for a favorable opportunity to make the last trip for the season.

At St. Paul's Island the buildings at the south west end have had considerable work done on them. The Trinity Cove buildings have been put in thorough repair, and the small buildings removed to the landing place and made ready to receive the Government supplies which every year are landed there. In making these repairs, a considerable sum was saved in the way of materials by the drift logs and large scantlings which were collected by the superintendent and his men. A road has been opened connecting the one from Trinity Cove with the road leading from the Humane Establishment to the North East Light, and also a road from Trinity Cove to the South West Light. They will be of great service in the conveyance of stores, provisions, &c., from the shore to the different Government Establishments on the island.

On the 1st July, 1871, the following stock was on hand at the Humane Establishment, viz :—

Six barrels of pork, nine barrels of beef, thirteen barrels of bread, nine barrels of flour, three barrels of meal, 105 gallons of molasses, 137 lbs. of sugar, two chests of tea, twelve pairs of blankets, twenty-four pairs of trowsers, twenty-four pairs of drawers, forty-eight pairs of socks, twenty-four pairs of shoes, twenty-four shirts, twenty-four coats, and twenty-four caps.

These articles are kept in store under charge of the superintendent, and issued only to destitute shipwrecked persons cast on the island.

On the 15th July, the ship *Minerva*, Robert Torrence, master, from Liverpool to

Quebec, with a general cargo and passengers, over three hundred, all told, ran on shore in a dense fog. The passengers and crew were all saved, but the ship became a total loss. Part of the cargo has been saved by the owners and divers who are still employed in rescuing all they can from the waves.

Two wrecks have occurred at Scattarie during the past year. The barque *Star of the West*, of Newcastle, was cast away on the island on Sunday night, the 7th May last, it being at the time dark with fog, all hands left the vessel in two boats about five o'clock the following morning. A short time after the vessel was seen to be on fire, which spread with such rapidity that by three o'clock in the afternoon, she was burned to the water's edge. The crew were picked up by a schooner and carried to Cow Bay. Before being rescued, the captain had fallen overboard from one of the boats and was drowned. An inquest was held on his body at Cow Bay, and a verdict returned of "Accidental Death." As the circumstances attending the loss of the vessel were made the subject of official investigation, I will not refer to them further.

On the night of the 20th June last, the brig *Una*, of Swansea, was wrecked on the south side of the island during a thick fog and heavy sea. Shortly after striking, the captain and crew left the ship in their boats. At eight o'clock the following morning, they landed at the lighthouse. During the few following days, the wreck was boarded and considerable property saved, which together with the hull, was sold at public auction by order of the captain, who took charge of the proceeds. The crews of both the ships were relieved by the Board of Trade.

The provisions at the Humane Establishment on this island had become so damaged as to be unfit for use, they were therefore sold, and a new supply sent down late in October. On the 7th November, 1871, the following articles were on hand there:—

Six barrels of flour, four barrels of beef, thirty nine gallons of molasses, four barrels of No. 1 pilotbread, twenty lbs. of tea, six pairs of blankets, twelve reefers, eleven pairs of pants, twelve shirts, twelve caps, ten pairs of drawers, ten pairs of socks, ten pairs of shoes, besides a newly replenished medicine chest.

The unfortunate circumstances attending the loss of the ill-fated schooner *Ocean Traveller*, on her return from Sable Island last October, were referred to in the Annual Report of the Department. This melancholy accident took from a number of families, those whom they looked to for their chief support. The usual gratuity of two months' pay was awarded as soon as all hopes of the safety of the vessel were abandoned. After the meeting of Parliament, a further sum was granted, viz., six hundred dollars to the widow of Captain O'Brian, and one thousand dollars to be divided among the families of the crew. The distribution of this sum was made, as far as possible, proportionate to the destitute and dependent condition of the persons concerned, and has been the means of alleviating much actual want and distress. For this unexpected bounty the parties relieved have one and all desired me to express their grateful thanks.

The sum of six hundred dollars granted to aid the men who, in the month of December, 1869, while taking supplies to Flint Island Light, were carried out to sea, and for nine days suffered exposure and were severely frost bitten, and crippled for life, was divided in a similar manner in sums proportionate to the necessities of each.

The estimates for the present fiscal year contain appropriations for a large number of new lighthouses in this Province, most of which are under contract and rapidly approaching completion. A detailed reference to each of these will probably belong to the Report for the year 1871-72.

The accounts appended hereto, do not, I think, require any explanations, as they give statements in considerable detail of the entire receipts and expenditure of this branch of the Department, for the year ended 30th June, 1871.

I have the honor to be, sir,

Your obedient servant,

H. W. JOHNSTON.

REPORT OF INSPECTOR OF LIGHTS.

DEPARTMENT OF MARINE AND FISHERIES,
HALIFAX, N. S., 16th November, 1871.

H. W. JOHNSTON, Esq.,

Agent of Department of Marine and Fisheries.

SIR,—Having only received the appointment of Superintendent of lights for Nova Scotia, on the 1st July last, my report for this year will necessarily be brief.

I have much pleasure in informing you that having recently visited very many of the lights and fog alarms placed under my supervision, I found them generally in good order and efficiently kept.

The new lights at Main à Dieu, Ingonish, and St. Ann's, were lighted for the first time on the 1st August last.

MEAGHER'S BEACH.

The tower on which this light is placed is in a poor condition, and requires considerable repairs; the beach on which it is situated is continually being washed away by the action of the sea, and it will be necessary to protect it from further destruction.

EGG ISLAND.

The buildings at this station received a great deal of damage during the gale of the 14th September, 1870, and a considerable outlay was necessary to put them in good order again. The dwelling having been started off its foundation, a new one was excavated in the rock in a more elevated position, and the building has been placed thereon and thoroughly repaired.

The lighthouse has been painted. The repairs to the boat-house and landing-slip have been commenced, and will be finished in good season. The lighthouse requires further protection, and I would advise the placing of four stays in addition to those affixed to it last season, also ballast to be placed in the base.

CAPE CANSO.

A new porch and some repairs were made to the dwelling at this station, and the lighthouse has been painted. Iron rails and stays for the lantern are constructed, and will soon be placed in position.

ARICHAT.

A railing has been placed around the lantern for the protection of the keeper while cleaning the windows.

ST. PAUL'S.

A machinist has visited the lights on this island; portions of the revolving machinery at the south-west light will require to be renewed; also new rails and stays for the lanterns.

MARGAREE.

The lighthouse has been repaired and painted, and new sills placed under the oil store.

GULL ROCK.

Considerable repairs are required at this lighthouse, and are now being effected. A water tank is to be constructed, the keeper at present having to boat his water from the main land.

BUOYS AND BEACONS.

An iron can buoy was placed at Bass Rock to replace the one that had been carried away by ice last winter. The beacon at Wesses' Ledge had become too much damaged to admit of repairs being made, and in the recent severe gale was entirely destroyed. It is very important that a new one should be constructed during the ensuing season. First class buoys are required at Bell Rock, off Chebucto Head, and at Sculpin Rock, Lunenburg Bay, also at South West Bull and Middle Ground, Rugged Island, and a second class buoy at Barrel Rock, Liverpool Harbor.

GENERAL REMARKS.

The oil supplied this year was of rather better quality than had previously been supplied. The casks delivered this year were of a poor description, and too large for convenient delivery at the different stations, the extra size and weight causing more straining of the package and consequently more leakage; the casks should not run over forty gallons.

Many of the oil tanks delivered last season have become leaky, a poor quality of iron was used in their construction.

The large round wick lamps sent down from Montreal were distributed among a number of lighthouses, and have given good satisfaction; several of them, however, have proved leaky, and they appear very liable to get out of order. The plating of the reflectors sent with the above is very thin, and will not be durable.

I am, Sir,

Your most obedient servant,

J. H. KENDRICK,
Superintendent of Lighthouses.

GENERAL STATEMENT of the Expenditure of the Nova Scotia Branch of the
Department of Marine and Fisheries, for the year ended 30th June, 1871.

	\$ cts.	\$ cts.
LIGHT HOUSE AND COAST SERVICE.		
Salaries and Maintenance.....	64,514 66	
Construction of Light Houses.....	10,913 57	
Signal Stations	1,620 80	
Buoys and Beacons.....	2,091 52	
Sable Island	8,003 79	
		87,144 34
DOMINION STEAMERS.		
Steamer <i>Lady Head</i>		13,499 87
FISHERIES	9,035 30	
Fish Breeding and Fishways.....	501 50	
Marine Police	23,910 62	
		33,447 42
Sick and Disabled Seamen.....	6,375 65	
Distressed Seamen	839 69	
		7,215 34
MISCELLANEOUS	2,550 00	
Examination, Masters and Mates.....	918 12	
Investigations, Wrecks.....	140 00	
		3,608 12
Ocean and River Steam Service (Subsidies).....		1,600 00
Salaries and Contingencies		2,854 85
		149,369 94

SUBDIVISION of Amounts Expended on Account of Light House and Coast Service, for the year ended 30th June, 1871.

		\$ cts.	\$ cts.
<i>Sixty-five Light Houses.</i>			
Salaries		23,643 09	
Maintenance		19,588 91	
Light Houses, &c., Rebuilt.....		11,205 91	
			54,337 91
<i>Four Fog Alarms.</i>			
Maintenance		3,909 98	
Salaries		1,212 00	
			5,121 98
HUMANE ESTABLISHMENTS.			
<i>St. Paul's Island.</i>			
Salaries	\$1,623 80		
Supplies.....	669 27		
		2,293 07	
Scattarie Island, Boat.....		50 00	
Seal and Mud Islands, Maintenance		210 96	
			2,554 03
<i>Sable Island, H. E.</i>			
Salaries		2,972 29	
Supplies, Repairs, &c.		5,031 50	
			8,003 79
SCHOONER "OCEAN TRAVELLER."			
Charter		1,200 00	
Pay List		849 00	
Disbursements.....		351 74	
			2,400 74
CONSTRUCTION OF LIGHT HOUSES, &c.			
Ingonish		2,410 45	
Main-a-Dieu.....		2,193 60	
Pugwash		1,588 99	
Sissiboo		1,145 52	
St. Anns		187 35	
Mahone Bay.....		9 50	
Sable Island.....		3,378 16	
			10,913 57
Buoys and Beacons.....		2,091 52	
Signal Stations		1,620 80	
			87,144 34

PARTICULARS of Expenditure on Account of Light House and Coast Service, for
Year ended 30th June, 1871.

	\$	cts.	
<i>Anet Island.</i>			
H. G. Bennet, salary.....	500	84	
Black Bros. & Co., life preserver.....	12	00	512 84
<i>Annapolis.</i>			
F. Bragg, salary.....	460	79	
do sundries.....	20	25	
T. W. Bateman, padlock.....	3	50	484 54
<i>Apple River.</i>			
J. Yate, salary.....	380	64	
W. S. Symonds & Co., stove.....	10	00	
J. Yate, sundries.....	9	25	399 89
<i>Arichat..</i>			
J. Caste, salary.....	232	40	
do wall, &c.....	13	20	245 60
<i>Barrington Light.</i>			
J. S. Smith, salary.....	380	64	
Fraser, Reynolds & Co., lead.....	49	30	
J. S. Smith, painting and repairs.....	43	27	
W. S. Symonds & Co., repairing clock.....	10	00	
E. Chanteloup, lamps.....	257	82	741 03
<i>Beaver Island.</i>			
S. Balcam, salary.....	65	06	
A. Campbell, salary.....	345	39	
S. Balcam, painting.....	13	50	
Fraser, Reynolds & Co., clock cord.....	14	82	
Captain Leary, freight.....	2	00	
W. Humphry, lumber.....	13	20	453 97
<i>Bird Island.</i>			
W. Morrison, salary.....	410	96	
W. Ross, pier.....	424	40	
D. Morrison, expenses.....	12	00	847 36
<i>Black Rock.</i>			
J. Crotly, salary.....	380	64	380 64
<i>Black Rock Point.</i>			
D. Morrison, salary.....	350	61	
W. S. Symonds & Co., grate.....	2	50	353 11
<i>Bears Head.</i>			
R. M. Ruggles, salary.....	363	13	
Fraser, Reynolds & Co., lantern.....	225	00	588 13

PARTICULARS of Expenditure on account of Lighthouse, &c.—Continued.

	\$ cts.	\$ cts.
<i>Brier Island.</i>		
J. Suthern, salary.....	460 79	
do carting stores.....	4 50	465 29
<i>Burnt Coat.</i>		
N. Smith, salary.....	250 42	
do ladder.....	8 35	258 77
<i>Cape Canso.</i>		
J. Hanlon, salary.....	472 80	
J. Findlay, boat.....	22 00	
J. Hanlon, tanks.....	9 00	
Black, Bros., & Co., life preservers.....	12 00	
J. Hanlon, well.....	26 25	542 05
<i>Cape Sable.</i>		
H. Doane, salary.....	483 91	
do carting stores.....	3 65	
do putting up clock.....	29 86	
W. S. Symonds & Co., Lampstand.....	22 29	539 71
<i>Cape St. George.</i>		
D. Condon, salary.....	480 83	
do hauling stores.....	3 50	
do repairs and painting.....	45 40	
J. Bowser, Lumber.....	6 51	
D. Condon.....	2 75	538 99
<i>Cape St. Mary's.</i>		
H. Robichau, salary.....	500 84	
J. Stairs, nails.....	75	501 59
<i>Carriboo Island.</i>		
A. Munro, salary.....	400 69	
do fitting lamp.....	80	
Black, Bros. & Co., life preservers.....	12 00	413 49
<i>Chester.</i>		
E. Young, salary.....	200 34	
W. S. Symonds & Co., stove, &c.....	37 10	237 44
<i>Cross Island.</i>		
B. Rynard, salary.....	460 79	
W. S. Symonds & Co., repairing clock.....	188 25	
J. Seixner, boat.....	20 00	
B. Rynard, carting stores.....	7 40	676 44
<i>Devil's Island.</i>		
B. Fulker, salary.....	380 64	
Black, Bros. & Co., life belts.....	12 00	
W. S. Symonds & Co., pipe, &c.....	4 00	396 64

PARTICULARS of Expenditure on account of Lighthouse, &c.—*Continued.*

<i>Egg Island.</i>			
W. Condon, salary.....	500 84		
do assistant's wages.....	100 00		
do repairs.....	120 43		
G. Blacklock do.....	339 90		
C. Phelan & Son do.....	172 25		
H. Wisdom do.....	206 13		
Fraser, Reynolds & Co., metal.....	53 70		
S. & W. Caldwell, iron stays.....	81 85		
Black, Bros. & Co., life preservers.....	12 00		
J. Bowser, repairs.....	98 75		
H. W. Johnston, expenses.....	23 17		
		1,718 04	
<i>Fish Island.</i>			
J. B. White, salary.....	280 49		
do repairs.....	36 17		
		316 66	
<i>Flint Island.</i>			
B. Heney, salary.....	400 69		
do painting, &c.....	17 00		
Fraser, Reynolds & Co., rope.....	18 60		
Black, Bros. & Co., life preservers.....	12 00		
W. S. Symonds, & Co., grate, &c.....	3 05		
		451 34	
<i>Fort Point Light.</i>			
S. T. N. Sellon.....	240 40		
		240 40	
<i>Green Island.</i>			
P. Douain, salary.....	500 84		
		500 84	
<i>Gull Rock.</i>			
S. Hayden, salary.....	400 69		
W. S. Symonds & Co., stove.....	20 50		
Black, Bros. & Co., life preservers.....	12 00		
		433 19	
<i>Guy'sboro'.</i>			
G. S. Peart, salary.....	220 39		
		220 39	
<i>Horton Bluff.</i>			
C. E. Rathburn, salary.....	232 40		
do hauling stores.....	2 60		
		235 00	
<i>Ingonish.</i>			
J. C. Campbell, salary.....	58 11		
		58 11	
<i>Ironbound.</i>			
E. Wolf, salary.....	360 64		
W. S. Symonds & Co., stove fittings.....	3 75		
		364 39	

PARTICULARS of Expenditure on account of Lighthouse, &c.—*Continued.*

<i>Little Hope.</i>			
C. Firth, salary	500 84		
Black Bros & Co., life preservers, etc	19 98		
C. Firth, repairs	64 93		
		585 75	
<i>Liverpool.</i>			
T. Eaton, salary	460 79		
Rees & Collins, stove	25 00		
T. Eaton, slip and painting	58 34		
J. Findlay, boat	22 00		
Fraser, Reynolds, & Co., rope	12 06		
		578 19	
<i>Louisburg.</i>			
L. Kavanagh, salary	460 79		
W. S. Symonds & Co., stove	27 00		
		487 79	
<i>Low Point.</i>			
J. G. Peters, salary	460 79		
do painting	22 50		
		483 29	
<i>Lunenburg.</i>			
J. A. Ernest, salary	240 40		
do painting, etc	12 20		
W. S. Symonds & Co., stove	23 50		
		276 10	
<i>Main-à-dieu.</i>			
Fraser, Reynolds, & Co., supplies	17 50		
W. S. Symonds & Co., stove	23 80		
		41 30	
<i>Margaree.</i>			
J. C. McKeen, salary	400 69		
do floor	12 00		
J. Findlay, boat	22 00		
		434 69	
<i>Margaretsville.</i>			
W. Early, salary	230 42		
do hauling stores	2 30		
		232 72	
<i>Meagher's Beach.</i>			
D. George, salary	400 69		
E. Chanteloup, lamps	179 73		
W. S. Symonds & Co., stove, etc	30 25		
Black Bros. & Co., life belt	12 00		
		622 67	
<i>Moser's Island.</i>			
H. Moser, salary		450 76	
<i>North Canso.</i>			
G. McKay, salary	460 79		
do carting stores	4 70		
		465 49	

PARTICULARS of Expenditure on account of Lighthouse, &c.—*Continued.*

<i>Parrsboro'.</i>		
W. Armstrong, salary	340 59	
do repairs	7 45	348 04
<i>Peggy's Point.</i>		
E. Horn, salary	350 61	
do repairs	7 83	358 44
<i>Pictou.</i>		
H. B. Lowden, salary		460 79
<i>Pictou Island.</i>		
A. Hogg, salary		460 79
<i>Pomket Island.</i>		
J. Atwater, salary		350 61
<i>Port Hood.</i>		
T. Power, salary	280 49	
W. S. Symonds & Co., stove	20 10	302 59
<i>Port Medway.</i>		
E. Perry, salary	260 44	
do repairs	21 61	282 05
<i>Port Williams.</i>		
J. M. Dunn, salary		260 44
<i>Pubnico.</i>		
M. Amero, salary		240 40
<i>Pugwash.</i>		
R. F. Bent, salary	21 77	
do ladder	5 00	26 77
<i>Point Tupper.</i>		
J. McDonald, salary		200 35
<i>Sambro.</i>		
W. Gilkie, salary	400 69	
R. Innes, wood	180 00	
W. S. Symonds & Co., stove, etc	27 60	
W. Gilkie, painting, etc.	36 82	645 11

PARTICULARS of Expenditure on account of Lighthouse, &c.—Continued.

<i>Sand Point.</i>			
J. Mundell, salary	400 69		
Black Bros. & Co., life preservers, etc.	17 75		418 44
<i>St. Ann's.</i>			
J. Morrison, salary			18 41
<i>Scattarie Island.</i>			
J. McLean, salary	808 79		
W. S. Symonds & Co., stove	19 70		
J. McLean, repairs	86 40		914 89
<i>Seal Island.</i>			
T. C. Crowell, salary	480 83		
W. M. Smith, services, etc.	318 53		
J. Stairs, hardware	149 82		
W. Humphrey, lumber	162 60		
J. Bowser, repairs	394 35		
W. S. Symonds & Co., stove	23 60		
Clark & Stackhouse, repairs to light house	1,165 05		
T. S. Crowell, materials	87 63		
Fraser, Reynolds & Co., lead	49 30		2,831 72
<i>Shelburne.</i>			
C. Stalker, salary	480 83		
W. S. Symonds and Co., stove fittings	7 00		487 83
<i>Sissiboo.</i>			
M. Amero, salary	114 44		
M. Amero, carting stores, &c.	7 50		121 94
<i>Spencer's Point.</i>			
R. A. Spencer, salary	102 72		102 72
<i>St. Paul's Island.</i>			
L. McDougall, salary	420 73		
A. Campbell, salary	75 34		
R. H. Cogswell, timepiece	16 00		
A. Grant & Co., supplies	25 96		
W. S. Symonds & Co., repairs	70 50		
L. McDougall, boat	20 00		628 53
<i>Westport.</i>			
J. D. Suthern, salary	300 53		
do painting	8 50		309 03
<i>Whitehead.</i>			
J. P. Dillon, salary	400 69		
do boat, etc.	24 00		424 69

PARTICULARS of Expenditure on account of Lighthouse, &c.—Continued.

<i>Yarmouth.</i>			
C. J. T. Fox, salary	480 83		
do repairs.....	80 00		
		560 83	
F.G. ALARMS.			29,287 29
<i>Cranberry Is'land.</i>			
J. Hanlon, salary.....	179 80		
do wood, etc.....	268 50		
Fraser, Paint & Co., coal.....	531 00		
J. G. Gabel, hose, etc.....	665 92		
		1,645 22	
<i>Sunbro.</i>			
J. Gilkie, salary	238 80		
W. S. Symonds & Co., repairs.....	75 50		
J. Bowser, building.....	452 28		
do repairs.....	28 00		
C. McKay, freight.....	20 25		
S. M. Marvin, repairs.....	23 90		
		838 73	
<i>Seal Island.</i>			
S. Reardon, salary	434 51		
N. K. Clements & Co., fuel, etc.....	567 05		
T. C. Crowell Jun., well, drain, wood, etc.....	533 19		
S. Reardon, sundries.....	53 90		
W. S. Symonds & Co., stoves.....	32 80		
W. M. Smith, drill	17 70		
		1,639 15	
<i>Yarmouth F. W.</i>			
W. Wells, salary	205 48		
J. Findlay, salary	212 41		
N. K. Clements & Co., fuel.....	474 20		
Burrell, Johnson & Co., repairs.....	37 50		
W. M. Smith, sundries.....	60 79		
C. J. T. Fox, expenses.....	8 50		
		908 88	
HUMANE ESTABLISHMENTS.			5,121 98
<i>St. Paul's Island.</i>			
D. J. McNeil, salary as superintendent, and four boatmen	1,623 89		
Fraser, Reynolds, & Co., powder, etc.....	107 37		
D. J. McNeil, lumber, etc.....	35 75		
P. Grant & Co., clothing	141 00		
Lordly & Stimpson, supplies	385 15		
		2,293 07	
<i>Scattario Island.</i>			
J. McLean, boat.....	50 00		
		50 00	
<i>Seal and Mud Islands.</i>			
T. C. Crowell, allowance, Seal Island	126 58		
W. Kenny, allowance, Mud Island.....	84 38		
		210 96	
		2,554 03	

PARTICULARS of Expenditure on account of Lighthouse, &c.—*Continued.*

LIGHT HOUSE AND COAST SERVICE.		
J. Haws & Co., plate glass.....	848 18	
Lamp chimneys.....	690 23	
Wicks.....	32 60	
Chimney cleaners.....	19 20	
Lanterns.....	39 25	
Soap.....	125 40	
Glue, putty, paint, oil, glass, waste, &c.....	1,003 70	
Packing cases and casks.....	138 80	
C. Neal, services.....	239 00	
J. Haws & Co., signals and flags.....	179 84	
T. P. Jost, salary.....	789 04	
do disbursements.....	477 85	
N. Campbell, allowance for moving.....	80 00	
Insurance on oil, &c.....	45 00	
Hire steamer "Unicorn".....	20 00	
Contingencies.....	229 96	
Telegrams.....	149 45	
Postages.....	178 48	
Taxes.....	97 05	
Davis & Co., rent.....	360 00	
Wharfages and dockages.....	85 61	
Oil.....	3,939 45	
Storage, testing, &c.....	125 93	
Oil tanks.....	763 29	
E. Chanteloup, lamps.....	2,342 28	
Advertising.....	279 48	
Superannuation deduction from L. H. & Co.s' salaries.....	665 64	13,944 71
LIGHT HOUSES REBUILT.		
<i>Chester.</i>		
Hopps & Brown, contract.....	1,248 28	
C. Garth & Co., Lantern.....	212 75	
E. Chanteloup, repairing light.....	246 24	
J. Bowser, oil store.....	200 00	1,897 27
<i>Apple River.</i>		
T. Livingston, contract.....	1,212 33	
C. Garth & Co., lantern.....	246 72	1,459 05
<i>Cranberry Island Fog Whistle.</i>		
W. M. Smith, services, &c.....	246 23	
Thomas Alley, contract.....	4,109 59	
Thomas Alley, do.....	1,541 09	5,896 91
<i>Amct Island Breastwork.</i>		
D. A. Campbell, extra work.....	600 00	600 00
<i>Seal Island Fog Whistle.</i>		
G. K. Hanson, balance building contract.....	891 96	
G. Fleming & Sons, building engine.....	417 90	
G. W. Smith, expenses.....	42 82	1,352 68

PARTICULARS of Expenditure on account of Lighthouse, &c.—Continued.

SABLE ISLAND HUMANE ESTABLISHMENT.		
P. S. Dodd, salary	572 98	
Wages of staff	2,384 62	
Superannuation deduction from P. S. Dodd's salary	14 69	
R. Currie, cattle, sheep and pigs	528 12	
Building materials	976 03	
Balance and freight rocket	146 09	
W. S. Symonds & Co., stoves	72 65	
W. Hurray, cart	60 00	
P. Bulger, saddles	84 00	
C. Neal, cats	30 00	
D. Starr & Sons, plow	10 00	
R. Horn, pilotage	51 60	
J. E. Butler, oars	22 77	
Provisions, medicines, &c.	3,050 24	8,003 79
SCHOONER "OCEAN TRAVELLER."		
E. Maxner, charter	1,200 00	
T. P. Jost, wages	849 00	
J. B. Conrod, dockage	7 75	
Gordon & Keith, mattress	5 50	
Lawsou, Harrington & Co., towage	5 00	
Provisions	333 49	2,400 74
CONSTRUCTION OF LIGHT HOUSES.		
<i>Ingonish.</i>		
Jacob Bowser, contract	1,946 58	
C. Garth & Co., lantern	215 47	
E. Chanteloup, dioptric light	243 40	
Smithers & Son, putty	5 00	2,410 45
<i>Main-à-Dieu.</i>		
J. Bowser, contract	1,750 00	
C. Garth & Co., lantern	253 08	
Smithers & Son, putty	5 00	
E. Chanteloup, lamps	185 52	2,193 60
<i>Pugwash.</i>		
J. B. Read, contract	1,111 75	
J. Seaman, site	100 00	
H. W. Johnston, expenses	26 50	
C. Garth & Co., lantern	229 99	
E. Chanteloup, lamps	120 75	1,588 99
<i>Sissiboo.</i>		
J. Holdsworth, contract	788 75	
C. Garth & Co., lantern	237 90	
E. Chanteloup, lamps	118 87	1,145 52
<i>St. Ann's.</i>		
J. Bowser, materials and labor	187 35	187 35

PARTICULARS of Expenditure on account of Lighthouse, &c.—*Continued.*

<i>Sable Island.</i>		
E. Chanteloup, lantern.....	1,298 11	
do dioptric light.....	288 90	
J. Hawes & Co., cement.....	600 74	
To pay on account, buildings.....	1,190 41	3,378 16
<i>Mahone Bay.</i>		
L. Knaut, expenses.....	9 50	9 50
BUGYS AND BEACONS.		
J. Kendrick, Barrington.....	210 52	
R. McNeil, Ingonish.....	20 00	
W. Hutcheson, Canso.....	60 00	
H. Peich, do.....	100 00	
G. S. Peart, Guysboro'.....	20 00	
D. Marchand, Arichat.....	131 60	
J. A. Fraser, Carey's Shoal.....	112 56	
C. Muggah, Sydney.....	40 00	
L. Kavanagh, Nagshead Shoal.....	21 00	
M. Walsh, Roaring Bull Rock.....	50 00	
H. G. Pineo, Pugwash.....	20 50	
W. Nickerson, Port La Tour.....	22 07	
W. S. Symonds & Co., Anchors.....	83 04	
A. McKay, Buoys.....	597 15	
W. Caldwell, Ironwork.....	31 83	
Fraser, Reynolds & Co., Chain.....	94 81	
Wesses Lodge Beacon.....	476 44	2,091 52
SIGNAL STATIONS.		
Expenses for year ended 30th June, paid to J. K. Gould, Control Department..	1,620 80	1,620 80

SUBDIVISIONS of Amount Expended on Account of Sick and Disabled Seamen for
Year ended 30th June. 1871.

	\$ cts.	\$ cts.
Hospital, Halifax	2,464 63	
Expenses at Arichat	268 00	
Pictou	824 84	
Cow Bay	151 48	
Baddeck	35 50	
Annapolis	136 30	
Port Hawksbury	38 19	
Crow Harbor	4 00	
La Glace Bay	80 00	
Lockport	9 50	
North Sydney	135 00	
Pugwash	15 30	
Cape Canso	47 00	
Halifax	29 50	
Port Caledonia	305 39	
Windsor	7 28	
Walton	46 90	
Lunenburg	136 00	
Pubnico	7 50	
Cheverie	89 75	
Liverpool	510 04	
Port Medway	60 75	
Lahave	26 70	
Port Hood	182 00	
Hantsport	31 50	
Cape Negro	71 50	
Sydney	22 00	
Ratchford River	40 00	
		6,375 65

SUBDIVISION of Amount Expended on Account of Distressed Seamen for Year
ended 30th June, 1871.

	\$ cts.	\$ cts.
Subsistence	245 23	
Conveyance	456 96	
Clothing	123 80	
Difference of currency on deposit account, Board of Trade	13 70	
		839 69

SUBDIVISION of Amount Expended on Account of Salaries and Contingencies of
Marine and Fisheries Office, Nova Scotia, for Year ended 30th June, 1871.

	\$ cts.	\$ cts.
Pay List	2,367 12	
Messenger's wages	102 72	
Printing and binding	123 50	
Stationery	54 31	
Contingencies	87 17	
Pigeon hole presses	21 40	
Superannuation deduction from Pay List	98 63	
		2,854 85

SUBDIVISION of Amount Expended, on Account of Dominion Steamers, for Year ended 30th June, 1871.

STEAMER "LADY HEAD."	\$ cts.	\$ cts.
<i>Expenditure from 1st January to 30th June, that for the previous six months being chargeable to Marine Police.</i>		
Pay list	4,090 32	
Provisions	1,183 86	
Coal	1,115 61	
General Disbursements	3,013 57	
Repairs	4,096 51	
		13,499 87

SUBDIVISION of Amount expended, on Account of Fisheries, for Year ended 30th June, 1871.

	\$ cts.	\$ cts.
W. H. Rogers's salary	789 03	
do disbursements and travelling expenses	250 00	
W. H. Venning, on account of expenses	237 25	
Salaries of Wardens and Overseers	6,074 33	
Disbursements do	1,588 41	
Commission for collecting tax on Fishing Licenses	43 40	
Superannuation deducted from W. H. Roger's salary	32 88	
		9,035 30
FISH BREEDING AND FISHWAYS.		
Salaries of Acting Overseers for Halifax and Pictou Counties		501 50
		9,536 80

SUBDIVISION of Amount Expended, on Account of Marine Police, for the Year
ended 30th June, 1871.

		\$	cts.	\$	cts.
STEAMER "LADY HEAD" (to 1st January, 1871).					
Pay list		4,804	21		
Provisions		1,507	47		
Coal		1,409	98		
General disbursements		1,499	00		
Repairs		307	13		
				9,527	79
SCHOONER "IDA E."					
Charter		1,573	54		
Pay list		2,263	96		
Provisions		297	70		
General disbursements		211	35		
				4,256	55
SCHOONER "SWEEPSTAKE,"					
Charter		1,351	79		
Pay list		2,344	24		
Provisions		660	17		
General disbursements		657	35		
				5,013	55
SCHOONER "S. G. MARSHALL."					
Purchase		2,775	95		
Boats		102	00		
Pay list		481	16		
Provisions		75	70		
General disbursements		771	09		
				4,205	90
MARINE POLICE.					
Capt. Scott's salary		410	96		
Boat		60	00		
Uniforms		346	35		
Disbursements		89	52		
				906	83
				23,910	62

PARTICULARS of Expenditure on Account of Miscellaneous, for year ended
30th June, 1871.

	\$ cts.	\$ cts.
Gratuities to families of wrecked Schooner, "Ocean Traveller".....	1,600 00	
Gratuities to three men frost bitten and injured in attempting to land supplies at Flint Island	600 00	
Medical expenses, etc., on account of above.....	350 00	2,550 00
<i>Investigation of Wrecks.</i>		
J. Mitchell, on account expenses.....	100 00	
L. J. Burpe, services	40 00	140 00
<i>Examination of Masters and Mates.</i>		
Captain Scott, salary	526 02	
Captain Scott, disbursement and travelling expenses.....	159 78	
To furnish office	180 60	
Superannuation deducted from Captain Scott's salary	21 92	
Captain Pritchard, expenses.....	30 40	918 12
		3,608 12

**STATEMENT of the Receipts of the Nova Scotia Branch of the Department of
Marine and Fisheries for the year ended 30th June, 1871.**

		LIGHTHOUSE AND COAST SERVICE.			
		<i>Sable Is'and.</i>		\$ cts.	\$ cts.
1870.					
Sept. 8....	Sales, Cranberries, 1869, amount received, September, 1870		599 73		
	do Ponies		360 39		
	do Oil, etc.		63 74		
1871.					
May 10....	do Cranberries		85 15		
June 30....	Share proceeds, "Alecto"		393 43		
	do "M. & F. Robbins"		65 53		
	Sale Cranberries		280 42		
					1,850 39
		L. H. & C. S.			
May 11....	Sale empty Oil Casks		146 90		
					146 90
		DOMINION STEAMERS.			
		<i>Steamer "Druid."</i>			
1870.					
July 15....	Sale old boat		22 00		
					22 00
		FISHERIES.			
1871.					
April 22....	Fishery fines		161 94		
					161 94
		CASUAL REVENUE.			
April 12....	Sale old boiler tubes and damaged provisions		85 92		
					85 92
		SUPERANNUATION TAX.			
		L. H. & C. S. Salaries	665 64		
		Sable Island do	14 60		
		M. & F. Office do	98 63		
		Fisheries do	32 88		
		Examination of Masters and Mates	21 92		
					833 76
					3,100 91

APPENDIX No. 6

REPORT OF THE NEW BRUNSWICK BRANCH OF DEPARTMENT OF MARINE AND FISHERIES, FOR THE YEAR ENDED 30TH JUNE, 1871.

Sir,—I have the honor of reporting upon the operations of this branch of the department for the year ended 30th June, 1871.

Light House and Coast service,

The Lighthouses under the management of this department have all been regularly visited by the inspector.

The supplies were forwarded in good season and at a moderate expense.

From various sources I am informed that the lights are well and carefully maintained, giving great satisfaction to the vast number of persons trading along the different coasts where these lights are exhibited.

Since last Report a Lighthouse has been erected at Caraquet Island, at a cost of five hundred and forty-seven $\frac{77}{100}$ dollars (\$547 77); one at Dalhousie at a cost of eight hundred and thirty-six dollars and thirty-two cents, (\$836 32), and two minor lights at Bathurst costing six hundred and ninety-three dollars and sixty-six cents, (\$693 66). At Grand Lake a small Lighthouse has also been erected at a cost of four hundred dollars (\$400 00), which was lighted on the third of May last.

These additions to this branch of the service have proved a protection to life and property, reducing the disasters to both, meanwhile stimulating the coasting trade of the Provinces, which within the past few years, has been expanding and growing at a much greater ratio than at any time previous.

The selection of the sites on which you have caused the buildings to be erected is such as commands the unqualified approval of men who have had the largest and best experience in the Marine Service.

There are still other localities where lights are much needed.

That necessity, I know, has not been overlooked by you; one of those localities and a very important one too, is that of Cassie's Point, for which the contract is already given, and the building is now in course of erection. This is a position of the first importance to the large and extensive trade of the Strait of Northumberland and the Port of Shediac, the present terminus of the European and North American Railway, and also the Port of call and discharge of the different steamers plying in the Gulf.

There are other positions which it is to be hoped will not be long without such a requisite protection to life and property, and the trade of which sections of our Province is of such magnitude as to require all the guides and safeguards that can be furnished. Among these I may be permitted to name that of the Gully at the Southern entrance to Shippegan Harbor, respecting which you directed me to make enquiries. The importance of this channel to the large class of hardy fishermen who follow this branch of industry, and use that channel so largely in going to and from the fishing grounds, can scarcely be overated. As the water is not deep, great care must be employed in making the harbor, especially in a storm, even during daylight.

Some years ago I was called upon as the Coroner of that district to hold an inquest on the bodies of three brothers, who in attempting to enter this Gully in a Southerly storm, from the want of a proper land mark to guide them safely into the harbor, touched on one side of the channel, and their boat was upset. The three found a watery grave. A Lighthouse erected on the inside island would be a guide by day as well as by night, and would without doubt, stimulate, the trade of that important district, while furnishing at the same time a means of protecting life.

The same remarks are applicable to the different gullies on that coast, among which

I may mention those at Tracadie, Tabusintac and Neguac. The most important of these gullies is that of Shippegan; the next is that of Neguac.

The Lighthouses recently erected on the southern Wolf and Bliss Islands are most important additions in the Bay of Fundy. In connexion with this I may be allowed to introduce the following communication, though coming to hand at a date in advance of that covered by this report.

ST. JOHN, N.B., Dec. 27th, 1871.

MR. HARDING,

"SIR,—On passing down the Bay of Fundy on the 15th Decemeber, in the ship *Juventa*, of Liverpool, at 6 p.m., when off Point Lepreau, bearing N.N.W., distance six miles, I sighted a light bearing west from the ship. I at once pronounced it to be the Southern Wolfe Light, having heard of the proposition for having it lighted. I expected to find it either a flash or revolving light, but as I approached proved to be a plain fixed white light. I presumed that there must be some mistake in the arrangement, as there are several lights of that description in that locality, viz.:—Point Lepreau, Swallow's Tail, Head Harbor, and West Quoddy. I observed on the same night for the first time that Bliss Island Light was lighted, which showed a fixed red light. I thought at the time that it was well placed, and would be found very useful. On the 18th December, when coming up the Bay of Fundy in the Barque *Fanny Atkinson*, at 4 o'clock p.m., Bliss Island bore N. by E., distance eight miles, Wind E.S.E. It was with considerable difficulty that I could discern the Lighthouse from the snow-covered hills, but from my knowledge of the shape of the land and principal hills, I managed to do so; it shut down thick snow and commenced to blow, barometer ranged at 29°, and I bore away for Bliss Island Light, knowing that it would be lighted after dark. We made the light at 6 p.m., thereby getting safely into Bliss Harbor to an anchor, and all aboard feeling that Bliss Island Light, that night had done its duty. Had we been compelled to stay outside that night we could not have kept the ship off the shore.

Yours respectfully,

(signed) SAMUEL RUTHERFORD,
Branch Pilot, St. John, N.B.

The erection of a Light tower with a medium sized flash or revolving light, on Cape Spencer, Bay of Fundy, would prove to be of great benefit to vessels navigating the Bay. The locality is admirably adapted for the erection of a light, and easily accessible.

OIL.

The oil used at the different Lighthouses is obtained from the wells of Upper Canada, and appears to be quite as good as the ordinary samples I have seen from that section.

During the summer, few complaints were made against its burning qualities, but since the cold weather has set in, some difficulty has been encountered and dissatisfaction expressed. The keepers complain that during moderately cold weather the oil congeals to such an extent as to make it very difficult to keep the light burning, and in some cases impossible.

I have not seen a test of these oils, but it is quite clear that their specific gravity is below that which should be used in the winter time. Quite a different grade of oil can be used and will burn freely in the summer time from that which is necessary in exposed places during the winter season.

This, I have no doubt, is one of the most difficult questions with which the Department has to deal. Greater care is now perhaps given to testing the oil as to its explosive character than as to its illuminating qualities, where the benzole is separated from the

oil, which is not difficult in the course of distillation. There is but little danger of any of the Canadian oils being explosive.

A much heavier grade of oil can be used in the summer and prove to be a good illuminating oil, and can be used in the winter in these exposed places. If a *certain proportion* of the oils to be delivered were of a lighter specific gravity, to be used after the cold weather sets in, an uniform light would be preserved, and the difficulties now complained of would be obviated.

Iron tanks have been supplied to all the Lighthouses by which means a great saving of oil has been effected.

A personal supervision has been maintained by the Inspector over the buoys and beacons at the several ports, as well as the marine hospitals, who reports both these branches of the service in an efficient state.

The full particulars of the cost of maintenance of the Lighthouse, fog whistles, buoys, and beacons, hospitals, and wrecked seamen are given in detail in the appendix hereto annexed for the financial year ended 30th June, 1871.

I have the honor to be, Sir,

Your most obedient servant,

J. H. HARDING,

*Agent, Department of Marine and Fisheries
for New Brunswick.*

Hon. P. MITCHELL,
Minister of Marine and Fisheries.

STATEMENT of Expenditure on Account of Lighthouse and Coast Service in New Brunswick, for the Year
ended 30th June, 1871.

TO WHOM PAID.	SERVICE.	\$	cts.	\$	cts.	\$	cts.
<i>Salaries and Allowances of Lighthouse Keepers.</i>							
E. Ross.....	For salary as keeper of Beacon Light, St. John.....			400	00		
	Repairs and supplies do.....			192	10		
J. Coughlan.....	Salary as keeper of Oak Point Lighthouse, Miramichi.....			100	00		
	Repairs and supplies do.....			46	50		
T. Lewis.....	Salary as keeper of Preston's Beach Lighthouse.....			100	00		
	Repairs and supplies do.....			7	75		
G. Rogers.....	Salary as keeper of Fox Island Lighthouse.....			200	00		
	Repairs and supplies do.....			442	01		
J. Henneberry.....	Six month's salary as keeper of Cape Enrage Lighthouse.....			200	00		
	Repairs and supplies do.....			36	61		
Geo. Tingley.....	Six months' salary as keeper of Cape Enrage Lighthouse.....			200	00		
C. Theal.....	Salary as keeper of Oak Point Lighthouse, St. John.....			80	00		
	Repairs and supplies do.....			4	05		
T. Kerr.....	Salary as keeper of Caraguet Island Lighthouse.....			163	40		
	Repairs and supplies do.....			769	56		
W. Hay.....	Salary as keeper of Escuminac Point Lighthouse.....			400	00		
	Repairs and supplies do.....			168	56		
W. B. McLaughlin.....	Salary as keeper of Gannet Rock Island Lighthouse.....			840	00		
	Repairs and supplies do.....			695	25		
J. Clark.....	Salary as keeper of Grindstone Island Lighthouse.....			400	00		
	Repairs and supplies do.....			164	76		
F. Russell.....	Salary as keeper of Grant's Beach Lighthouse.....			100	00		
	Repairs and supplies do.....			7	75		
J. N. Williams.....	Salary as keeper of Green Head Island Lighthouse.....			80	00		
J. R. Snell.....	do do Head Harbor Lighthouse.....			400	00		
	Repairs and supplies do.....			107	00		
E. Buzza.....	Salary as keeper of No Man's Friend Lighthouse.....			80	00		
J. McConnell.....	do do Miscou Lighthouse.....			500	00		
	Repairs and supplies do.....			179	75		
J. H. Hagan.....	Salary as keeper of Oromocto Shoals Lighthouse.....			80	00		
	Repairs and supplies do.....			10	00		
G. Thomas.....	Salary as keeper of Point Lepreaux Lighthouse.....			400	00		
	Repairs and supplies do.....			139	12		
A. Reed.....	Salary as keeper of Partridge Island Lighthouse.....			500	00		
	Repairs and supplies do.....			882	74		
J. Davidson.....	Salary as keeper of Portage Island Lighthouse.....			200	00		
	Repairs and supplies do.....			75	40		

W. Love	Salary as keeper of Quaco Lighthouse	400 0
F. Richards	Repairs and supplies do	267 46
J. Bent	Salary as keeper of Richibucto Lighthouse	160 00
J. W. Cauldfield	Repairs and supplies	16 00
J. Hendrickson	Salary as keeper of Cape Jourmain Lighthouse	200 00
G. A. Pendlebury	do do Sand Point do	80 00
	do do Shediac Island do	200 00
	do do St. Andrew's do	300 00
J. Kent	Repairs and supplies do	126 67
J. Conolly	Salary as keeper of Swallow Tail Lighthouse	400 00
J. D. Wilmot	Repairs and supplies do	248 43
J. H. Crosby	Salary as keeper of Machias Seal Island Lighthouse	664 00
	Repairs and supplies do	461 71
W. Gallant	Salary as keeper of Wilmot's Bluff Lighthouse	80 00
J. Wilson	Engineer, Fog Whistle, Point Lepreaux, to 31st March	300 00
W. Cameron	Repairs and supplies do	1,596 90
L. Arsineaux	Engineer, Fog Whistle, Point Lepreaux, to 30th June	100 00
W. Y. Cox	Salary as Engineer of Partridge Island Fog Whistle	400 00
J. Harley	do Assistant do do	240 00
do	Repairs and supplies do	1,438 29
	One-half month's salary, Dalhousie Light	30 00
	do do Cox's Point	12 75
	Twelve month's salary as Inspector	1,200 00
	Account, travelling expenses	350 00

13,630 83

63

BUOYS AND BEACONS.

Miramichi.

H. Kelly	For new buoys	60 00
F. Martin	Buoy Service	98 00
J. Wills	do	16 00
B. Poirier	do	14 00
G. W. Smith	Paid sundry persons	12 00
J. F. Kay	Painting	14 00
C. Sargeant	Chains	57 24
D. Creighton	Hooping	30 00
A. Yeates & Son	Iron	9 30
M. M. Sergeant	Sundries	16 00
A. McEachern	Laying down buoys	180 00
J. Harley	Stering	32 00
S. Wolf	Removing buoy	8 00

546 54

Caraquet.

R. Young	For lifting buoys, &c.	29 43
do	Placing do	57 70
A. Yeats & Son	Chain	37 55

124 68

STATEMENT of Expenditure on Account of Lighthouse and Coast Service in New Brunswick, &c.—*Continued.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Richibucto.</i>			
J. B. Foster.....	For sundry work		200 01	
	<i>St. George.</i>			
G. Holland	For taking up buoys	22 00		
W. McLeod	do do	14 00		
C. Grearson	do do	12 00		
do	Putting down nine buoys	75 00		
A. Campbell	Taking up buoys	16 00		
J. Fisher	do do	16 00		
do	Putting down four buoys	35 00		
J. Campbell	Sundry work	19 00	209 60	
	<i>St. Stephen.</i>			
Z. Chapman	For lifting, placing and repairing buoys		97 62	
	<i>Dalhousie.</i>			
D. Stewart	Sundries		129 14	
	<i>St. Andrews.</i>			
W. Whitlock	For taking up and putting down buoys		102 97	
	<i>Shippegan.</i>			
W. Taylor	For laying buoys, &c.		130 54	

<i>Buctouche.</i>			
J. Geddes.....	For removing wreck.....	40 00	
H. B. Smith.....	Buoy service.....	20 00	
do.....	do.....	37 00	
J. Ferguson.....	do.....	139 49	236 49
<i>Bay Verte.</i>			
W. Harper.....	For buoy service.....		15 00
<i>Bell Buoy St. John Harbor.</i>			
J. King.....	For boating.....	25 30	
W. Lewis.....	Repairs.....	19 85	
Blacketer & Whitnock.....	Painting.....	14 32	59 47
<i>Reed's Point Beacon Light.</i>			
Gas Company.....	For Gas Bill for Twelve months.....	60 00	60 00
CONSTRUCTION.			
<i>Bathurst Minor Lights.</i>			
E. Chanteloup.....	For lamps reflectors, &c.....	157 36	
Wm. Thomson.....	Contract.....	450 00	
T. DeBrisay.....	Drawing Lease of land.....	11 86	
L. H. Napier.....	Expenses in connection with sounding in consequence of Channelshifting.....	64 30	683 66
<i>Dalhousie Light.</i>			
S. McGregor.....	For account of Contract.....	500 00	
C. Garth & Co.....	Lantern, reflectors, &c.....	206 67	
J. Hawes & Co.....	Plate Glass.....	60 22	
E. Chanteloup.....	Lamps, circulars, &c.....	217 28	
A. S. Wallace.....	Freight.....	41 06	
J. Harris.....	Stove, &c.....	45 29	
S. McGregor.....	Sundry Expenses.....	10 91	1,081 43

1,911 46

STATEMENT of Expenditure on Account of Lighthouse and Coast Service in New Brunswick, &c.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
	<i>Cox's Point Light.</i>			
Clark & Stackhouse	For Contract	495 00		
E. Chanteloup	Reflector, &c.	103 10		
J. R. Cameron & Co.	Wicks, &c.	9 25		
			607 35	
	<i>Cape Jourimain.</i>			
W. H. Tuck	To pay M. Allen for land for construction of Lighthouse	200 00		
John Duffy	Freight of lantern	100 00		
Jas. A. Mahood	Survey and plans	62 00		
W. H. Tuck	Professional services	28 34		
Jas. W. Harper	Petty Accounts	280 02		
			670 36	
	GENERAL ACCOUNT.			3,042 60
Prowse Bros.	For Oil Tanks		735 00	
Clark & Francis	Oil		1,205 52	
J. Livingston	Printing and advertising		131 43	
J. Letson	Freight		14 63	
J. Haws and Co.	Oils, paints, &c.		780 70	
C. A. Robertson	Truckage		8 50	
Willis & Davis	Advertising		47 72	
Millock & Jordan	Freight on paints and oil		33 50	
E. & N. A. Railway	Freight on oil		29 50	
W. & J. Anslow	Advertising		59 00	
W. M. Smith	Testing Oil		19 00	
J. Anderson	Gauging oil		29 40	
J. King	Boating supplies		22 20	
J. A. Mahood	Sundry drawings		14 00	
Estate of S. Walker	Oil cans, &c.		27 34	
J. & T. McAvity	Hardware		20 26	
J. Brown	Freight		15 15	
W. H. Tuck	Drawing Deed		5 50	
Millock & Jordan	Rent of Storehouse		41 67	
J. J. Munroe	Office desk		12 00	
J. Bullimer	Surveying sites for lights		10 00	
"Religious Intelligencer"	Advertising		6 00	

"Church Witness".....	do	5 00	
E. Chanteloup	Lamps, chimneys, wicks, &c.....	209 75	
Fitzpatrick Bros.....	Storing oil.....	40 52	
D. Maine.....	Advertising.....	4 50	
F. A. Fitzgerald & Co.....	Oil.....	1,300 32	
R. E. Call.....	Freight	71 81	
J. R. Cameron	Chimneys, &c.....	6 35	
Lussier & Co.....	Advertisements.....	16 72	
G. W. Smith	Sundry petty disbursements	99 58	
			5,022 57
			28,607 66

APPENDIX No. 7.

STATEMENT of Expenditure on account of Dominion Steamers for year ended 30th June, 1871, and also of Subsidies paid for Steam Communication.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
<i>Napoleon III.</i>				
Capt. E. Gourdeau.....	For twelve months' wages as Captain.....	800 00		
J. U. Gregory.....	do do of Officers and Crew.....	5,098 11	5,898 11	
J. Eden.....	Provisions.....	73 10		
J. Archambault.....	do.....	282 93		
L. Arel.....	do.....	872 61		
J. C. Nolan.....	do.....	849 89		
L. Glass.....	do.....	52 30		
L. Marois.....	do.....	174 01		
M. Laflamme.....	do.....	157 61		
D. McCallum.....	do.....	15 90		
R. Shaw.....	do.....	23 04		
A. Goldstein.....	do.....	10 00		
E. Powell.....	do.....	8 20		
O. Lemieux.....	do.....	60 08		
M. Paradis.....	do.....	47 67		
L. Arel.....	do.....	117 40		
			2,744 74	
John Hill.....	Compass, glass, &c., &c.....	110 75		
S. O. Leary.....	Cement.....	167 32		
Grenier and Parent.....	Water casks.....	13 90		
A. Le Moine.....	5% on Captains Salary to "Decayed Pilots' Fund.....	40 00		
Capt. Gourdeau.....	Pilotage.....	100 00		
H. Rouillard.....	Washing and mending.....	103 12		
J. U. Gregory.....	Labor, coaling, cartage, &c., &c.....	408 34		
Acadia Coal Company.....	Coals.....	247 50		
Crawford & Son.....	do.....	525 00		
I. M. Tardivel.....	Paint, &c.....	5 50		
J. Gaudry.....	Ship Stores.....	144 65		
A. Hamel & Sons.....	do.....	75 12		
			2,001 20	
J. U. Gregory.....	Wages of workmen at repairs.....	3,195 30		
L. Gagné.....	Repairs, wages of workmen and materials, &c.....	1,562 70		

H. Dinning.....	do	Docking and undocking, materials, &c.....	510 12		
J. Plante.....	do	Painting.....	52 38		
R. Neil.....	do	Boiler plate, Angle iron, and wages of workmen.....	2,135 40		
H. S. Scott.....	do	Sundries.....	24 63		
G. Bissett.....	do	Metal bushes, &c., &c.....	487 50		
S. Peters.....	do	Deck plank, &c.....	1,216 52		
Trudel & Voyer.....	do	Sundries.....	126 00		
G. T. Phillips.....	do	Pumps, sea cocks, and blow off, &c.....	257 90		
C. Le Mesurier.....	do	Sundries.....	23 10		
S. Bedard.....	do	do	137 92		
B. Huot.....	do	do	50 00		
John Flett.....	do	do	44 00		
P. Whitty.....	do	Drilling and cutting iron, tools, &c.....	787 37		
Trudell & Campbell.....	do	Iron davits, &c.....	172 15		
H. Fitzhenry.....	do	Sundries.....	20 00		
C. & U. Wurtle.....	do	do	56 05		
S. Duffit.....	do	do	15 00		
R. Blakiston.....	do	Hatch covers, storm jibs, &c.....	106 43		
Carrier, Paine & Co.....	do	Use of lathe, planer, &c., and materials.....	311 58		
J. O. Donahoe.....	do	Sundries.....	7 50		
R. & S. Armstrong.....	do	do	24 00		
J. Boivin.....	do	do	9 62		
Ryerson & Powell.....	do	do	14 00		
Gulf Ports S. S. Company.....	Wheelgear	do	48 00		
R. McDonald.....	Repairs	do	75 00		
				11,470 77	
G. Couture.....	Watchman.....		91 33		
J. Blais.....	Wintering.....		50 00		
J. Laird.....	Wharfage.....		20 00		
Grand Trunk Railway.....	Freight charges.....		158 47		
St. Lawrence Tow Boat Company.....	Ferriage of materials.....		43 61		
Allan, Rae & Co.....	Freight.....		139 84		
T. H. Oliver.....	Use of Dock.....		408 00		
J. U. Gregory.....	Sundry Accounts.....		331 21		
				1,242 46	
					23,357 28
<i>Druid.</i>					
Capt. A. Marmen.....	Twelve months' wages as Captain.....		800 00		
J. U. Gregory.....	do do of Officers and Crew.....		3,953 10		
				4,753 10	
A. Marmen.....	Disbursements.....		286 65		
L. Arel.....	Provisions.....		733 03		
L. Marois.....	do.....		104 48		
T. K. Laflamme.....	do.....		128 72		
J. C. Nolan.....	do.....		326 89		
E. Powell.....	do.....		18 20		
R. Shaw.....	do.....		17 68		
				1,615 65	
U. C. Adams.....	Coals.....		120 00		
C. Porter.....	do.....		393 25		

STATEMENT of Expenditure on account of Dominion Steamers, Subsidies, &c.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
<i>"Druid,"—Continued.</i>				
Acadia Coal Co.....	For Coals.....	321 75		
H. Rouillard.....	Washing and mending.....	103 20		
C. Sullivan.....	Water tanks and chain.....	105 00		
A. Le Moine.....	5% on Captains Salary on account "Decayed Pilots Fund".....	40 00		
Capt. A. Marmen.....	Pilotage.....	100 00		
T. H. Oliver.....	Docking and wintering.....	400 00		
Hamel & Brothers.....	Stores.....	67 46		
Str. "Kate".....	Towage.....	10 00		
St. Lawrence Tow Boat Company.....	do.....	25 00		
Grand Trunk Railway.....	Freight.....	210 26		
Middletown & Dawson.....	Stationery.....	35 07		
J. Campbell.....	Plan of boiler.....	10 06		
J. Landry.....	Wages as Watchman.....	80 00		
Quebec Towing Co.....	Towage.....	40 00		
John Laird.....	Wharfage.....	25 50		
G. T. Cary.....	Advertising.....	11 44		
J. J. Foot.....	Stationery.....	8 42		
A. Côté.....	Advertising.....	7 20		
J. U. Gregory.....	Labor, coalage, cartage and Petty Expenses.....	293 14		
do.....	Wages of workmen, making repairs.....	2,393 28	2,406 69	
L. Gagné.....	Repairs, wages, wages of workmen and materials.....	1,320 90		
J. Trudel.....	do Wages of workmen, working Iron and Brass.....	306 70		
G. Bisset.....	do Steam chest, valves, cocks, &c., furnace bars, &c.....	1,410 86		
Trudel & Voyer.....	do Sundries.....	70 72		
G. T. Phillips.....	do Pump, plumbing, &c.....	524 34		
S. Peters.....	do Lumber, &c.....	286 70		
S. Bédard.....	do Sundries.....	74 39		
J. Racine.....	do do.....	26 13		
A. J. Venner.....	do do.....	48 00		
R. Neil.....	do Work on new boiler.....	850 00		
C. & U. Wurtle.....	do Iron and rivets.....	378 90		
Ross & Co.....	do Sundries.....	84 43		
J. M. Tardivel.....	do Painting.....	113 89		
A. Mulholland.....	do Sundries.....	16 50		
J. Racine.....	do do.....	60 90		
G. T. Railway.....	Freight tubs.....	80 75		
C. Samson.....	Repairs.....	42 59		
J. Bowen.....	do.....	16 01		

J. Marmen.....	Cartage of material.....	47 13	8,681 28	17,456 72
H. Dining.....	Sundries.....	41 72		
J. U. Gregory.....	Sundry accounts.....	386 41		
"Lady Head," from 1st January to 30th June.				
Capt. P. A. Scott.....	For salary for months of January and February.....	205 48	3,683 30	
H. W. Johnston.....	Wages of officers and crew, from 1st January to 30th June.....	3,477 82		
J. F. Phelan.....	Provisions.....	61 65	5,588 14	
James Scott.....	do.....	228 39		
Lockhart & McLeod.....	do.....	47 44		
Lordly & Stimpson.....	do.....	503 15		
W. H. Naufts.....	do.....	60 89		
F. W. Fishwick.....	do.....	73 27		
H. Montgomery & Co.....	Repairs to boiler.....	749 91		
W. S. Symonds & Co.....	do engine, &c.....	2,408 82		
J. Hunter.....	do do.....	583 37		
H. Cook.....	Sundries.....	67 50		
G. Matson.....	Wages of workmen.....	128 00		
J. E. Lawler & Co.....	Sundries.....	87 78		
Capt. Scott.....	Wages of workmen.....	248 01		
J. E. Butler.....	Sundries.....	29 70		
J. Hogan & Son.....	Lumber.....	106 14		
J. Bowser.....	Sundries.....	63 75		
O. C. Herbert.....	do.....	35 77		
J. Duff.....	do.....	34 66		
S. W. Marvin.....	do.....	69 94		
H. W. Johnston.....	Wages of workmen.....	67 75		
T. & S. Dewolf.....	Cement.....	59 40		
Acadia Coal Co.....	Coals.....	965 35		
M. Phelan.....	Coaling.....	58 48		
T. D. Corbett & Co.....	Coals.....	35 00		
Acadia Coal Co.....	do.....	49 30		
J. P. Mott.....	Tallow.....	103 86		
J. Stairs.....	Olive Oil.....	131 83		
Fraser, Reynolds & Co.....	Rubber packing.....	46 20		
do do.....	Olive oil, &c. &c.....	199 47		
G. Matson.....	Extra pay list of crew for trip to Sable Island.....	142 62		
J. J. Scriven.....	Bread.....	78 80		
Dixon Bros.....	Boat.....	80 00		
J. Melvin.....	Buckets.....	9 60		
T. Pocham.....	Sail-making.....	21 71		
H. E. Kinney.....	Table-linen.....	12 92		
J. E. Butler.....	Oars.....	16 35		
J. Brandon.....	Wheel.....	25 12		
D. Murphy.....	Painting.....	20 00		
Capt. Scott.....	Disbursements.....	358 89		
P. Shields.....	Blacksmith's work.....	14 87		

STATEMENT of Expenditure on Account of Dominion Steamers, Subsidies, &c.—Continued.

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
<i>"Lady Head."—Continued.</i>				
J. Paul.....	For Anchor, chain, &c.....	40 45		
Black Bros. & Co.....	Ship chandlery.....	421 24		
do.....	do.....	282 13		
J. & R. Seaton.....	Freight.....	59 99		
J. R. Jennett & Co.....	Glassware.....	39 39		
M. S. Brown.....	Cutlery.....	20 88		
R. Pickford.....	Rope, &c.....	87 98		
J. Stairs.....	Hardware.....	13 39		
J. J. Scriven.....	Bread.....	27 45		
Black Bros. & Co.....	Lines, lead, &c.....	16 26		
J. T. Wylde.....	Use of Marine Railway.....	204 30		
Duffus & Co.....	Blankets, &c.....	23 20		
Kent & Melvin.....	Water.....	11 00		
J. A. Nickerson.....	Pilotage.....	11 00		
T. Wells.....	Washing.....	10 07		
H. W. Johnston.....	Sundry accounts to sundry persons.....	462 18		
			4,228 43	
<i>General Account.</i>				
John Haws & Co.....	For Paints and oil.....	1,909 60		
do do.....	New boiler, tubes, etc., etc.....	2,433 33		
do do.....	New machinery.....	2,433 33		
do do.....	do do flns, etc.....	973 33		
do do.....	do do do.....	1,460 81		
do do.....	Cotton waste, etc.....	48 58		
A. H. Murphy.....	355½ chaldrons coal at \$4 25.....	1,510 16		
C. Poston.....	473 do do \$4 22½.....	1,998 42		
C. Harrison.....	439 do do \$3 41.....	1,497 70		
Acadia Coal Co.....	120 do do \$2 25.....	270 00		
J. Eden.....	Freight on do.....	210 00		
G. W. Laird & Co.....	Provisions.....	776 34		
A. Lemieux.....	do.....	107 86		
Gregory & Young.....	do.....	95 40		
M. Paradis.....	do.....	43 60		
Roch & Stanley.....	do.....	37 50		
Dion & Dubeau.....	do.....	31 33		
W. R. Brodie.....	do.....	32 70		
M. Paradis.....	do.....	37 62		
				13,499 87

J. Johnston	do	21 81	
H. Paré	do	64 92	
J. A. Malloux	do	60 78	
Carrier & Dixon	do	22 00	
Steamer "Kate"	Towage	45 00	
H. Bradley	Firewood	51 60	
A. Trudel	do	12 60	
Belanger & Gariépy	Paint, etc.	20 59	
J. Eden	Rent of wharf for coals	85 00	
J. Archer	Lumber for wharf	99 00	
J. Eden	Receiving and delivering coals	31 00	
J. Gaudry	Ship stores	48 21	
S. Bedard	Stove pipes, etc., etc.	9 94	
N. Turcot	Rockets	14 60	
J. Boivin	Paint	25 00	
T. Levesque	Receiving and delivering supplies	65 00	
G. Bissett	Sundry repairs	28 91	
J. U. Gregory	Witness fees re suit ship "Victoria"	67 80	
John Lane	Moorage of vessels discharging coal	43 50	
W. Barbour	Services as consulting Engineer to 30th June	40 00	
J. J. Foot and others	Printing and Stationery	40 00	
J. U. Gregory	Sundry accounts	295 14	
			17,100 21
<i>Office Expenses.</i>			
J. U. Gregory	For twelve months' salary as Manager	1,200 00	
E. E. Buteau	do	600 00	
S. G. DeLisle	Stationery	28 25	
U. Gregory	Petty disbursements	54 59	
			1,882 84
			73,296 92
			360 01
			72,936 91

STATEMENT of the Expenditure on account of Dominion Steamers, Subsidies, &c.—*Continued.*

TO WHOM PAID.	SERVICE.	\$ cts.	\$ cts.	\$ cts.
RECAPITULATION.				
	Steamer "Napoleon III."	23,357 28		
	" " "Druid"	17,456 72		
	" " "Lady Head"	13,499 87		
	General Account	17,100 21		
	Office Expenses	1,885 79		
	Less difference of Currency		73,299 87 360 01	
				72,939 86
SUBSIDIES.				
Quebec and Gulf Steamship Company...	For Maintenance of Steam Communication between Quebec and the Maritime Provinces	15,000 00		
Prince Edward Island Steam Navigation Company	Maintenance of Steam Communication between Prince Edward Island and Pictou, Nova Scotia	1,600 00		
	Less conversion of Currency		16,600 00 42 66	
				16,557 34

Appropriation	\$73,300 00
Expenditure	72,939 86
Lapsed	\$360 14

JOHN TILTON,
Accountant.

WILLIAM SMITH,
Deputy of the Minister of Marine and Fisheries.

APPENDIX No. 8.

REPORT OF MARINE HOSPITALS AT ST. JOHN AND ST. ANDREW'S, N. B. FOR THE YEAR ENDED 30TH JUNE, 1871.

The Commissioners of Marine Hospitals for the Port of Saint John, New Brunswick, respectfully present their Annual Report of the Hospitals under their charge for the year ending 30th June, 1871,—and reference is requested to the Medical Officer's Returns as to the nature of diseases and disposal of cases in the "Kent Hospital." And your Commissioners have satisfaction in reporting that the Hospitals under their trust command their approval—being conducted in the best order conducive to treatment and comfort of sick and disabled seamen—and will favorably compare with any similar institutions elsewhere.

At the "Kent Hospital" on the 1st July, 1870, there remained ten (10) seamen under medical treatment. One hundred and nineteen (119) new cases were admitted, making one hundred and twenty-nine (129) during the year. Of this number, five (5) died, five (5) left without regular discharge, one hundred and eleven (111) discharged and eight (8) remained in the Hospital.

At the "Pest House" on Partridge Island, from 2nd May to 15th June, four (4) cases of small pox were admitted, one from the city and three from quarantine, all of whom were discharged free from inspection.

The quarterly accounts of expenditure with vouchers and receipts from your Department have been duly endorsed, and now submit their Annual Account for the year ending 30th June, 1871, amounting to the sum of four thousand and twenty-six $\frac{41}{100}$ dollars (\$4,026.41), the like sum being promptly received in quarterly payments from your Department, this year showing two hundred and sixteen $\frac{15}{100}$ dollars (\$216.15) less than the previous year's expenditure.

New roofing required for the old buildings and other slight repairs have been attended to, placing the buildings and grounds in good serviceable order for all present requirements.

The old fence on the southern front will require renovation, and when finished will place the enclosed grounds in good condition.

All of which is respectfully submitted.

JOHN WARD, WILLIAM DOHERTY, C. McLAUCHLAN, JOHN WISHART.	}	Commissioners.
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Hon. PETER MITCHELL,
Minister of Marine and Fisheries,
Ottawa, Canada.

Report of Marine Hospital, St. Andrew's New Brunswick.

SIR,—I have the honor to forward you my Annual Report, as Medical Superintendent of this Hospital for the year ended June 30th, 1871.

During the above annual period, eleven cases were admitted. One aged seamen died from general bodily infirmities, and one remained over in Hospital, the rest were discharged cured.

Six seamen were attended and prescribed for, outside the Hospital, making seventeen cases in all.

The treatment of patients varied from three days to twelve weeks.

The Keeper (Mrs. Day) was paid for nearly twenty-four weeks, boarding and nursing inmates.

The admissions for Hospital relief do not appear to increase *pari passu* with the tonnage of the county, referable, as I before remarked to many of the owners thereof, preferring to be treated at their own homes, which fact confirms the belief that the average expenditure of the Hospital will not be exceeded under the present circumstances.

The situation and accomodations of this Hospital render it pecuiliary adapted for invalids, and infirm and aged seamen, many of whom, unfit for duty, remain over in the larger Marine Hospitals of the Dominion, and at certain seasons occupy room, which should be devoted to really urgent cases. I would therefore respectfully recommend to your notice, the advisability of utilizing it as an "Invalid Marine Hospital" for Nova Scotia, perhaps, as well as New Brunswick.

Expenditure.

To quarter ending	September 30th, 1870.....	\$174 93
"	" December 31st, 1870.....	112 36
"	" March 31st, 1871	151 37
"	" June 30th, 1871	145 41
		<hr/>
		\$584 07

Receipts.

By cash per G. W. Smith, Esq., agent to Department of
Marine and Fisheries at St. John, N. B., for the
above quarterly sums, respectively\$584 07

I have the honor to be, Sir,

Your obedient servant,

S. T. GOVE,
Medical Superintendent Marine Hospital.

HON. PETER MITCHELL,
Minister of Marine and Fisheries.

APPENDIX No. 9.

REPORT OF COMMISSIONER OF MONTREAL WATER POLICE, FOR YEAR ENDING 30TH JUNE, 1871.

OFFICE, COMMISSIONER DOMINION POLICE,
MONTREAL, 31st October, 1871.

Acting under the instructions contained in your letter of the 23rd instant, calling for a report of the operations of the Montreal Water Police for the year ended 30th June, 1871, in order that it may be placed in the hands of the printer, to lay before Parliament when it assembles, together with a statement of expenditure &c., &c., during same period, I have the honor to submit a return shewing the number of persons arrested, and a statement showing the amount of pay and contingent expenses incurred by that body during the fiscal year referred to.

The force, consisting of the authorized number, viz:—one Chief Constable, four Sergeants, and twenty Men, were duly sworn in, on 11th April, 1870 (under the Act 31st Victoria, chap. 73), that being the period at which the navigation of the St. Lawrence commenced.

Prior to this date, it consisted of a chief and four sergeants, upon whom devolved the whole duty necessary to be carried on during the winter months, the nature of which has been truly set forth in previous reports.

The total number of individuals arrested for various offences was five hundred and sixty, the number arrested last year was three hundred and eighty, showing an excess of one hundred and eighty, or an increase of two hundred and forty over the two preceding years.

The number of unfortunate, needy and destitute, who were protected and temporarily sheltered, was two hundred and twenty-four, six less than last year.

Notwithstanding that every precaution has been taken to guard against accidents, twenty-eight persons perished by drowning in the river and canal; while one individual committed suicide by plunging into the canal. Fifty-seven were saved from a watery grave, making a total of eighty-six persons, had not the latter number (fifty-seven) been rescued, they would in all probability have been drowned.

A large number of persons who were severely injured by accidents, either on ship-board or on the wharves, were conveyed to the General Hospital and several to their domiciles. The Department of Marine and Fisheries, on the matter being laid before it, was pleased to authorize the purchase of a stretcher—strongly called for by the medical faculty; and while it has relieved the patient of the additional suffering caused by the former method of transportation, it has enabled the police to convey them more carefully and expeditiously. It was not deemed necessary to keep a record of these cases, as when once removed from the place of accident, the police take no further cognizance of the matter.

During the year, sixty-seven seamen have been arrested for desertion. The greater number were committed to gaol, there to remain during the period their vessels continued in port, and, when ready to sail, they were again placed on board their respective crafts.

A very important office connected with the river police, is the superintending and maintaining order amongst the crews. Attending on the arrival and at the departure of all passenger steamers and boats of which there are a great number, and in many, acting as ferry boats, their trips are frequent.

There have been held an unusual number of Coroners' inquests on persons drowned, or who had come to their death by accident on the wharves. These deaths occur from various unpreventable causes, such as falling from bowsprits and yards into barges along-

side, or on to the deck ; runaway horses, collisions, exhaustion, &c., &c. One man met an extraordinary death—he had fallen asleep on the top of a large load of grain, which was being emptied by the elevator, and gradually, as it was taken up, he insensibly glided until he was drawn to the vortex by the suction, and before he could be unburied—being completely covered by the grain—and extricated, he was suffocated. It is necessary that the police, who were concerned in such cases, should be in attendance at the inquest to give evidence, &c.

There have occurred during the fiscal year, but two cases of vessels on fire. In each the Water Police gave the alarm, and the fires were extinguished before much damage was done.

As you must be aware, the labors of such a force are never ending, and comprise almost every phase of duty appertaining to their calling. Scarce a day passes but they are summoned to quell disturbances between captains or officers and their men, and in the execution of their duty, are often severely wounded. In most instances, the seamen are under the influence of liquor, stimulating their passions and rendering the office of intervention one of considerable peril. It will be readily understood that men who are placed in such situations have to be chosen as well for courage and firmness, as for judgment and discretion.

Seamen drunk and disorderly have to be conveyed to the Police Station, and during the time of transition, the chances are, other offences are being committed on their unprotected beats demanding immediate attention.

I would here again revert to the impossibility of efficiently affording the necessary protection the shipping interests demand, with the present number of men. The Department doubtless is aware that the vessels using the port have greatly increased, as well in number as in tonnage, creating of course a much larger amount of traffic. The river side buildings and population have very much multiplied, but no addition has been made to the number of the men ; on the contrary, two years ago the Police were reduced from thirty-eight to twenty-five, all told, a number quite insufficient to give that heedfulness, the exigencies of the docks require.

If the Honorable Minister of Marine and Fisheries would be again pleased to give the matter consideration, he will perceive that their being necessarily two reliefs, one of ten men per day and the other moiety for night duty, these must again be sub-divided into sections of five men, one section being on the docks, &c., and the other at the station. There is, therefore, for upwards of three miles of wharfage, densely crowded by vessels and barges, but one sergeant and five men, and it is to be borne in mind that during the greater part of the busiest portion of the day, at least two, if not all, are absent, conveying their prisoners to the station ; and next morning they have to appear with the parties arrested at the Police Court, and there await their turn for a hearing. It is unnecessary to enter into minor details, but I should consider myself wanting in my duty, did I not strongly bring to the notice of the Department the fact, that the number of men comprising the Montreal Water Police, is quite inadequate to afford the due and proper protection demanded by the port, for life as well as for property, and it behoves me the more to urge the Honorable the Minister of Marine and Fisheries, inasmuch as the subject matter has been pressed on me time after time by petitions, &c., from the merchants, shipowners, and other interests, as well as by the press of this city, so far without success ; but it is to be hoped with your earnest co-operation, that the Honorable Minister will be induced to grant such an increase, as may, under the circumstances, by him, be deemed expedient.

While upon the subject I would take the liberty of representing that the present rate of pay of these men, viz :—one dollar per diem, is so insufficient as to render it impossible to do more than supply their families with a scanty subsistence. In this city the necessities of life, of all kinds, have advanced from fifteen to thirty per cent. Wages in every description of labor as in other callings, have proportionably advanced ; but not in their case ; moreover, the employment is not continuous, for as you are aware, the men are disbanded in the winter season, and the idea that they can support a family, during the winter months, by the savings from wages that barely provide food in summer, is

fallacious. To exemplify this fact, I find it impossible to fill the vacancies open by resignation from the above causes.

The shipowners, merchants and inhabitants, of Longueuil, a municipality situated opposite to the eastern portion of the harbor of Montreal, have made repeated demands for protection, which I could not grant, on the arrival of the ferry boats and other vessels at this side, claiming as a right, that the River Police should do duty there also. The Department may not be aware that the traffic between Montreal and the other side of the river, is very great and very rapidly enlarging. The municipality itself is used as a summer resort by the citizens of Montreal; while it is from Longueuil, the city is principally supplied with hay, straw, cattle, horses, &c., and every description of produce, collected there for transhipment here. Constant altercations take place on reaching this side between the excited drivers, and when their loads have been disposed of, and they are preparing to return, a rush is made to get first on board, for the next trip. It can readily be imagined the wrangling and quarrelling between twenty and thirty antagonistic carters, for precedence, and the danger arising from their struggles, not only to themselves but to the passengers and bystanders. In the summer months, the continuously running ferry boats, crammed with hundreds of passengers to the very water-edge, are without anyone to preserve order either at arrival or departure, and in the event of loss of life, it would be a serious reflection that no provision could be made for the preservation of peace and quiet in this great thoroughfare.

The Chief of Police, when considered necessary, furnishes me with special reports (in addition to the usual daily one), but as these reports relate to executive rather than to general matters, they are here only cursorily referred to.

The present station is, as before submitted, not at all adapted to the purpose to which it is applied, the cells and guard-room being damp and unhealthy.

Every facility, during the season, was afforded for the carrying out of the Fishery Laws, and the suppression of illegal fishing, as well as the sale of fish so caught.

The total amount of pay and contingent expenses, for the fiscal year, is nine thousand six hundred and seventeen dollars and seventeen cents, made up as follows viz:--

Pay	\$7701 00
Contingent Acct., Fuel, Rent, Gas &c.	856 92
Clothing	1059 25
	<hr/>
	\$9617 17

Fines levied by the Police Magistrate are collected by the Clerk of the Peace, at the Police Court, and do not pass through my hands.

In conclusion, I have again the pleasure of begging your acceptance of my thanks for the continued courteous attention and prompt action which has so pre-eminently marked the transactions through you with the Department of Marine and Fisheries, and which it has been my endeavour to emulate in the conduct of the affairs of the Montreal Water Police under your control.

I have the honor to be, Sir,
Your very obedient Servant,

CHAS. J. COURSOL,
Commissioner, Dominion Police.

To WILLIAM SMITH, Esq.
Deputy Minister Marine and Fisheries, Ottawa.

RETURN shewing the number of Prisoners arrested by the Montreal Water Police, for the Fiscal Year ending
30th June, 1871.

	Cutting and Wounding.	Assault and Battery.	Assaulting and Resisting the Police.	Obtaining Money by False Pretences.	Picking Pockets.	Embezzlement.	Threatening to set fire to a House.	Drunk.	Drunk and Disorderly.	Drunk and Disorderly on board Ship.	Sailors Deserting their Ships.	Sailors Refusing Duty on board Ship.	Larceny on the Wharves.	Fighting on the Wharves.	Vagrancy.	Attempt to Commit Suicide.	Sailors absent without leave.	Crimping Seamen.	Cruelty to Animals.	Carters impeding on the Wharves.	Carters, Furious Driving.	Bathing opposite the City.	For Protection.	Total.
July .....1870	9							34	9	4	21	14	10	1	6	2	4	3		5			17	139
August.....,,	2	1						23	10	3	10	10	4	2	10					12		3	14	94
September..,,		3	2	1	1			19	3	1	7		5	2							1		9	54
October,,	1				2			18	9	3	1		10	2	3		1		1				10	61
November...,,		6	2			1		33	6	15	3	6	27	2			1		2		1		21	126
December ..,,		2						1					1										4	8
January ....1871							1		1						1								8	11
February...,,									2						1								7	10
March,,															1								28	29
April,,						1		5				1								2			32	41
May,,			4					14	6	1	11	1	2	3	6							5	46	99
June,,		2	2	1				25	4	3	16	4	13	4	1			2		2		5	28	112
	3	23	10	2	3	2	1	172	50	30	60	36	72	16	29	2	6	5	3	11	2	13	224	784

MONTREAL,
24th October, 1871.

JOHN McLAUGHLIN,
Chief Constable, Montreal Water Police.

RETURN shewing the amount of Pay and Contingent Expenses incurred by the
Montreal Water Police, for the Fiscal Year ending 30th June, 1871.

Month.	Amount of Pay.	Contingent Account : Rent, Fuel, Gas, Water, &c.	Clothing.	Total.	Remarks.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	
July 1870	883 50	139 74	.....	
August... .. "	883 50	43 02	.....	
September..... "	840 00	17 45	.....	
October "	883 50	140 63	.....	
November "	837 00	40 27	.....	
December "	245 10	25 43	183 00		
January 1871	260 40	152 14	.....	
February..... "	235 20	30 99	.....	
March "	260 40	12 50	.....	
April..... .. "	652 00	96 66	.....	
May "	868 40	33 90	.....	
June..... .. "	852 00	124 19	876 25		
	7,701 00	856 92	1,059 25	9,617 17	

JOHN McLAUGHLIN,

Chief Constable, Montreal Water Police.

MONTREAL,
27th July, 1871.

APPENDIX No. 10.

REPORT OF CHIEF OF QUEBEC RIVER POLICE, FOR THE YEAR ENDED 30TH JUNE, 1871.

QUEBEC, 7th December, 1871.

SIR,—I have the honor to enclose my Annual Report for the fiscal year of 1871, with a statement of the number of persons arrested by the Quebec River police force, their offence, and their nationality.

I have the honor to be, Sir,

Your most obedient servant,

R. H. RUSSELL,

Chief, River Police.

The Annual Report of the Quebec River Police, for the fiscal year 1871.

QUEBEC, 7th December, 1871.

The Quebec River Police consists of one Chief whose pay is \$800 per annum.

Two coxswains, \$1 40 each per day.

Twenty-two Constables \$1 10 each per day.

One steersman, in charge of police yacht, \$1 80 per day.

One engineer of steam yacht \$50 per month.

One of the above constables is employed as a detective in the shipping office, to keep order among seamen and crimps, and other duties required relating to the office, frequently other police constables have to be called in.

The steam yacht with a crew of six constables, the steersman and engineer is constantly on duty during the whole day among the shipping, and when required they have only to make "signal for police," which promptly brings the police yacht, or a police boat alongside the ship.

The steam yacht is seldom on duty during the night, as her movements after night-fall would only be a warning for crimps to run for the shore.

The night duty is performed by the three six-oared boats, the crew of the steam yacht being transferred to one of the boats for night duty.

The police execute all warrants on both sides the river and coves, from the lower ballast ground below Indian Cove to Cap Rouge, about thirteen miles.

They also go in search of stolen timber and boats, and timber and boats lost from ships or booms, and when found these are generally towed back to the ships or to the police dock.

Four hundred and thirty seamen and others have been arrested during the season of navigation.

A statement showing the number arrested, their offence and nationality, is herewith enclosed.

The act for more effectively preventing the desertion of seamen in the port of Quebec which came into force last April, has enabled me to check crimping, crimps have been arrested and punished for loitering in their boats alongside of ships, or going on board without permission, they now seldom attempt it, they employ runners, who induce seamen to accompany them in their boats, and who are not aware of the severe punishment that awaits them if arrested, and in several cases these runners have been convicted and severely punished.

R. H. RUSSELL,
Chief, River Police.

A list shewing the number of persons arrested by the Quebec River Police force, their offence, and nationality, during the season of navigation of the fiscal year of 1871.

Desertion	57
Absence without leave	160
Refusal of duty	60
Warrants for assault, &c.	33
Assaults by captains on crew	3
Assaults by chief mates on crew	2
Captains assaulted by crew	5
Chief mates assaulted by crew	3
Refusal to proceed to sea	4
Drunk and fighting on board	11
Drunk on wharves and streets	29
Thefts on board ship	4
Stabbing and cutting with knife	4
Neglecting to join ship	14
Detaining seamen's effects	2
Harboring deserters	2
Stealing timber	4
Crimps or their runners loitering alongside ships	7
Crimps or runners going on board without permission	12
Embezzlement of cargo	1
Stowaway on board steam ship	1
Throwing stones in street	3
Exposing person	1
Unnatural crime	1
Highway robbery at Prescott Gate, "\$1900"	1
Shot at with revolver three times, and wounded with intent to kill, by crimps, runner	1
Warrants of commitment	2
Setting fire to a bateau	2
Deserting parents, Montreal	1
Total	430

Nationality.

England.....	89
Scotland.....	101
Ireland.....	110
France.....	5
Norway.....	22
Sweden.....	14
Canada.....	24
Prussia.....	3
Wales.....	18
Germany.....	4
Denmark.....	4
United States.....	12
Nova Scotia.....	2
New Brunswick.....	4
Portugal.....	1
Belgium.....	4
Spain.....	1
Finland.....	2
Australia.....	1
West Indies.....	5
Cape of Good Hope.....	3
Jersey.....	1
Total.....	430

R. H. RUSSELL,
Chief, River Police.

WM. SMITH, Esq.,
 Deputy of Minister of Marine and Fisheries, Ottawa.

APPENDIX No. 11.

STATEMENT OF EXPENDITURE ON ACCOUNT OF MONTREAL AND QUEBEC RIVER POLICE, FOR THE YEAR ENDED 30TH JUNE, 1871.

MONTREAL WATER POLICE.		\$ cts.	\$ cts.
C. J. Coursol	Pay list for 1 Chief Constable, 4 Sergeants and 20 men from 1st July to 30th November	4,327 50	
do	Pay list, 1 Chief Constable, and 4 Sergeants from 1st December to 31st March	1,001 10	
do	Pay list, 1 Chief Constable, 4 Sergeants, and 20 men from 1st April to 31st May	1,520 40	
do	Balance of appropriation to pay on account of June pay list	265 27	
			7,114 27
Montreal Water Co	Twelve months' tax to 1st May, 1871		28 30
Montreal Post Office ...	Postage		18 19
George Busy	Rent of Station (12 months)		360 00
City Gas Co	Gas bill		51 80
Mary Smallman	Meal to destitute prisoners		19 51
John Keely and others ..	Fuel		105 00
John McLaughlin	Petty expenses of Station		59 47
H. Lavender and others..	Clothing for men		183 00
John Lovell	Montreal Directory		6 00
do	Dominion do		12 00
Montreal Herald	Subscription (12 months)		16 00
John Parslow	Stationery		8 13
			7,981 67
Sundry persons	Sundry accounts		48 33
			8,030 00

Expenditure by Department of Marine and Fisheries on account of the Quebec River Police, for the Year ended 30th June, 1871.

		\$ cts.	\$ cts.
B. H. Russell.....	Twelve months' salary as Chief	768 00	
J. U. Gregory	do wages of men.....	6,259 46	
Hamel Bros.....	Clothing.....	870 02	
R. H. Russell.....	Shoes.....	57 50	
Renfrew & Marcox.....	Caps.....	56 25	
Middleton & Dawson.....	Stationery.....	13 15	
T. Reynolds.....	Clearing snow.....	10 00	
R. H. Russell.....	Coach hire, meals for prisoners.....	21 77	
E. E. Buteau.....	Petty expenses, cartages, telegrams, &c.....	14 61	
J. Bradley.....	Wood.....	32 40	
J. J. Foot.....	Printing, &c.....	29 26	
J. J. Shaw.....	Nails, chimneys, &c.....	8 88	
T. Dunbar.....	Professional services.....	5 00	
			8,146 30
POLICE STEAMER "DOLPHIN."			
L. Gagné.....	Repairs.....	250 98	
J. U. Gregory.....	Wages of workmen.....	130 48	
Fullerton & Alexander.....	Repairs.....	10 00	
G. T. Phillips.....	do	119 11	
G. Bissett.....	do	24 92	
J. Gaudry.....	Ship chandlery.....	50 19	
J. Arel.....	Tallow, etc.....	53 73	
Frudel & Boyer.....	Paint, etc.....	43 53	
J. T. David.....	Wages.....	50 00	
E. Blackston.....	Flag.....	8 00	
L. Peters.....	Lumber.....	18 75	
Hamel Frères.....	Cotton duck.....	47 32	
W. Crawford & Sons.....	Coals.....	16 00	
C. Poston.....	do	149 50	
Gibb, Laird & Co.....	do	176 29	
A. Mullholland & others.....	Sundries.....	43 63	
			1,192 43
Receiver General.....	Superannuation tax taken off Salary of R. H. Russell.....	32 00	
			9,370 73

Statement of Receipts of the Montreal Water Police, for the Fiscal Year ended the 30th June, 1871.

	\$ cts.	\$ cts.
Receipts for Quarter ended 30th September, 1870.....	1,985 77	
do do 31st Décembre, 1870.....	1,195 26	
do do 30th June, 1871.....	951 30	
		4,132 33

Statement of Receipts of the Quebec Water Police, for the Fiscal Year ended the 30th June, 1871.

	\$	cts.	\$	cts.
Receipts for Quarter ended 30th September, 1870.....	7,751	34		
do do 31st December, 1870.....	2,233	17		
do do 30th June, 1871.....	7,118	22		
				17,102 73

RECAPITULATION.

	\$	cts.	\$	cts.
Total Receipts at Montreal.....	4,132	33		
do do Quebec.....	17,102	73		
				21,235 06

JOHN TILTON,
Accountant.

WILLIAM SMITH,
Deputy of the Minister of Marine and Fisheries.

APPENDIX No. 12.

STATEMENT of Expenditure on account of Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, for year ended 30th June, 1871.

		\$	cts.	\$	cts.
PROVINCE OF NEW BRUNSWICK.					
<i>Marine Hospital, St. John.</i>					
L. B. Botsford	12 months' salary as Physician	560	00		
G. I. Harding	12 months' salary as Physician of Pest House	100	00		
Rev. W. Armstrong	12 months' salary as Chaplain	100	00		
Charles Ward	12 months' salary as Secretary	400	00		
J. Bryden	Bread	106	50		
W. Bookhaut	Meat	165	30		
Jardine & Co	Groceries	202	55		
T. Davidson	Milk and Straw	18	04		
Milton Barnes	Repairs, Nursing, &c. &c.	168	16		
Berton, Brothers	Wine, &c.	32	65		
R. P. McGivern	Coal	104	44		
P. Riley	Wood	57	40		
Water Commissioners	Water Tax and Supply	50	00		
Gas Company	Gas Bill	54	30		
Ann Kempson	Washing	58	70		
John Sears	Drugs	77	89		
R. A. Moore	Coffins	18	00		
C. E. Burnham	do	8	00		
J. Burke	Hearse	16	50		
G. S. Smith	Lots or Burial Fees	4	00		
F. Clarke	Gardener	120	00		
T. Campbell	Repairs	39	22		
R. P. & W. F. Starr	Coal	143	71		
J. & F. Burpee	Hardware	31	31		
John Doherty	Gardener	20	00		
Beard & Venning	Sheeting	35	01		
Alex. McAlister	Wood	8	60		
C. A. Barnes	Nurse Wages and Board	288	00		
C. Ward	Insurance	32	00		
J. White	Gardener	75	00		
D. McKnight	Whitewashing	26	20		
C. Ward	Pottery, &c.	38	48		
B. Doherty	Nurse, Pest House	54	26		
	Salary of Steward, 12 months	300	00		
	Salary of Matron, 12 months	80	00		
	Wages of Cook do	48	00		
	Board allowance for Steward	73	00		
	Board allowance for Matron	78	00		
R. A. Moore & others	Sundry items	248	19		
				4,036	41
<i>Marine Hospital, Miramichi.</i>					
P. Lawlor	Boarding and attendance on Sick Seamen	596	52		
J. Thompson	12 months' salary as Physician	200	00		
Gilmour Rankin & Co	Coal	20	80		
W. Mason & others	Sundry accounts	88	74		
				906	06
<i>Marine Hospital, Buctouche.</i>					
F. W. Pouliot, medical attendance to 31st December				55	00
<i>Marine Hospital, Bathurst.</i>					
Expenses of sick seamen				90	39

STATEMENT of Expenditure on account of Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, &c.—Continued.

		\$ cts.	\$ cts.
<i>Marine Hospital, Hillsboro'</i>			
Expenses of sick seamen			154 70
<i>Marine Hospital, Shediac.</i>			
Expenses of sick seamen			103 00
<i>Marine Hospital, Harvey.</i>			
Expenses of sick seamen			119 57
<i>Marine Hospital, Hopewell.</i>			
Expenses of sick seamen			50 00
<i>Marine Hospital, Kingston, Kent.</i>			
Expenses of sick seamen			123 93
<i>Marine Hospital, Richibucto.</i>			
Expenses of sick seamen			75 60
<i>Marine Hospital, St. Andrews.</i>			
S. T. Gove, twelve months' salary		200 00	
Mrs. Day, wages, matron		208 00	
Expenses on account of sick seamen		176 07	
			584 07
<i>Distressed Seamen.</i>			
Captain McLean, expenses of distressed seamen		73 81	
do do do		14 66	
J. Conley, do do		129 00	
			217 47
PROVINCE OF NOVA SCOTIA.			6,516 13
J. H. Liddell	For expenses of sick and disabled seamen at <i>Halifax</i> , during the year ended 30th June, 1871	2,464 63	
S. Donaven	For expenses of sick and disabled seamen at <i>Arichat</i> , during the year ended 30th June, 1871	268 00	
D. McCulloch	For expenses of sick and disabled seamen at <i>Pictou</i> , during the year ended 30th June, 1871	299 84	
W. W. Brown	For expenses of sick and disabled seamen at <i>Cow Bay</i> , during the year ended 30th June, 1871	751 48	
W. Kidston, junr.	For expenses of sick and disabled seamen at <i>Baddock</i> , during the year ended 30th June, 1871	35 50	
J. B. Tobias	For expenses of sick and disabled seamen at <i>Annapolis</i> , during the year ended 30th June, 1871	136 30	
M. McDonald	For expenses of sick and disabled seamen at <i>Port Hawksbury</i> , during the year ended 30th June, 1871	38 19	
M. Sullivan	For expenses of sick and disabled seamen at <i>Crow Harbor</i> , during the year ended 30th June, 1871	4 00	
C. Rigby	For expenses of sick and disabled seamen at <i>Little Glace Bay</i> , during the year ended 30th June, 1871	80 00	
J. Starkey	For expenses of sick and disabled seamen at <i>Lockport</i> , during the year ended 30th June, 1871	9 50	
T. L. Bown	For expenses of sick and disabled seamen at <i>North Sidney</i> , during the year ended 30th June, 1871	135 00	

STATEMENT of Expenditure on account of Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA.— <i>Continued.</i>		\$ cts.	\$ cts.
J. McNab	For expenses of sick and disabled seamen at <i>Pugwash</i> , during the year ended 30th June, 1871	15 30	
W. J. Begelon	For expenses of sick and disabled seamen at <i>Cape Canso</i> , during the year ended 30th June, 1871	47 00	
D. McKeen	For expenses of sick and disabled seamen at <i>Caledonia</i> , during the year ended 30th June, 1871	305 39	
E. O. Brine	For expenses of sick and disabled seamen at <i>Windsor</i> , during the year ended 30th June, 1871	7 28	
A. Mc. N. Parker	For expenses of sick and disabled seamen at <i>Walton</i> , during the year ended 30th June, 1871	46 00	
E. Dowling	For expenses of sick and disabled seamen at <i>Lunenburg</i> , during the year ended 30th June, 1871	136 00	
P. D. Entrement	For expenses of sick and disabled seamen at <i>Pubnico</i> , during the year ended 30th June, 1871	7 50	
T. A. Malcolm	For expenses of sick and disabled seamen at <i>Cheverie</i> , during the year ended 30th June, 1871	89 75	
J. H. Freeman	For expenses of sick and disabled seamen at <i>Liverpool</i> , during the year ended 30th June, 1871	510 04	
J. J. Letson	For expenses of sick and disabled seamen at <i>Port Medway</i> , during the year ended 30th June, 1871	60 75	
J. Harley	For expenses of sick and disabled seamen at <i>Lahave</i> , during the year ended 30th June, 1871	26 70	
F. D. Tremaine	For expenses of sick and disabled seamen at <i>Port Hood</i> , during the year ended 30th June, 1871	182 00	
W. Davison	For expenses of sick and disabled seamen at <i>Hantsport</i> , during the year ended 30th June, 1871	31 50	
W. A. Perry	For expenses of sick and disabled seamen at <i>Cape Negro</i> , during the year ended 30th June, 1871	71 50	
F. F. Hatfield	For expenses of sick and disabled seamen at <i>Ratchford River</i> , during the year ended 30th June, 1871	40 00	
C. E. Leonard	For expenses of sick and disabled seamen at <i>Sydney</i> , during the year ended 30th June, 1871	22 00	
Board of Health, Pictou	Expenses of sick seamen	525 00	
V. J. Wallace	Conveyance of sick seamen	15 75	
D. Gossip	Expenses at Halifax	5 00	
P. Taple	Boarding sick seamen	12 50	
H. W. Johnston	Conveyance of sick seamen	10 00	
A. Case	Boarding sick seamen	3 50	
Drs. Parker and Cowie	Attending sick seamen	4 00	
Dr. Moran	do do	5 00	
Dr. Jennings	do do	2 00	
<i>Distressed Seamen.</i>			6,403 90
H. W. Johnston	Subsistence of seamen	47 45	
W. J. Beck	Shipwrecked seamen	12 30	
.....	Conveyance from St. Thomas to Halifax	2 25	
P. Taple	Subsistence of seamen	10 40	
D. Hunter	Conveyance of seamen	9 00	
T. E. Moberly	do do	3 75	
M. McDonald	Expenses at Port Hawksbury	17 35	
D. Bird	Subsistence of seamen	1 50	
C. Stewart	Travelling expenses to C. B.	16 00	
G. A. Black	Conveyance, &c. of seamen	87 00	
T. Ward	Boarding seamen	40 00	
• Capt. Gallant	Conveyance of seamen	30 00	
T. Webb	Boarding seamen	98 50	
P. Grant & Co	Clothing seamen	123 80	
N. S. Railway	Conveyance of seamen	70 00	
J. & R. L. Seaton	do do	32 12	
P. S. Lindsay & Co	do do	47 02	
A & H. Creighton	do do	15 00	
H. W. Johnston	Sundry expenses, passages, &c	147 40	
			811 44
			7,215 34

STATEMENT of Expenditure on account of Sick and Disabled Seamen, and Shipwrecked and Distressed Seamen, &c.—Continued.

PROVINCE OF QUEBEC.				\$ cts.	\$ cts.
Collector, Rimouski	Expenses of seamen			63 70	
do Amherst	do do			5 50	
do NewCarlisle	do do			10 20	
do Gaspé	do do			54 25	
do Chicoutimi	do do			47 00	
do NewCarlisle	do do			55 90	
J. G. Barry	do do			16 00	
Dr. V. Martin	do do			3 00	
A. Pitl	Maintenance of seamen			55 58	
J. Fraser	do do			114 00	
J. C. Belleau	do do			37 00	
A. Ferguson	Expenses of sick seamen at Montreal Hospital			1,824 00	
Grey Nuns	Caring do at Ottawa			32 00	
					2,318 13
<i>Distressed Seamen.</i>					
Board of Trade, Eng- land	Expenses in connection with the rescue of Schooner "Wasp"			80 00	
J. W. Dunscomb	Expenses in connection with the rescue of Schooner "Wasp"			80 00	
W. Moore	Passage to Nova Scotia			12 00	
					172 00
					2,490 13

RECAPITULATION.

Sick and disabled seamen, New Brunswick	6,298 66	
do do Nova Scotia	6,403 90	
do do Quebec	2,318 13	15,020 69
Sick and distressed seamen, New Brunswick	217 47	
do do Nova Scotia	811 44	
do do *Quebec	172 00	1,200 91
Less difference of Currency, Nova Scotia account		16,221 60
		191 92
		\$16,029 68

* Sick and Disabled Seamen at the Port of Quebec are cared for in the Marine and Emigrant Hospital which is under the supervision of the Department of Agriculture. This accounts for the expenditure in the Province of Quebec appearing so much smaller than in Nova Scotia and New Brunswick.

WILLIAM SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,

Accountant.

APPENDIX No. 13.

The Honorable P. MITCHELL,
Minister of Marine and Fisheries.

FIRST REPORT OF THE METEOROLOGICAL OFFICE OF THE DOMINION OF CANADA, BY G. T. KINGSTON, M. A., ACTING SUPERINTENDENT, PRESENTED JANUARY, 1872.

I shall preface this report with a few remarks on the general objects of a meteorological system, and on the nature of the organization required to effect these objects. A brief sketch of the progress and present condition of the organization now in operation will then be given, with a statement regarding the measures proposed to give it greater extension and efficiency, and finally a few tables will be added, shewing some of the results derived from the stations in correspondence with this office.

OBJECTS OF A METEOROLOGICAL SYSTEM.

(1). The collection of trustworthy meteorological statistics, and their arrangement in forms convenient for application to the solution of either strictly climatic questions or of other questions into which climate enters as an element.

(2). The combination of the materials gathered from numerous places in a series of years so as to exhibit for every locality the average value of each element, the average frequency of each kind of phenomenon, the average periodic variations, whether annual or diurnal, the secular changes if any, the average non-periodic variability, and the average mutual dependence of the several elements and phenomena.

(3). From the ordinary mutual dependence of elements and phenomena which experience reveals, the next step is to seek to determine, in individual cases, the conditions which will most probably follow any actual observed combination of circumstances; or in other words, to prognosticate coming weather.

The agencies needed for effecting the objects just named, are as follows:—

I. A central meteorological office, with a normal observatory attached to it.

II. A few chief stations whose observations may be sufficiently frequent and continuous and prolonged to furnish materials for computing the constants needed for reducing observations made at the ordinary stations in their respective districts.

III. Several observing and reporting telegraph stations, from which reports are made by telegraph to the central office.

IV. Several receiving and publishing telegraph stations, from which facts or opinions sent by telegraph from the central office, are communicated to the inhabitants of the neighborhood.

V. A large number of ordinary stations.

I.—*The Central Meteorological Office.*

The functions of this office are as follows:—

(1). To exercise, by a visitation and correspondence, a general supervision over all meteorological stations that receive any aid whatever from the Dominion Government, as well as other private observers who may voluntarily place themselves in connexion with it.

(2). To advise observers in the selection of their instruments, and the methods of observation, to issue forms for registration, and to determine the times for reporting.

(3). To receive and compile meteorological returns and to publish them, or deductions from them, from time to time.

(4). To receive telegraphic weather reports from telegraph stations, and to dispatch to distant points, by wire, the aggregate of facts so collected or opinions founded thereon.

An important service rendered by the central office is to promote the efficiency and utilize the labors of private observers, who form the majority of workers, and without whom it would not be practicable to make meteorological observations co-extensive with the requirements of the science.

For want of a common centre, much labor is often expended unproductively; indeed, cases occur where records kept for twenty or thirty years have proved to be of very inferior value through defects in instruments, or systematic faults in the modes of observation.

II.—*Chief Stations.*

The primary function of what I have termed chief stations, is to furnish the observations whereby may be computed the corrections for diurnal variation and non-periodic variation. These corrections are required in order that by their aid the comparatively scanty observations made for a few years only at ordinary stations may be rendered comparable with those which are taken frequently, and for a long series of years.

To carry out this primary object the following arrangements are necessary:—

(1). The meteorological elements may be recorded by a continuous automatic process, or the observations must be made day and night, at equal intervals not greater than three hours.

(2). The observations must be continued for a long series of years, although it is not necessary that they should be taken with equal frequency through all time. It would be sufficient to persevere in the short intervals for five years and then pursue a less onerous system, the short intervals being again taken up some years later.

There should be three or more chief stations in each Province; and in the more distant Provinces of New Brunswick, Nova Scotia, and Manitoba, it is requisite that one of the superintendents should be, as it were, an agent for the central office to give assistance in distributing instruments and materials, &c.

The essential duties of the superintendent of a chief station will only occupy a portion of his time; but in consequence of their distribution through the day, he would need the partial services of two, or at least one assistant.

In order to insure the regularity and constancy which are essential to the observations, it would be requisite to attach stipends to the offices of superintendents and assistants at chief stations; but, as these officers are expected to have other sources of income, the stipend need not be large. If, to the duties of a chief station, those of a telegraphing reporting station, or those of a receiving and publishing telegraph station be added, the aggregate of work will be very heavy, and (if the station be commercially an important one) enough to take up the whole time of at least two persons.

III.—*Reporting Telegraph Stations.*

The duty of the superintendent of a reporting telegraph station is to telegraph to the central office certain meteorological facts at regular stated hours, and at extra hours when necessary. As the omission or delay in sending messages seriously disarranges the whole system, it is obviously necessary to secure constancy and punctuality by giving a salary to the superintendent; and as an inexpensive precaution against his unavoidable absence a trifling allowance might be given to one or two persons on condition of their keeping up an acquaintance with the observations, a small fund being attached to each station to cover the cost of giving further remuneration to them when their services are needed.

IV.—*Receiving and Publishing Telegraph Stations.*

These will differ greatly in the extent of their operations and in the cost of their support. The most simple example is where the duty of the person in charge is confined

to hoisting a cautionary signal when directed to do so from the central office, or to write some short notice received by telegraph.

The extent of the labors of other receiving stations will differ from one another chiefly on account of comparative commercial importance, but much, also, in the number of stations for which it may be convenient for them to receive reports from the central office. This, again, will depend on their situation with reference to the telegraphic circuits; thus, the facts observed simultaneously at forty stations, and sent from Toronto through a certain circuit, may be received, if desired, at all the telegraph offices along the line, so that the number of receiving stations may be indefinitely extended, without materially increasing the cost of telegraphing.

In order to form a judgment as to the probable cost of maintaining reporting telegraph stations, and receiving and publishing stations, it will be necessary to compare briefly the leading features of different systems of telegraphy.

In England the duty of the observer is to telegraph to London the uncorrected readings of his instruments, and certain actual and recent meteorological facts. This is usually done once each day only, Sunday being omitted, and the observers, who are in nearly every case telegraph operators, receive for pay about \$65 per annum for their services.

The discussion of the telegrams and the construction of weather reports or bulletins and even the most elementary operations, such as the application of the corrections to the barometer, etc., are made in London alone. The reports are published in the London papers, and also sent by mail to any seaports from which application is made for them.

The wires are ordinarily employed *first* in collecting at the central office in London the data furnished from the several stations; and *afterwards* in issuing from London either selected facts, or opinions derived from them; but it is not the practice to employ the telegraph for circulating weather reports in full; and the observers are *never* employed in receiving telegrams from other stations and in drawing up reports from them.

Half the cost of telegraphing from London to the coast, whether the matter telegraphed be an opinion or a statement of facts, is usually borne by the local authorities; but an exception is made in the case of certain villages where the inhabitants are too poor to bear the expense.

In the army signal service recently established in the United States the observers report by telegraph three times every day, no exception being made on Sundays or holidays, and are, moreover, required to take another series of three daily observations which are sent to Washington by mail.

Their duties are not, however, limited to taking observations but, at most stations, include the receiving from Washington numerous return telegrams from which they are required to compile maps and weather bulletins, and to superintend the publication of the latter in local papers. This entails not merely much writing and arithmetical work, but also the attendance at the telegraph office when the returned telegrams are received, which is from one to two hours after the hours of observation; so that the duties of the observers are spread over the day and night from 7 a.m., till 2-30 a.m., or 3 a.m., in the following morning.

For such onerous services it is clear that the observer must receive a salary sufficient to secure the whole time of a well trained man. Accordingly in the United States the observers who report by telegraph receive about \$800 a year, and are moreover each provided with an assistant.

Whether the communications from the central office to the sea coasts be simple warnings, accompanied on some occasions by a few prominent facts, as in England, or whether full reports from numerous stations be also sent as in the United States; the general purpose is not so much a *prediction* as a *warning*, by which local vigilance may be roused and special local knowledge be brought into play, so that the precise form which the storm may take in the locality may be provided against.

The facts collected by telegraph at the central office may enable the officer in charge

to trace out the probable course of atmospheric movements ; but the form that these may assume in each locality will be best determined by local experience. Full reports of weather at distant points if published on the sea coasts at or soon after the time of observation are a great help in the interpretation of local indications ; and there is this advantage attending their publication, that the work of interpretation is not wholly dependent on one mind, but that the minds of many persons may be brought to bear on weather problems, and specially those local problems in whose solution they have the greatest interest.

Reports published in the newspapers will serve the purpose of weather study with a view to *future* and not *immediate* use ; but even for mere study there is a great gain when the present atmospheric conditions of distant places can be compared with what the observer is witnessing at his own station ; and, altogether, the arrangement by which details received at the central office by telegraph are afterwards distributed by telegraph to distant points is calculated to be a very efficient one.

There seems, however, to be no reason for connecting *as a matter of course*, on the same man, the duty of reporting his own observations and of receiving and publishing the observations of others ; although it may frequently be convenient to unite the two duties. A place admirably suited for a telegraph reporting station may be of comparatively small commercial importance ; and on the other hand a knowledge of coming weather may be of great moment at some large commercial centre, in which it may be difficult to find a locality where personal fitness of the observer, meteorological fitness of the site and proximity to the telegraph station can be united.

When a station for observing and one for receiving and publishing are needed in the same place, it will be convenient that both duties be performed by the same person ; but this will not be always practicable when the choice of agents is limited to residents following other avocations.

On the whole it would seem best to regard as distinct, the observing and the receiving telegraph stations.

The labor at receiving stations, where three reports are published daily, is by no means light. The complete preparation of one bulletin including twenty stations would require nearly two hours for one person, exclusive of the time needed for drawing weather maps and for copying the bulletin for the press. Hence the complete discussion of the three daily reports would take up the whole time of one person.

I will now mention certain supplementary agencies connected with a telegraph system which would involve a comparatively small expense. It is seen that both in England and in the United States the observers report at *fixed* hours, be the weather fair, foul, promising or threatening. By this means information regarding the whole continent is collected at a centre and thence dispersed through the country. It would contribute much to the general efficiency, if each of the large maritime cities were made the centre of a *small local system*, having connected with it a cordon of occasionally reporting stations, to which special application should be made whenever reports from Toronto were such as to indicate the probable approach of a great disturbance. These supplementary arrangements had better be postponed till the larger system has had time to mature, but their establishment should be kept in view as important adjuncts.

V.—Ordinary Meteorological Stations.

This term is applied to stations where observers receive no salary or subsidy from the Dominion Government. The meteorological office stands to them in much the same relation as the secretary of a meteorological society does to its several members ; but with this difference, that whereas members of a meteorological society pay an entrance fee, and an annual subscription wherewith all the expenses of the society, including the salary of the secretary, are defrayed, private observers, in Canada, are relieved from such expenses.

Great importance is to be attached to the services of private observers, which often exceed in amount those of salaried officials ; indeed, without them it would be impracticable

to compass the statistical branch of meteorology. It is from their ranks, if practicable, that observers should be drawn to occupy positions to which emolument is attached; but, as it would be as impossible for the state to provide salaries for private meteorologists, as it would to private devotees to other branches of natural science, it is to be hoped that, for maintaining ordinary meteorological stations, voluntary unpaid labor will be found sufficient, in Canada, as it is in other countries.*

Ordinary meteorological stations may be arranged in the sub-classes according to the extent of their operations:—

- (a) Stations at which observations of all the ordinary elements are made at least three times each day.
- (b) Stations where records are kept of the temperature, the direction and velocity of the wind, the amount of rain and snow, and the general state of the weather, with notices of miscellaneous phenomena, the observations being made two or three times each day.
- (c) Stations where records are kept of the amount of rain and snow, with notices of miscellaneous phenomena.
- (d) Stations where notices are made of phenomena, for observing which no instruments are needed, and where records are kept of events connected with the progress of the seasons.

ON THE SOURCES FROM WHICH THE VARIOUS AGENCIES ARE TO BE SUPPORTED.

I.—*Meteorological Office.*

The central meteorological office to be supported entirely by the Dominion Government.

II.—*Chief Stations.*

When it is desired to plant a chief station in a remote region where no suitable observer can be found, it would be supported *wholly* by Dominion funds; but if, in the locality fixed on, there be a good private observer actually at work, or an institution supported by academic or provincial funds, of which the officers manifest sufficient interest in the work, the additional duty might be procured by the payment, from the Dominion, of a moderate subsidy, which would vary in amount according to circumstances, and should not be regarded as a *grant* to the institution *as such*, and as a precedent for making grants to similar institutions where this duty is not performed, but simply as payment for services rendered.

III.—*Reporting Telegraph Stations.*

The whole expense of reporting stations, as well as that of telegraphing the reports to the meteorological office, should be borne by the Dominion.

IV.—*Receiving Telegraph Stations.*

While the whole cost of collecting, by telegraph, a description of the atmospheric condition, at various points, will be undertaken by the Dominion, the cost of distributing this information through the country, should be born, in part at least, by the local authorities of the places to which the messages are sent; or (if these be too poor) by the Provincial Government. Thus, supposing that about 10 a.m., a telegraph giving a description of the weather throughout the continent at 7.25 a.m., Toronto time, is sent through some telegraphic circuit; as the cost of the message will be increased for every

* By unpaid labor is to be understood labor not paid for by the Central Government. Ordinary meteorological stations might very fittingly receive aid from Provincial Governments, as in the Province of Ontario, or from Boards of trade, Agricultural societies, and from private liberality.

station at which it is read, it is nothing but just that those who derive benefit from it, should bear some share of the cost of the telegram. The cost of drawing up, in each receiving station, the weather bulletin for the use of the inhabitants, should also be borne by the local authorities of the Province.

ON THE RECENT PROGRESS AND PRESENT CONDITION OF THE METEOROLOGICAL SYSTEM IN CANADA.

Prior to the autumn of 1869, there were but few meteorological observers in the Dominion; and there was an absence of that unity of purpose and action by which the scanty materials that did exist, could be combined into a true description of the climatology of the country.

Impressed with the inadequacy of existing agencies, and resolving that a state of things so discreditable to Canada, should exist no longer, I addressed myself, by letter and circular, to persons actually engaged in meteorology, as well as to others who, it was thought, would favour this movement, requesting their co-operation. In many instances, also, I made similar application in person, travelling for that purpose many hundreds of miles. The result has been a steady increase in the number of observers up to the present time. Those now in correspondence, are shewn by the accompanying list, and their progressive increase (to some extent) by the statistical tables at the end of this Report.

In the work of extension, I have received much valuable aid from the superintendents of the various railways in the Dominion, from the Manager of the Gulf Port Steamship Company, and from the various gentlemen engaged in meteorology in the several Provinces. To Mr. F. Allison, of Halifax, now Chief Meteorological Agent for Nova Scotia, I am indebted for all the correspondents in Nova Scotia and Newfoundland, many of whom were induced through his influence to apply themselves to meteorology, and it was through the introduction kindly obtained by the Rev. Père Bonneau, Chaplain to the Forces at Quebec, that rain stations have been set in operation at several convents in the diocese of Quebec.

From October, 1869, to the spring of 1871, the meteorological work in Canada, was carried on by an exclusively voluntary organization; no emoluments, whatever, were attached to the services of the observers, and the instruments were provided from private sources, or lent from the Magnetic Observatory, Toronto, from which establishment forms for registration were also furnished. The work connected with organizing new stations, and of discussing and compiling returns, were also gratuitously performed by the Director and Assistants of the Observatory.

In the spring of 1871, a grant of \$5,000 having been made for the promotion of meteorological research, considerable impetus was at once given to the movement.

The greater part of the grant, amounting to \$3,050, was appropriated to the support of the chief stations, the names of which will appear in the list; \$1,000 was to be employed in purchasing instruments for ordinary stations, including those at lighthouses; and the remainder in register forms, printing instructions, cost of compilation, and miscellaneous expenses.

Among the new agencies consequent on this grant, were the stations formed, with the approbation of the Minister of Marine, at several lighthouses. It was considered that the lighthouses, being for the most part near the highways of commerce, and in exposed positions, were suited locally for furnishing data for the study of atmospheric movements.

A drawback to their usefulness lies in the fact that many of them are beyond the reach of the Post Office, and that some can be visited only two or three times in the year. These latter must form an exceptional class, and their reports be regarded as analogous to the logbooks of ships, which, though valuable for studying the past, cannot be brought into immediate use. In the summer of 1871, register books suitable for recording the direction and force of the wind, the temperature, the rain-fall, and the state

of the weather, were supplied to thirty-seven lighthouses. To thirteen of these, no instruments were sent, the object in these cases being, to obtain a simple record of the winds and weather. Thirteen were supplied with rain-gauges only, and eleven with thermometers and rain-gauges. Each thermometer was accompanied by a suitable screen and a portable thermometer shed, which were constructed under the direction of the engineer and assistant of the observatory.

The formation of the numerous stations contained in the list, has not been effected without a very large amount of labour, the general character of which may be stated as follows :—

Correspondence and preparations of forms of registration, and books of instruction.

Devising, constructing, packing, and sending off apparatus.

Testing upwards of one hundred thermometers.

Visitation, including journeys by myself or assistants, amounting to about 10,000 miles.

In addition to the organization of the stations, the examination every month of about eighty registers, checking the calculations, and combining the results into tables, involve an amount of labour which would need the whole time of two ordinary clerks, but which is done by my assistants in addition to their proper duties, with scarcely any assistance from without.

I wish it to be understood, that the work of the meteorological office, forms no part whatever of the regular duty of the Magnetic Observatory, and that the superintendence has been undertaken by myself gratuitously, and that the allowance which I make to my assistants for extra labour, is insignificant as compared with what such services would command elsewhere.

I shall now give a list of the stations.

METEOROLOGICAL Stations in correspondence with the Magnetic Observatory Toronto.

CHIEF STATIONS.

Station.	Superintendent.	Station.	Superintendent.
ONTARIO.		NEW BRUNSWICK.	
Ottawa.....	Department of Marine and Fisheries. J. Montgomery, Professor of Mathematics, Canadian Literary Institute.	St. John	G. Murdock, C.E. Professor Jack.
Woodstock		Fredericton	
		NOVA SCOTIA.	
PROVINCE OF QUEBEC.		Halifax	F. A. Allison, U.A.
		MANITOBA.	
Montreal.....	Dr. Smallwood.	Winnipeg	Officers of St. John's College.

ORDINARY STATIONS.

Station.	Observer.	Station.	Observer.
ONTARIO.		ONTARIO.—Continued.	
<i>Class I.</i>		<i>Class III.—Continued.</i>	
London, Middlesex	D. S. Lett, jun.	Niagara, Lincoln	S. D. Mills.
Stayner, N. R., Simcoe	R. J. Cole.	Seaforth, G. T. R., Huron	R. B. Moodie.
<i>Class II.</i>		Wyoming, G. W. R., Lambton ..	J. McKay.
Dundas, G. W. R., Wentworth ..	J. Geddes.	Lucan, G. T. R., Middlesex ..	F. R. Jennings.
Ingersoll, Oxford	{ J. Lewis.*	Ailsa Craig, G. T. R., Middlesex ..	R. Munford.
Glencoe, G. W. R., Middlesex ..	{ W. H. Eakins.	Parkhill, G. T. R., Middlesex ..	G. B. Reeve.
Brampton, G. T. R., Peel	William Hayden.	Orillia, Simcoe	H. Pitton.
Thornhill, N. R., York	J. Reynolds.	Newmarket, H. S., York	W. R. Nasen.
Kincardine, Bruce	J. Duncan.	Holland Landing, York	{ M. Bell.*
North Gwillimbury, York	Dr. D. W. Martyn.	Plattsville, Oxford	{ W. H. Thorne.
Gravenhurst, N. Victoria	Rev. Canon Ritchie.	Stoney Point, G. W. R., Essex ..	R. Treffry.
Fitzroy Harbor, Carleton	T. W. Robinson.		W. Dickson.
Brockville, H. S., Leeds	Rev. J. Tait.	QUEBEC.	
Perth, H. S., Lanark	W. R. Bigg.	<i>Class I.</i>	
16 Lighthouses.	H. H. Ross.	Huntingdon, Huntingdon	Dr. F. Shirriff.
<i>Class III.</i>		Quebec Observatory, Quebec ..	Capt. Ashe, R.N.
Collingwood, Simcoe	W. A. Parlane.	Quebec, Upper Town	Lieut. Murray, E.A.
Georgina, York	Capt. Sibbald.		Ceased on this Officer leaving Canada
Markham, H. S., York	J. H. Hughes.	<i>Class II.</i>	
Weston, York	Rev. W. F. Checkley.	Richmond, Richmond	Rev. M. McKay.
Credit, Peel	Rev. W. C. Cooper.	Six Lighthouses.	
Widder, Lambton	{ Rev. P. Goodfellow.*		
	{ A. Duffus.		

[* The entry of two names indicates a change in the Observer.

METEOROLOGICAL Stations in correspondence with the Magnetic Observatory,
Toronto.—Continued.

ORDINARY STATIONS.—Continued.

Station.	Observer.	Station.	Observer.
QUEBEC.—Continued.		NEW BRUNSWICK.—Continued.	
<i>Class III.</i>		<i>Class II.</i>	
Murray Bay, Charlevoix	Hon. D. Roy.	Petersville, Queen's	Rev. C. R. Mathew.
Danville, Richmond	H. B. Mackenzie.	Five Lighthouses.	
Bonner's Hill, Quebec	M. Ashe.	<i>Class III.</i>	
Convents in the Diocese of Quebec, in connection with the Congregation Notre Dame de St. Roch, Quebec:—		Dorchester, Westmorland	E. V. Tait, Prin. Sup. School.
St. Paul's Bay, Charlevoix.		NOVA SCOTIA.	
Point aux Trembles, Portneuf	Ladies in Residence.	<i>Class I.</i>	
Rimouski, Rimouski	" "	Glacé Bay, Cape Breton	H. Poole.
Kamouraska, Kamouraska	" "	Pictou, Pictou	H. A. Payne.
Riviere Ouelle, Kamouraska	" "	Sydney, Cape Breton	T. C. Hill.
St. Thomas, Montmagny	" "	Windsor, Hants	Maynard Bowman.
St. Croix, Lotbinière	" "	Yarmouth, Yarmouth	H. C. Creed.
St. Famille, Montmorency	" "	Wolfville, Kings	D. F. Higgins.
Convents in connection with the Sisters of Charity, Quebec:—		<i>Class II.</i>	
Deschambault, Portneuf	" "	Amherst	
Carleton, Bay of Chaleurs, Bonaventure	" "	Digby, Digby	H. H. Taylor.
Cacouna, Temiscouata	" "	Liverpool, Queen's	R. S. Sterns.
St. Anne, Lotbinière	" "	Truro	H. A. Gray.
Point Levi, Levis	" "	10 Lighthouses.	
St. Nicholas, Levis	" "	<i>Class III.</i>	
Somerset River, Megantic	" "	Guysborough, Guysborough	S. R. Russell.
Convents in connection with the Convent of Bon Pasteur, Quebec:—		King's College, Windsor	J. M. Hensley.
Chicoutimi, Chicoutimi	" "	Dartmouth	
Chateau Richer, Montmorency	" "	Beaver Bank, Halifax	James Grove.
Charlebourg, Quebec	" "	Cape North	
Champlain, Champlain	" "	Aspey Bay, Cape Breton	Thomas J. Bown.
Riviere du Loup, Maskinonge	" "	MANITOBA.	
Lotbinière, Lotbinière	" "	<i>Class I.</i>	
Convents in connection with the Convent of Jesus Marie, Quebec:—		Winnipeg	James Stewart.
Trois Pistoles, Temiscouata	" "	BRITISH COLUMBIA.	
St. Michel, Bellechasse	" "	<i>Class II.</i>	
St. Gervais, Bellechasse	" "	Spencer's Bridge	J. Murray.
St. Anselme, Dorchester	" "	<hr/>	
NEW BRUNSWICK.		The following Stations in Newfoundland, also Report:—	
<i>Class I.</i>		St. John's	J. Delany.
Bass River, Kings	Rev. J. Fowler.	Harbor, Grace	H. A. Clift.

NOTE.—Instruments and Register Books have been supplied to several other Stations in each of the Provinces, but as no reports have been yet received their names are not included in the foregoing list.

LIGHTHOUSES at which Meteorological records are kept, arranged in sub-classes A, B, C, where A indicates Stations having a thermometer and rain gauges; B, Stations with rain gauges only; and C, Stations without instruments.

Lighthouse.	Observer.	Lighthouse.	Observer.
ONTARIO.		NEW BRUNSWICK.	
A.		A.	
Pelee Island, Lake Erie	James Cumming.	Grindstone, Bay of Fundy.....	James Clark.
Clapperton Island, Lake Huron	Charles Patton.		
B.		C.	
Pelee Spit, Lake Erie	P. McIntyre.	Machias Island, Bay of Fundy.....	James Conley.
Amherstburg, Essex	A. Hackett.	Lepreau, Bay of Fundy	G. Thomas.
Point Clark, Huron	J. Young.	Escuminac Point, Miramichi Bay	William Hay.
Snake Island, Lake Ontario ...	N. Orr.	Miscou Island, Gulf of St. Lawrence	G. McConnel.
Pigeon Island,	B. Gillespie.		
Chantry Island, Lake Huron ...	D. McG. Lambert.		
Isle of Coves, Georgian Bay ...	D. McBeath.		
Sulphur Island, Lake Superior.	W. Sheppard.		
C.		NOVA SCOTIA.	
Griffith Island, Georgian Bay	V. C. Hill.	A.	
Nottawasaga I.,	G. Collins.	Sible Island	H. Fome.
Christian Island,	J. Hoar.	Liverpool, Coffin Island	L. Eaton.
Lonely Island,			
Red Rock,	P. Proulx.		
St. Ignace, Lake Superior	A. Hynes.		
B.		B.	
QUEBEC.		Beaver Island, Cape Breton ...	R. Fraser.
A.		Canso Cape; Cranberry Island ..	J. Hanlon.
Father Point, Rimouski.....	D. Lawson.	Scattari Island, Cape Breton ..	J. McLean.
Bird Rocks, Magdalen Islands.		Sea Wolf Island,	N. C. McKeen.
Cape Rosier, Gaspé	A. Trudeau.		
Anticosti, Gulf of St. Lawrence	J. Pope.		
Belle Isle, Labrador			
B.		C.	
Amour Point, Labrador	P. Godier.	Seal Island, Bay of Fundy	T. C. Crowell.
		Sand Point, Cape Breton	J. Mindell.
		North Canso,	G. McKay.

ON THE PROGRESS OF WEATHER TELEGRAPHY IN CANADA.

Preliminary Remarks.

Exaggerated notions are sometimes held as to the superiority of the telegraph over the post office as a mode of collecting information about weather, to the extent of regarding the former as indicative of enterprize and progress; and of stigmatizing the other as antiquated, and behind the requirements of the age.

Now such comparisons are valueless, unless regard be had to the purpose for which the information is needed.

(1). If the purpose be to found prognostications of weather, on what is occurring at a distance, it is superfluous to say that nothing but the telegraph will suffice.

(2). If the purpose be to *study* prognostications for future use, the telegraphic mode would certainly have advantages, but not enough to justify the enormous expenditure.

(3). If the purpose of collecting meteorological data be merely statistical, and have no reference to immediate prognostications, reports sent monthly are greatly superior in point of convenience to those sent by telegraph, as well as vastly less expensive.

Monthly reports require one sheet of paper, (and are therefore convenient for reference,) a walk to the post office, and one cent postage; telegraph reports require ninety scraps of paper, all needing to be interpreted and re-written; ninety walks to the telegraph office, and \$22.50 monthly for telegraphing.

For a hundred stations, (a very small number for statistical purposes,) the annual cost of collecting would be \$27,000 against \$1,200; the aggregate of labor in writing and otherwise would be increased tenfold, and the chances of error also would be enormously multiplied.

Admitting, then, that the Telegraph should be only systematically used in direct connection with weather prognostications, the question comes up as to be best mode of establishing reporting stations, whether gradually or suddenly.

According to the former plan, the voluntary system is gradually extended; and, as observers acquire experience without cost to the state, (accumulating, at the same time, the facts needful for future purposes of prognostication,) those whose skill and fidelity had been tested, and whose localities were suitable, would form a body whence telegraph observers would be chosen, whenever a telegraph system should be decided on.

If a telegraph system has to be established, without this preparatory process, it may be done in two ways. In the first of these, the observers are taken on trial; they are put through a course of instruction, and, if qualified, are engaged at remunerative salaries, and are sent to their stations, where premises for the observations, and, in the neighbourhood of the telegraph office, are hired at the public expense.

A plan less expensive, though not so effective as the former, is to seek in each place for some person of sufficient intelligence to take the observations, after due instruction, who is willing to do so, and whose residence is adapted for the purpose.

The first plan mentioned above, namely, that of gradual development, will commend itself as the one most applicable to a country like Canada, where, till lately, no meteorological system existed similar to that which has been in operation for more than twenty years in the United States, under the Smithsonian Institution; and, were it not for the recent action of the United States in weather telegraphy, I would persevere in advocating the postponement of any telegraphic establishment here. Our circumstances, however, have been materially altered by the fact that, through the enterprize of our neighbours, we have a system ready to our hand, and of which we can avail ourselves, at a cost absolutely insignificant in comparison with that expended by the United States in its maintenance; the daily cost to Canada for three reports from any one of the United States stations, being but 30 cents, against \$4.00, a low estimate of what the same reports must cost in their production.

Early in June, 1871, with the sanction of the Minister of Marine, I opened a correspondence with the Signal Office at Washington, offering to procure the transmission of weather intelligence from stations in the various provinces, in exchange for some to be

sent to Canada by that department. The offer was cordially met ; but, as I was compelled to visit the lower provinces in connection with the general meteorological service of the Dominion, I postponed further action till my return. I then renewed my correspondence with the Signal Office ; and, while naming certain stations from which I felt sure that trustworthy reports would be easily procured, I expressed my readiness to establish stations at any points from which reports were desirable to render the Washington system complete. I received a reply from the chief signal officer declining telegrams from the lower provinces as not needed for his purpose, but earnestly pressing me to send regular telegrams from certain districts, and in which the stations finally agreed on were Kingston, Port Dover, Port Stanley, Saugeen, and subsequently Quebec.

At this stage of the correspondence, it was near the end of November, and therefore late for travelling ; but, feeling that the generosity of the signal office should be met in a like spirit, I lost no time in visiting Port Stanley, Port Dover, and Saugeen, where, as well as at Kingston, I was fortunate enough to secure the temporary services of very intelligent observers.

After some time being necessarily spent in preliminary practice, reports were regularly commenced January 2nd ; since which date, they have been received at Toronto from Kingston, Port Dover, and Port Stanley, and have been forwarded to Washington, together with those from Toronto, the transmission of which commenced several weeks earlier.

One of my assistants, who spent a few days at the three above-named stations in adjusting the apparatus and giving instruction in its use, is now about to visit Saugeen, from which place I expect to receive reports in the course of January. Negotiations are also in progress for starting similar observations at Quebec.

There are a few other places at which, for *Canadian* purposes, it might be desirable to establish telegraph reporting stations ; but considering the expense which attends such operations, even on a very small scale, it would be better at present to limit the reporting stations almost entirely to the places most needed for the completion of the United States system.

The observations are made each day at 7.25 a.m., 4.25 p.m., and 11.25 p.m., Toronto time, and leave Toronto twenty-five minutes later. In return for the twelve daily Canadian telegrams, I receive from fifteen stations full reports 7.25 a.m., and partial reports for the two preceding observation hours.

From those which reach the Observatory between 10 a.m. and 11 a.m., with the Canadian telegrams bulletins are made up and published in the afternoon papers of the same day.

I have limited the number of daily reports to fifteen for the present, these being sufficient to keep the machinery in action ; but I propose, before the opening of navigation, to increase them to three reports from each of thirty or forty stations, a smaller number being inadequate to yield satisfactory conclusions.

From the data collected at Toronto, in addition to the bulletins printed in the newspapers and posted up for the use of the public, I intend, from one to three times each day, to send along each telegraph circuit a condensed telegram, descriptive of the weather at places whose atmospheric condition has the most important bearing on that of the sea or lake ports through which the wire passes ; and, as these telegrams may be read if required at every telegraph office, the number of receiving offices may be indefinitely increased.

Information regarding the Atlantic coasts and other parts of peculiar interest to New Brunswick and Nova Scotia, and which is now received daily at Toronto could be conveyed by the Montreal Company to Sackville, and then be repeated throughout the Lower Provinces ; being read, moreover, in its course at numerous places between Toronto and Sackville.

In connection with this subject, I take occasion to remark that the regular telegraphic correspondence between Canada and the United States should be conducted through one channel (Toronto) ; reports from Canadian Stations being sent to the

Canadian centre, and not to a foreign country, as the interests of both parties are thus best promoted.

While the maintenance of the Canadian observing stations, and the expense generally of *collecting* the information at Toronto, including that of the telegrams from Buffalo, will be undertaken by the Dominion Government, I conceive that part, at least, of the expense of *distributing* the information by telegraph should be borne by the localities at which the telegrams are read, or, in special cases, by the provincial governments; and if the telegrams should be read at many places along a line, the cost for each would be but trifling.

I desire now to refer to a few points unconnected with the subject of this report, but whose importance justifies my introducing them to your notice.

I. Arrangements for giving correct local time throughout the Dominion.

II. The determination of latitude and longitude.

III. The rectification of the magnetic charts of British North America; and more particularly the correct determination of the isogonic lines or lines of equal declination.

Irregularity in local time, a source everywhere of great inconvenience, might be remedied at all places possessing a telegraph office, if the Government would hire the use of the wires for a few minutes daily at the same *absolute time*.

I propose that at a certain fixed time a preconcerted signal be given from the central time observatory.

When the signal is received at each telegraph office, it will be the duty of the operator to set his clock to the corresponding local time, or note the reading of the clock and determine its error.

This arrangement, in addition to its convenience for civil uses, would be available for surveyors and others, who, by attending at the proper hour in the office, might thus be enabled to rate their chronometers and ascertain the true longitude of the place. It is probable that several different telegraphic connections would be needed, but these are details which the telegraphic companies could readily arrange.

The time signal would easily be given by the Toronto Observatory, where transits for time have been regularly made for more than thirty years; but as the clock and transit telescope at Quebec, as well as its sky, are better than at Toronto, and as Captain Ashe is, moreover, the officer specially appointed for attending to time, I consider that this duty should be placed in his hands.

With reference to determining geographical positions and to magnetical observations, although I have named them as worthy to be considered, I conceive that the labor and expense attending the due development of the meteorological system would suggest the expediency of delaying action in these matters till another year. I shall be ready, however, to lay before you a scheme for carrying out those important objects, should you desire me to do so.

The above remarks, with the accompanying statistical tables, compiled at the Observatory, are all respectfully submitted.

G. T. KINGSTON.

List of Tables accompanying the Report from the Meteorological Office to the Minister of Marine and Fisheries.

- I. Mean temperature of the several months for Stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.
- II. Highest temperature in each month at the several stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.
- III. Lowest temperature in each month at the several stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.
- IV. Mean temperature for each quarter and year, from September, 1869, to August, 1871, with the highest and lowest temperatures in each year, and the dates of their occurrence.
- V. to X. Mean daily temperature at certain stations, corrected for diurnal variation.
- XI. Mean daily temperature at the several stations in Tables V. to X., collected in five day periods, for the year September, 1870, to August, 1871.
- XII. Rainfall for each month and year at the several stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive, the stations in the Province of Ontario being divided into districts.
- XIII. Quarterly rainfall at the several stations, with the fall of snow in each month, and the total precipitation of rain and melted snow, from September, 1869, to August, 1871, inclusive.
- XIV. Number of days of rainfall for each month and year at the several stations in Table XIII.
- XV. Quarterly number of days of rainfall, with the number of days' snow during the period September, 1869, to August, 1871, inclusive.
- XVI. Average depth of rain in inches for the several provinces of the Dominion of Canada, from September, 1869, to August, 1871, with the average number of days of rainfall for the same period, the Province of Ontario being divided into districts.
- XVII. Quarterly average depth of rain in the several provinces, with the average depth of snow for each month and year, and the average number of days for the same period.
- XVIII. Mean temperature, with the amount of rain and snow, at several new stations for incomplete or short periods, not included in the previous tables.

I.—MEAN TEMPERATURE of the several months for Stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.

	1869.				1870.												1871.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
<i>Ontario.</i>																								
Windsor.....	63.0	43.6	35.3	29.9	26.3	24.8	39.7	49.8	61.7	69.9	72.7	71.4	66.7	53.0	39.2	26.8	26.9	27.5	40.3	48.8	59.6	67.4	70.3	71.1
Simcoe.....	62.4	43.8	34.3	29.8	27.2	23.8	29.3	48.2	60.2	69.6	70.3	69.2	63.2	52.1	38.8	28.9	25.1	27.0	39.5	47.9	58.5	65.0	67.4	69.2
Hamilton.....	63.5	43.8	35.0	30.0	26.1	23.2	27.1	46.2	58.9	70.8	71.8	71.5	63.2	52.0	38.1	27.6	23.2	25.6	35.7	45.8	57.3	65.2	69.7	70.6
Dundas.....	.....	.....	.....	.....	.....	.....	.....	45.7	59.3	70.8	71.5	70.5	63.1	50.9	37.8	26.7	23.8	24.8	35.8	46.5	58.6	65.7	69.1	69.6
Glencoe.....	.....	.....	.....	.....	.....	.....	.....	46.7	59.4	67.0	70.6	69.4	62.9	.....	.....	22.8	23.9	23.8	36.6	46.5	59.2	64.6	66.8	68.9
Ingersoll.....	.....	.....	.....	.....	.....	.....	.....	.....	69.9	69.1	66.9	61.7	51.0	35.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.5	22.3	34.3	43.8	55.2	61.5	64.9	66.8
Widder.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toronto.....	60.7	42.3	32.7	28.7	24.4	21.5	26.3	44.6	56.3	67.3	68.8	67.1	61.8	50.0	36.6	26.2	21.3	24.3	34.6	43.0	54.2	61.4	66.0	67.4
Stratford.....	58.5	40.1	30.8	26.7	22.0	19.8	24.9	45.3	57.9	67.6	67.2	65.8	60.6	48.5	35.2	24.6	21.4	22.5	34.2	43.7	55.2	61.6	64.6	65.4
Brampton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thornhill.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goderich.....	60.9	43.7	34.0	29.4	25.3	21.8	26.1	45.8	57.0	65.9	68.1	67.4	62.5	51.4	38.8	28.3	24.3	25.6	35.7	45.2	55.0	62.8	66.5	67.6
Kincardine.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belleville.....	62.4	43.2	32.1	26.7	22.3	18.6	25.3	45.6	59.2	71.5	71.0	69.7	61.3	49.3	36.0	24.1	15.4	21.9	35.1	45.0	56.0	66.7	67.9	69.7
Peterborough.....	61.1	40.6	30.1	25.0	19.7	17.2	24.9	46.0	59.4	71.9	70.7	68.6	60.6	48.1	34.5	21.7	14.9	19.6	33.7	44.4	56.8	64.2	67.0	68.5
N. Gwillimbury.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barrie.....	64.1	43.4	32.6	26.9	21.6	17.7	25.1	46.2	59.9	70.8	70.6	69.4	64.4	50.3	37.4	25.0	19.2	20.3	33.9	44.3	57.3	64.4	69.1	69.3
Stayner.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gravenhurst.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cornwall.....	62.3	45.2	31.6	23.5	20.0	15.1	24.6	46.1	57.3	71.1	67.3	69.6	60.3	50.2	36.3	22.5	10.3	19.3	33.8	44.1	55.9	65.1	68.5	68.7
Pitzroy Harbor.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pembroke.....	60.9	41.8	29.2	20.0	14.4	10.3	22.1	45.7	56.8	70.5	69.3	65.8	57.4	46.9	32.3	18.1	4.2	12.6	29.8	39.6	51.5	61.5	63.9	64.5
<i>Quebec.</i>																								
Montreal.....	65.6	46.1	30.3	22.9	19.2	16.7	26.9	47.1	60.7	72.4	74.6	70.7	63.2	51.3	38.6	23.9	10.7	18.3	34.7	44.0	57.9	67.5	69.0	70.2
Quebec.....	60.8	45.3	29.1	18.7	15.7	13.0	22.3	40.5	52.3	67.1	69.4	65.0	55.6	46.0	33.1	21.3	6.0	14.8	29.3	36.8	50.2	61.4	65.1	63.9
Huntingdon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

New Brunswick.

St. John	55·3	46·6	34·2	26·6	25·3	21·1	27·6	40·1	45·3	56·8	60·0	59·8	54·6	46·4	36·8	25·5	16·7	19·8	31·9	36·8	44·7	54·3	60·3	59·9
Bass River								39·6	46·8	63·5	68·2	65·1	55·7	45·5	34·9	23·3	12·9	16·4	30·9	34·9	46·9	58·3	64·7	62·8
Petersville																	14·2	17·7	32·6	37·7	48·2	59·2	63·0	63·6

Nova Scotia.

Yarmouth									44·9	56·3	60·7		55·3	47·8	40·3	32·0	24·2	23·6	24·0	37·5	44·7	55·6	62·1	61·1
Digby											68·6	68·4	58·2	50·9	42·3	32·4	24·9	25·5	38·0	41·0	49·9	59·4	63·0	62·8
Halifax	57·5	48·4	36·8	32·0	29·9	24·6	28·8	41·2	47·1	59·9	65·3	64·9	57·2	48·1	39·2	30·0	22·6	22·1	33·0	36·9	46·7	56·1	62·8	62·6
Windsor					26·3	23·9	27·2	43·3	49·4	62·6	66·8	64·6	55·7	47·8	38·4	28·8	20·2	19·4	33·6	37·0	47·7	59·5	64·6	63·1
Wolfville													55·8	47·7	38·1	28·7	21·2	21·6	33·5	36·7	48·7		64·4	
Pictou							26·8	39·4	45·4	59·4	65·6	64·0	55·1	47·0	38·1	27·3	19·4	19·8	31·6	34·0	46·1	59·0	64·8	63·3
Glace Bay	57·0	48·6	37·5	30·0	28·9	24·6	27·9	37·3	42·9	54·1	63·7	63·6	53·6	46·6	39·3	30·3	23·5	20·2	30·5	32·3	43·6	53·0	61·8	62·1
Sydney					29·5	24·9	28·9	37·5	43·8	55·5	64·6	63·5	54·3	46·4	38·6	29·6	23·1	20·3	30·6	33·5	44·1	53·9	62·1	62·4
Albion Mines																	21·0	20·2	32·5	35·7				
Liverpool																						60·1	64·7	64·4

Manitoba.

Winnipeg																						59·5	61·8	67·6
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Newfoundland.

St. John's																								63·9	60·2
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II.—HIGHEST TEMPERATURE in each month at the several Stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.

	1869.				1870.												1871.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
<i>Ontario.</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Windsor.....	87.2	73.8	65.7	49.8	52.6	44.0	48.1	78.6	86.3	96.2	92.4	90.9	92.4	74.8	68.9	53.9	58.7	63.9	67.9	85.7	93.2	95.2	92.6	98.7
Simcoe.....	83.3	71.0	62.9	41.2	50.0	42.5	48.0	75.2	82.7	95.0	86.3	84.5	79.2	68.7	64.2	55.3	58.7	57.0	65.5	77.8	88.5	87.9	87.7	90.4
Hamilton.....	89.8	78.8	66.3	46.8	50.8	44.8	46.8	77.8	86.8	101.8	95.8	94.8	87.8	75.8	67.8	51.8	56.8	50.4	53.8	81.8	89.5	91.8	95.8	99.0
Dundas.....	.....	.....	.....	.....	.....	.....	.....	64.0	90.0	102.0	98.0	92.0	76.0	76.0	64.0	44.0	46.0	50.0	50.0	72.0	96.0	82.0	86.0	84.0
Glencoe.....	.....	.....	.....	.....	.....	.....	68.0	72.0	.....	89.0	86.0	85.0	83.0	.....	.....	49.0	48.0	52.0	60.0	72.0	83.0	82.0	83.0	84.0
Ingersoll.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0	82.0	82.0	74.0	64.0	58.0	.....	.....	.....	.....	70.0	74.0	.....	.....	.....
Woodstock.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	62.1	42.5	.....	.....	.....	.....
Widder.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	93.0	85.0	88.5	85.5	74.0	63.0	47.5	54.0	56.5	63.0	.....	.....	.....	.....	.....
Toronto.....	81.0	69.8	58.0	45.0	45.0	40.6	44.0	67.0	81.2	88.4	87.4	84.0	78.0	68.5	57.2	45.2	46.4	48.0	58.5	72.8	85.0	83.0	88.4	89.5
Stratford.....	79.4	67.3	56.8	39.6	42.8	37.7	40.6	70.6	78.2	88.7	86.0	81.5	80.2	65.6	58.6	42.1	45.1	48.1	60.1	76.1	83.4	86.0	84.2	86.6
Brampton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42.0	47.0	47.0	70.0	83.0	82.0	85.0	83.0
Thornhill.....	.....	.....	.....	.....	40.0	44.0	70.0	85.0	.....	82.0	74.0	77.0	69.0	62.0	60.0	40.0	42.0	49.0	49.0	68.0	81.0	76.0	78.0	78.0
Goderich.....	81.4	70.5	62.5	42.1	48.0	40.5	48.4	73.9	80.0	90.2	86.9	85.6	80.3	70.2	63.4	45.5	55.4	53.9	64.3	78.6	88.8	90.7	86.3	87.2
Kincardine.....	.....	.....	.....	.....	.....	.....	81.0	.....	.....	87.2	88.0	82.0	84.0	72.0	63.5	43.5	50.5	53.2	62.0	76.5	85.0	85.5	85.3	88.5
Belleville.....	83.1	71.2	57.7	41.7	46.4	40.1	48.7	66.7	84.4	94.4	88.1	87.7	81.0	70.6	58.6	46.6	43.9	45.8	58.5	75.3	83.3	84.7	88.3	87.0
Peterborough.....	84.2	72.5	60.1	43.5	43.5	39.6	52.4	72.8	87.8	95.0	90.7	89.5	84.4	70.7	59.3	44.6	51.8	48.3	55.2	79.5	91.8	92.5	90.5	93.7
N. Gwillimbury.....	.....	.....	.....	.....	42.0	.....	54.0	73.0	81.5	92.0	92.0	90.0	83.0	74.0	64.5	44.5	51.5	52.5	48.5	80.0	88.0	91.5	95.0	87.0
Barrie.....	89.1	76.5	63.5	44.6	45.2	39.6	55.1	73.6	87.4	95.6	92.6	89.6	86.6	82.4	79.1	47.9	54.6	47.1	54.1	79.6	90.7	93.4	93.4	94.4
Stayner.....	.....	.....	.....	.....	37.0	52.0	73.0	86.0	.....	94.0	92.0	90.0	86.0	73.0	65.0	46.0	54.0	43.0	60.0	82.0	88.0	94.0	95.0	91.2
Gravenhurst.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	58.0	49.0	.....	.....	.....	.....	93.4	87.3
Cornwall.....	90.1	75.0	62.8	44.2	48.2	50.2	.....	.....	.....	96.0	97.0	90.8	80.8	70.8	63.8	45.0	45.0	49.0	59.8	69.8	88.8	88.8	88.8	89.8
Fitzroy Harbor.....	.....	.....	.....	.....	.....	29.0	90.0	.....	.....	96.0	90.5	92.0	86.6	74.1	.....	.....	42.0	42.0	44.3	51.8	66.0	92.2	92.2	87.0
Pembroke.....	83.4	70.8	63.5	38.1	47.0	35.0	51.0	71.4	94.5	98.5	93.3	90.5	81.4	74.8	59.4	46.0	46.1	49.0	51.5	67.5	93.9	96.0	95.5	87.8
<i>Quebec.</i>																								
Montreal.....	76.1	82.0	66.2	40.7	39.7	38.2	52.2	76.0	89.3	94.4	96.1	93.1	85.7	77.4	61.2	55.6	40.1	46.2	61.6	68.0	94.3	92.2	95.0	89.6
Quebec.....	77.5	65.0	50.4	42.2	45.0	41.0	39.0	73.0	91.2	92.0	93.0	85.0	77.0	67.0	45.0	39.0	40.0	40.0	50.0	54.5	87.5	90.5	85.0	80.0
Huntingdon.....	77.5	65.0	50.4	42.2	45.0	41.0	39.0	73.0	91.2	93.0	94.0	92.0	78.0	76.0	66.0	45.0	42.0	47.0	62.0	74.0	90.0	92.0	92.0	84.0

New Brunswick.

St. John	69°0	70°0	56°0	50°0	45°0	45°0	50°0	64°0	69°0	77°0	80°0	77°0	72°0	66°0	56°0	42°0	43°0	41°0	46°0	53°0	73°0	71°0	82°0	77°0
Bass River								70°0	81°0	90°0	92°0	85°0	78°0	67°1	62°7	41°3	40°6	45°6	57°0	54°9	82°0	84°9	81°6	83°0
Petersville																	46°0	45°0	59°0	56°0	83°0	81°0	80°0	82°0

Nova Scotia.

Yarmouth									67°4	84°0	81°0		76°6	65°5	58°2	48°0	52°3	41°0	56°0	56°5	63°7	76°0	80°0	76°7
Digby											84°0	80°0	74°0	72°0	62°0	46°0	56°0	50°0	60°0	54°0	80°0	80°0	78°0	80°0
Halifax	78°9	74°4	55°5	53°8	50°4	47°3	52°4	66°4	80°2	86°7	91°5	87°8	80°1	70°0	60°7	47°8	49°4	47°3	52°8	62°8	87°2	77°9	82°1	83°0
Windsor					54°5	51°0	57°5	67°2	83°5	88°8	88°0	84°1	79°7	71°0	62°6	47°2	47°0	45°7	64°5	63°0	84°0	81°5	80°5	79°0
Wolfville													75°7	69°1	54°4	45°4	47°8	47°8	62°9	58°0	78°4	75°0	83°6	85°4
Pictou						44°5	67°3	74°5	81°6	87°3	85°6	81°0	70°0	62°8	43°8	49°0	48°3	59°5	58°0	79°0	78°0	81°0	82°0	
Glace Bay	78°0	75°0	53°0	55°0	50°0	41°0	44°0	52°0	69°0	82°0	89°5	85°0	77°0	68°0	56°0	49°0	50°0	45°0	57°0	53°0	81°0	79°0	81°0	83°5
Sydney					50°6	45°6	47°8	65°0	79°2	82°0	89°0	84°0	75°9	68°6	55°6	48°6	48°6	45°3	55°4	53°0	78°9	75°2	80°1	81°6
Albion Mines																	46°0	42°0	57°0	53°0				
Liverpool																						75°0	82°5	86°0

Manitoba.

Winnipeg																						91°0	90°0	100°0	...
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Newfoundland.

St. John's																								84°0	83°0
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III.—LOWEST TEMPERATURE in each month at the several Stations in the Dominion of Canada, from September, 1869, to August, 1871, inclusive.

	1869.				1870.												1871.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
Ontario.																								
Windsor	33.0	20.6	6.9	6.3	-1.1	7.0	0.6	30.0	39.0	48.1	42.1	43.0	45.8	31.0	22.1	-6.0	-1.0	-8.0	23.4	27.6	32.5	45.1	47.1	51.1
Simcoe	27.3	15.0	3.0	6.0	-2.0	3.3	4.0	29.0	40.9	45.6	52.2	45.2	38.1	28.8	19.0	-5.0	-4.0	-9.0	22.5	27.0	29.7	38.5	46.0	47.5
Hamilton	32.0	13.1	5.7	4.7	-1.8	7.9	-2.9	20.4	35.2	42.3	48.5	38.3	35.2	28.7	18.4	-9.9	-14.2	-6.9	19.4	23.7	29.5	37.2	41.3	41.3
Dundas							30.0	48.0	58.0	62.0	60.0	58.0	38.0	26.0		0.0	4.0	8.0	28.0	32.0	42.0	54.0	60.0	58.0
Glencoe							35.0	48.0	51.0	60.0	53.0	50.0				7.0	2.0	4.0	22.0	32.0	40.0	48.0	48.0	56.0
Ingersoll							56.0	60.0	56.0	54.0	34.0	22.0							30.0	42.0				
Woodstock												16.1				-10.0	-6.9	-11.0	21.2	24.7	33.0	33.0	40.0	42.0
Widder									49.0	58.5	40.0	46.0	34.0	18.0		1.5	1.0	2.5	23.0					
Toronto	34.4	18.7	13.0	-6.0	-3.2	-6.6	-5.2	29.6	38.8	50.0	48.0	40.0	45.8	30.2	20.8	-5.8	13.2	15.8	17.0	26.4	32.4	41.2	47.8	46.0
Stratford	33.2	12.5	3.4	-2.5	-4.4	-3.0	-3.0	26.3	39.2	44.4	47.8	40.9	39.9	30.2	16.4	-8.6	-8.0	-13.4	20.5	25.4	28.0	34.9	39.4	38.2
Brampton																			13.0	14.0	25.0	29.0	38.0	47.0
Thornhill						8.0	13.0	36.0	45.0	55.0	58.0	47.0	49.0	34.0	27.0	-6.0	-11.0	-3.0	21.0	29.0	41.0	50.0	55.0	56.0
Goderich	37.2	22.2	13.1	9.2	-3.4	0.0	5.4	27.3	36.9	43.0	47.9	42.2	43.0	32.8	21.8	-3.7	-5.8	-11.8	18.9	24.8	28.2	34.7	42.5	41.8
Kincardine									42.0	45.8	51.3	45.5	47.0	34.5	25.5	8.8	12.0	-9.5	21.3	26.9	32.5	35.0	50.0	48.5
Belleville	34.4	18.7	13.4	-2.8	-17.5	-9.1	-0.3	27.2	38.3	50.7	51.7	43.5	41.1	30.4	19.7	-15.0	25.0	21.0	18.0	23.4	34.7	43.8	47.7	38.1
Peterborough	26.7	10.8	1.2	-10.5	-22.5	-15.2	-5.2	20.2	29.6	42.1	39.8	27.4	28.7	17.4	3.9	-24.5	-29.8	-24.6	5.9	17.7	29.6	28.8	36.4	38.0
N. Gwillimbury					-6.0		0.0	31.5	44.0	56.0	57.0	53.0	51.0	34.0	18.5	-4.0	-20.5	-21.0	16.0	19.5	29.0	48.0	52.0	51.5
Barrie	33.0	18.0	7.0	-3.9	-14.3	-10.1	4.4	24.9	34.6	45.0	47.0	38.0	41.9	29.2	19.3	-15.9	-19.4	-21.0	12.8	20.8	27.5	38.0	44.8	45.5
Stayner					-6.0		3.0	29.0	38.0	52.0	54.0	54.0	40.0	30.0	10.0	-12.2	-20.0	-18.0	18.0	22.0	28.0	53.0	38.0	40.0
Gravenhurst																			37.0	31.3				
Cornwall	29.7	19.4	6.7	0.2	-14.7	-18.7	-12.7	26.7	30.7	43.7	47.0	41.7	55.7	24.7	16.2	-15.7	-24.7	-17.7	12.0	19.4	31.7	41.7	50.4	42.7
Fitzroy Harbor							71.0	42.0	53.0	57.2	44.0	38.0	26.2			-18.0	-42.0	-30.0	5.0	17.0	38.0	48.0	43.7	50.0
Pembroke	27.5	15.7	-4.0	-17.5	-37.0	-23.0	-19.0	28.1	30.0	40.1	45.2	33.1	34.4	25.4	9.2	-23.0	-45.0	-32.9	7.5	9.0	32.0	33.8	39.0	39.0
Quebec.																								
Montreal	35.9	24.7	11.1	-2.3	-20.9	-8.1	-5.4	28.0	39.7	59.8	53.1	53.0	45.1	29.9	19.7	-6.2	-26.8	-28.0	-17.0	27.1	36.4	48.1	54.1	56.7
Quebec	34.0	19.5	7.1	-6.4	-14.5	-15.0	-11.4	26.7	31.4	45.0	49.0	40.0	34.0	23.0	11.0	-14.0	-28.5	-21.5	9.0	10.0	32.0	40.0	45.0	43.0
Huntingdon										53.0	54.0	50.0	40.0	28.0	22.0	-17.0	-30.0	-22.0	16.0	20.0	18.0	50.0	50.2	44.0

<i>New Brunswick.</i>																			
St. John	40.0	23.0	19.0	1.0	-7.0	-8.0	-3.0	23.0	32.0	48.0	50.0	48.0	42.0	25.0	16.0	-1.0	-21.0	-14.0	17.0
Bass River								22.0	31.0	48.0	55.0	50.0	32.0	19.6	13.0	-6.1	-22.3	-12.1	10.0
Petersville																	-30.0	-22.0	10.0
<i>Nova Scotia.</i>																			
Yarmouth									31.8	45.1	48.8		42.4	26.6	23.6	10.4	-6.8	-4.2	18.1
Digby												54.0	50.0	46.0	34.0	28.0	-8.0	-8.0	22.0
Halifax	35.1	22.9	18.8	12.2	-3.3	-3.1	-7.3	22.6	27.4	38.4	46.0	46.3	35.8	27.1	21.4	4.6	-13.7	-7.7	16.2
Windsor					-17.5	-4.0	-8.0	23.5	26.5	40.0	44.9	46.0	32.5	26.8	21.9	2.5	-15.0	-12.0	9.7
Wolfville													43.4	32.1	26.2	6.9	-15.0	-9.8	17.9
Pictou							-8.3	17.7	23.0	39.7	42.4	45.1	33.3	30.3	24.0	2.5	-16.5	-13.0	11.0
Hace Bay	38.0	22.0	22.0	15.0	7.0	-2.0	-2.5	20.0	22.0	33.0	39.0	45.0	35.0	28.0	25.0	10.0	-8.0	-5.5	10.0
Sydney					0.0	-5.0	-10.5	19.3	21.6	32.3	36.4	40.5	32.9	27.6	21.0	10.6	-8.6	-5.0	7.4
Albion Mines																	-15.0	-9.0	10.0
Liverpool																			37.0
<i>Manitoba.</i>																			
Winnipeg																			38.0
<i>Newfoundland.</i>																			
St. John's																			45.0

IV.—MEAN TEMPERATURE for each Quarter and Year from September, 1869, to August, 1871, with the Highest and Lowest Temperatures in each Year, and the Dates of their Occurrence.

	Mean Temperature, 1869-1870.					Highest Temperature.		Lowest Temperature.		Mean Temperature, 1870-1871.					Highest Temperature.		Lowest Temperature.	
	Autumn.	Winter.	Spring.	Summer.	Year.	Tempera- ture.	Time of Occurrence.	Tempera- ture.	Time of Occurrence.	Autumn.	Winter.	Spring.	Summer.	Year.	Tempera- ture.	Time of Occurrence.	Tempera- ture.	Time of Occurrence.
<i>Ontario.</i>																		
Windsor	47.3	27.0	47.1	71.3	48.4	96.2	June 25	-7.0	February 21	53.0	27.1	49.6	69.3	49.7	98.7	August 15.	-8.0	February 13
Simcoe	46.8	26.9	45.9	69.7	47.3	95.0	" 26	-3.3	" 21.	51.4	27.0	48.6	67.2	48.6	99.4	" 14.	-9.0	" 5
Hamilton	47.4	26.4	44.1	71.4	47.3	101.8	" 25	-7.9	" 22-3	51.1	25.5	46.3	68.4	47.8	99.0	" 4.	-14.2	January 23
Dundas .....	.....	.....	70.9	.....	102.0	" 25	.....	.....	.....	50.6	25.1	47.0	68.1	47.7	96.0	{ August 4 }	-8.0	February 5
Glencoe .....	.....	.....	69.0	.....	80.0	" 26	.....	.....	.....	.....	24.2	47.4	66.8	.....	84.0	August 3-7.	-7.0	December 24
Ingersoll .....	.....	.....	68.7	.....	100.0	" 26	.....	.....	.....	49.5	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.0	44.6	64.6	.....	92.0	August 14.	-11.0	February 5
Widder .....	.....	.....	44.5	67.9	.....	93.0	June 26	.....	.....	48.3	25.7	.....	.....	.....	.....	.....	-2.5	" 5
Toronto	45.2	24.9	42.4	67.7	45.1	88.4	" 18	-6.6	February 21	49.5	23.9	43.9	64.9	45.6	89.5	August 16.	-15.8	" 5
Stratford	43.1	22.8	42.7	66.9	43.9	88.7	" 27	-4.4	January 14.	48.1	22.8	44.4	63.9	44.8	86.6	" 14.	-13.4	" 6
Brampton .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43.9	65.5	.....	85.0	July 9.	-14.0	" 5
Thornhill .....	.....	.....	47.8	65.0	.....	82.0	June 25	.....	.....	46.1	20.7	43.4	63.7	43.5	81.0	May 30.	-11.0	January 23
Goderich	46.2	25.5	43.5	67.1	45.6	90.2	" 24	-3.4	January 14.	50.9	26.1	45.3	65.0	46.8	90.7	June 2.	-11.8	February 5
Kincardine .....	.....	.....	.....	66.7	.....	88.0	" 23	.....	.....	49.9	25.3	43.0	62.0	45.1	88.5	August 7.	-12.0	January 23
Belleville	45.9	22.5	43.4	70.7	45.6	94.4	" 25	-17.5	January 14.	48.9	20.5	45.4	68.1	45.7	88.3	July 14.	-25.0	" 23
Peterborough	43.9	20.6	43.4	70.3	44.6	95.0	" 27	-22.5	" 10.	47.7	18.7	45.0	66.6	44.5	93.7	August 3.	-29.8	" 23
N. Gwillimbury .....	.....	.....	44.5	71.4	.....	92.0	July 23-24.	.....	.....	50.6	21.1	44.2	66.8	45.7	95.0	July 13.	-21.0	February 5
Barrie	46.7	22.1	43.7	70.2	45.7	95.6	June 27	-14.3	January 14.	50.7	21.5	45.2	67.6	46.2	94.4	August 4.	-21.2	" 5
Stayner .....	.....	.....	42.2	68.2	.....	94.0	" 20	.....	.....	48.1	21.4	41.8	60.6	43.0	95.0	July 13.	-20.0	January 23
Gravenhurst .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16.6	41.7	64.0	.....	93.4	" 13.	-37.0	" 23
Cornwall	46.4	19.5	42.7	71.7	45.1	97.0	July 25	-18.7	February 4.	48.9	17.4	44.6	66.8	44.4	89.8	August 4.	-24.7	" 23
Fitzroy Harbor .....	.....	.....	.....	72.3	.....	96.0	June 27	.....	.....	.....	12.8	43.7	66.8	.....	97.0	July 13.	-42.0	" 23
Pembroke	44.0	14.9	41.5	68.5	42.2	98.5	" 24	-37.0	January 14.	45.5	11.6	41.3	63.3	40.4	96.0	June 1	-45.0	" 23
<i>Quebec.</i>																		
Montreal	47.5	19.6	44.9	72.6	46.2	96.1	July 24	-20.9	January 14.	51.0	17.6	45.5	69.2	45.8	95.0	July 13.	-23.0	February 5
Quebec	45.1	15.8	39.6	67.2	41.9	93.0	" 24	-15.0	February 4.	44.9	14.0	38.8	63.5	40.3	90.5	June 3	-28.5	January 23
Huntingdon .....	.....	.....	42.6	71.3	.....	94.0	" 24	.....	.....	48.4	17.4	45.4	67.7	44.7	92.0	{ July 13. }	-30.0	" 23
																{ June 2. }		

9.15.2

New Brunswick.																		
St. John	45° 4'	24° 3'	37° 7'	58° 9'	41° 6'	80° 0'	July 26	— 8° 0'	February 4	45° 9'	20° 7'	37° 8'	58° 2'	40° 7'	82° 0'	July 10	— 21° 3'	January 26
Bass River	...	...	...	55° 6'	...	92° 0'	" 24	...	...	45° 4'	17° 5'	37° 6'	61° 9'	40° 6'	83° 0'	August 4	— 22° 3'	" 24
Petersville	...	...	...	...	...	...	...	...	...	...	10° 6'	39° 5'	61° 9'	...	84° 0'	June 4	— 30° 0'	" 5
Nova Scotia.																		
Yarmouth	...	...	...	...	...	84° 0'	June 26	...	...	47° 8'	26° 6'	35° 4'	59° 6'	42° 4'	80° 0'	July 29	— 6° 8'	January 26
Digby	...	...	...	...	...	84° 0'	July 24	...	...	50° 5'	27° 6'	43° 0'	61° 7'	45° 7'	80° 0'	<div>May 30 June 28 Aug. 30</div>	— 8° 0'	February 5
Halifax	47° 6'	28° 8'	39° 0'	63° 4'	44° 7'	91° 5'	" 24	— 7° 3'	March 12	48° 2'	24° 9'	38° 9'	60° 5'	43° 1'	87° 2'	May 30	— 13° 7'	January 26
Windsor	...	...	40° 3'	64° 7'	...	88° 8'	June 5	...	...	47° 3'	22° 8'	39° 4'	62° 4'	43° 0'	84° 0'	" 30	— 15° 0'	" 26
Wolfville	...	...	...	...	...	...	...	...	...	47° 2'	23° 8'	39° 6'	...	...	85° 4'	August 4	— 15° 0'	" 26
Pictou	...	...	37° 2'	63° 0'	...	87° 3'	July 24	...	...	46° 7'	22° 2'	37° 2'	62° 4'	42° 1'	83° 5'	" 4	— 16° 5'	" 26
Glace Bay	47° 7'	27° 8'	36° 0'	60° 5'	43° 0'	89° 5'	" 24	— 2° 5'	March 13	46° 5'	24° 7'	35° 5'	59° 0'	41° 4'	83° 5'	" 4	— 8° 0'	" 24
Sydney	...	...	36° 7'	61° 2'	...	89° 0'	" 24	...	...	46° 4'	24° 3'	36° 1'	59° 5'	41° 6'	81° 6'	" 4	— 8° 6'	" 23
Liverpool	...	...	...	...	...	...	...	...	...	...	...	...	62° 7'	...	86° 0'	" 7	—	" 24

V.—MEAN DAILY TEMPERATURE, corrected for Diurnal Variation at

KINCARDINE, 1870-1871.													WOODSTOCK, 1870-1871.												
Days.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.
1	65.7	57.3	47.9	41.2	31.8	32.0	39.0	52.4	40.7	74.0	74.5	59.5	.....	.....	43.5	35.8	26.5	20.3	33.7	32.0	51.1	72.5	62.7	63.4	1
2	59.4	61.8	53.8	39.6	27.9	21.0	32.2	45.6	49.3	73.7	68.1	68.6	.....	.....	54.4	35.8	25.0	26.1	33.4	38.9	50.9	73.1	63.4	66.4	2
3	60.1	56.5	40.2	40.4	16.0	23.2	32.3	43.2	51.7	70.8	71.3	74.4	.....	.....	42.4	36.0	14.6	26.1	33.9	39.3	47.5	71.2	63.2	72.4	3
4	59.0	52.4	46.8	37.1	19.6	1.9	33.1	40.9	44.2	63.5	62.3	70.5	.....	.....	42.5	38.6	9.1	17.0	23.0	43.7	40.9	73.6	62.7	75.7	4
5	53.8	50.6	35.7	38.2	31.5	4.8	33.9	31.2	41.5	63.6	70.7	66.7	.....	.....	41.1	37.0	32.9	4.0	37.3	34.8	47.4	70.8	67.8	68.8	5
6	64.9	49.9	42.7	33.9	17.1	9.2	29.6	4.0	40.4	73.0	66.2	69.4	.....	.....	36.4	34.6	22.8	6.6	31.4	42.9	45.7	69.7	69.4	71.7	6
7	67.8	48.6	41.3	36.5	16.9	23.2	33.3	6.8	39.4	61.1	61.6	78.2	.....	.....	37.3	33.0	12.7	18.5	31.9	63.1	42.5	69.6	67.8	77.2	7
8	74.5	46.5	38.9	29.1	15.1	31.4	31.4	68.6	38.6	48.2	71.5	67.1	.....	.....	48.3	30.0	13.8	27.9	42.7	67.4	39.9	57.7	68.3	77.1	8
9	62.3	48.4	38.6	30.1	18.7	26.5	31.5	47.3	39.5	53.0	61.2	60.8	.....	.....	42.7	32.4	10.6	27.6	50.6	63.0	43.9	52.7	74.2	65.3	9
10	52.2	57.9	34.7	28.8	29.5	15.0	42.7	38.8	40.2	59.6	59.1	68.7	.....	.....	32.1	27.1	20.3	15.2	42.1	38.0	46.7	62.2	66.5	65.7	10
11	52.9	58.1	35.1	30.2	41.8	14.9	33.4	38.6	50.6	55.6	67.0	66.2	.....	.....	31.9	27.0	37.7	15.7	38.0	40.8	51.3	62.2	68.2	64.2	11
12	53.9	53.6	43.9	36.7	47.9	15.5	31.4	36.4	48.6	50.4	69.7	63.5	.....	.....	35.8	34.3	45.3	16.1	32.8	40.1	60.7	54.2	63.3	66.0	12
13	60.8	51.4	41.7	35.0	40.8	20.7	28.1	34.2	37.6	.....	77.1	57.9	.....	.....	40.0	33.8	45.8	10.3	32.5	40.7	52.9	56.0	74.1	63.5	13
14	65.6	53.0	35.8	29.0	25.8	22.2	35.7	36.0	38.9	53.4	66.3	73.7	.....	.....	33.2	29.7	33.8	16.1	28.4	37.0	45.3	57.0	73.2	70.1	14
15	69.3	58.7	33.6	27.2	23.2	35.5	35.7	33.5	44.9	46.0	70.7	72.6	.....	.....	31.5	24.8	30.0	25.6	31.2	33.9	50.5	54.5	67.1	76.2	15
16	64.1	60.6	36.1	26.3	18.1	36.6	44.5	31.7	48.3	45.6	61.7	66.7	.....	.....	32.2	23.1	18.0	33.4	35.1	38.5	54.5	52.3	69.1	73.1	16
17	58.5	51.8	34.4	29.9	24.3	33.5	34.6	33.0	36.5	.....	61.3	62.8	.....	.....	36.0	26.1	19.8	30.2	40.4	39.5	46.8	54.5	61.8	63.4	17
18	60.0	42.3	28.4	30.3	22.6	22.1	36.2	47.4	49.5	.....	58.1	57.3	.....	.....	27.7	28.4	21.6	25.4	36.9	41.4	49.4	62.1	61.8	63.4	18
19	56.3	44.2	31.7	29.7	29.1	26.0	30.6	53.9	65.9	.....	55.4	54.4	.....	.....	23.5	29.2	22.2	23.2	29.0	45.4	58.1	66.9	55.0	59.4	19
20	54.5	44.6	33.8	29.7	31.7	16.1	41.2	48.3	72.1	.....	54.4	61.9	.....	.....	35.7	28.5	31.4	23.7	39.9	49.4	70.9	58.4	56.7	64.3	20
21	59.3	49.7	27.9	17.6	22.0	13.5	31.9	39.5	65.6	52.3	55.8	58.7	.....	.....	28.7	12.9	28.5	12.7	31.6	42.5	69.8	57.1	57.9	62.0	21
22	66.1	42.2	28.3	17.0	1.8	19.0	31.6	31.1	48.7	61.0	55.2	62.0	.....	.....	24.8	6.5	5.7	10.2	26.6	37.7	61.3	58.3	55.6	66.1	22
23	62.3	55.3	34.5	14.9	-2.1	40.7	31.6	39.2	43.5	59.4	62.9	63.4	.....	.....	28.5	4.9	1.7	26.4	25.8	39.2	50.7	63.7	60.4	71.3	23
24	57.5	63.8	32.8	15.4	.....	43.2	22.3	52.3	56.8	56.1	61.0	57.4	.....	.....	32.1	7.0	7.3	46.9	28.6	45.9	54.1	55.3	62.9	70.3	24
25	57.3	43.2	35.8	14.5	.....	37.0	38.3	37.0	65.9	59.5	67.9	57.6	.....	.....	31.0	9.9	7.4	36.1	31.1	47.4	64.1	61.7	65.7	62.8	25
26	62.3	40.2	39.9	19.2	.....	29.9	36.7	45.4	59.4	63.4	68.4	65.4	.....	.....	32.9	16.5	6.0	30.3	31.5	44.7	66.9	66.0	65.3	61.3	26
27	60.3	53.4	41.3	17.9	21.3	23.4	30.9	54.2	62.4	60.2	59.6	56.5	.....	.....	38.9	14.9	16.5	24.5	31.1	51.4	61.4	69.3	64.6	65.4	27
28	57.8	45.2	44.8	9.1	19.6	31.8	30.7	48.8	69.0	52.1	57.7	64.1	.....	.....	39.6	14.2	11.5	27.1	32.3	51.7	67.0	59.0	58.3	63.1	28
29	63.9	38.7	37.0	13.7	29.0	.....	37.4	42.4	73.6	42.2	57.2	64.1	.....	.....	38.1	2.7	24.8	.....	33.2	44.4	74.0	51.2	63.2	67.0	29
30	59.6	38.6	35.0	27.2	32.1	.....	33.8	40.6	68.2	44.1	66.5	58.4	.....	.....	30.6	21.8	31.1	.....	40.1	47.6	73.2	52.5	.....	60.7	30
31	.....	42.2	.....	30.2	38.2	.....	29.7	.....	63.8	.....	62.7	55.8	.....	.....	.....	28.4	36.5	.....	35.6	.....	73.2	.....	66.7	56.3	31
	60.7	50.4	38.6	27.6	24.5	23.7	34.7	43.0	51.4	58.1	63.7	64.1	.....	.....	35.8	24.5	21.5	22.3	34.3	43.8	55.2	61.5	64.9	66.8	

VI.—MEAN DAILY TEMPERATURE, corrected for diurnal variation at

	STAYNER, 1870-71.												FITZROY HARBOR, 1870-71.												
Days.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.
1	69.2	59.1	46.6	42.4	.....	31.3	31.0	31.6	43.4	73.8	58.1	57.4	66.3	61.7	.....	.....	5.6	26.8	35.8	34.0	49.0	77.9	69.3	63.9	1
2	64.3	.....	53.2	37.8	25.6	22.8	31.7	.....	46.0	73.4	.....	65.3	67.2	60.6	.....	31.7	19.6	21.0	23.2	39.9	52.3	80.8	.....	69.2	2
3	57.1	57.1	40.1	37.1	16.3	21.9	23.1	33.6	49.5	68.2	61.6	70.5	67.3	56.8	.....	34.3	8.1	12.2	26.1	39.7	49.5	71.3	68.8	72.8	3
4	.....	55.2	42.1	.....	11.7	5.4	28.7	39.5	41.7	.....	61.1	73.4	61.8	54.2	.....	32.9	0.9	16.0	21.9	38.7	41.5	75.7	66.4	76.6	4
5	58.7	52.5	37.8	33.2	30.3	.....	26.7	43.7	65.9	62.6	67.2	.....	55.9	54.1	.....	31.6	14.1	17.6	33.0	24.7	44.5	67.6	70.2	69.5	5
6	59.7	49.9	.....	32.6	18.2	2.4	27.7	39.5	38.8	70.2	64.6	.....	56.6	54.2	.....	32.0	10.7	7.4	32.3	36.4	49.3	77.6	71.3	69.9	6
7	63.6	53.5	38.8	30.3	7.4	16.4	30.3	72.1	.....	65.0	63.0	74.4	60.6	45.2	.....	29.7	4.8	8.5	25.8	49.7	41.1	76.4	65.0	74.0	7
8	72.8	45.6	46.9	28.7	.....	30.3	41.5	70.8	38.1	51.6	72.4	70.5	67.9	50.3	.....	31.1	5.5	20.8	36.0	50.0	41.7	64.2	74.5	75.8	8
9	66.5	.....	38.1	27.0	.....	23.3	47.9	.....	37.5	51.9	.....	63.6	68.0	51.8	.....	24.2	13.0	30.3	44.4	50.9	47.0	57.3	75.4	66.3	9
10	57.7	52.2	32.3	22.1	19.2	17.5	47.9	35.6	39.5	58.4	53.7	60.7	54.1	57.5	.....	15.7	0.4	7.4	42.6	39.1	43.6	63.5	71.9	70.0	10
11	.....	57.7	29.7	.....	40.1	16.9	42.0	37.5	52.5	.....	64.6	63.3	50.5	58.3	.....	21.7	11.7	1.1	41.8	33.0	55.9	65.5	72.6	73.5	11
12	48.0	55.7	35.9	35.2	45.0	.....	35.5	48.9	50.9	73.4	56.1	.....	51.6	57.8	.....	37.7	24.3	4.2	36.1	37.7	59.9	59.8	71.8	59.5	12
13	54.5	48.3	.....	33.2	44.7	14.0	27.0	32.9	46.6	51.8	73.6	.....	61.0	51.9	.....	37.2	36.4	3.2	31.4	39.4	42.2	53.8	79.7	65.1	13
14	58.4	48.9	33.9	27.7	24.4	18.9	20.3	34.9	.....	52.3	66.2	63.3	62.2	51.3	.....	32.5	19.2	15.3	29.4	39.2	48.2	56.3	72.8	71.0	14
15	66.2	58.4	33.6	19.2	.....	26.4	33.6	32.6	44.7	46.9	64.6	71.8	65.1	52.7	.....	12.2	22.0	19.3	30.7	36.5	.....	56.0	69.2	73.8	15
16	60.1	.....	34.2	22.9	13.3	27.1	37.8	.....	57.7	43.7	.....	67.2	55.1	64.7	.....	10.2	.....	27.3	31.0	39.7	58.3	54.4	.....	76.6	16
17	61.3	52.8	35.2	28.0	15.0	30.7	37.5	31.6	37.1	51.8	59.7	58.1	59.8	56.4	.....	27.0	4.7	22.8	36.8	42.3	.....	57.5	60.0	60.8	17
18	.....	41.5	25.8	.....	19.1	20.2	32.2	42.4	44.0	.....	55.2	59.4	50.2	38.8	.....	9.2	6.7	21.9	37.3	.....	51.8	65.1	60.6	60.4	18
19	51.5	40.8	26.8	.....	23.4	.....	.....	47.3	64.0	.....	50.9	54.5	54.4	41.8	.....	18.0	7.7	16.4	27.3	51.5	63.3	69.4	61.1	57.6	19
20	57.4	42.7	.....	32.6	31.7	10.7	40.5	47.6	69.9	.....	53.8	.....	59.9	42.1	.....	27.0	24.4	10.0	31.1	50.4	73.5	65.7	59.8	56.7	20
21	57.7	40.5	25.8	16.6	19.2	7.4	31.9	39.1	.....	53.5	56.7	.....	65.2	51.9	.....	21.9	19.6	5.8	35.4	47.4	76.9	59.8	61.4	61.6	21
22	52.6	35.8	22.2	12.6	.....	9.1	30.0	34.2	50.0	.....	50.6	65.0	64.9	42.5	.....	7.3	20.7	3.5	28.7	43.9	62.9	64.5	59.9	67.1	22
23	63.0	.....	29.7	12.0	.....	11.7	30.3	24.8	.....	41.5	.....	66.5	61.9	41.7	.....	2.9	26.1	12.9	27.6	39.5	50.5	59.8	65.9	71.3	23
24	60.7	63.3	36.9	6.2	9.1	.....	27.3	42.7	49.6	.....	53.8	59.7	55.2	58.3	.....	7.3	11.3	37.4	27.2	42.8	55.1	62.3	66.6	68.9	24
25	.....	45.4	31.7	.....	1.1	32.3	28.3	39.5	66.9	.....	62.6	57.4	59.0	45.1	.....	5.8	23.3	34.8	28.8	45.1	67.0	71.6	76.0	64.9	25
26	59.7	36.8	33.6	15.0	2.9	.....	44.4	64.3	.....	67.5	55.8	53.1	33.1	.....	21.5	14.8	29.0	31.4	44.5	70.4	71.7	70.6	61.1	26	
27	56.1	50.3	.....	17.5	18.2	21.5	31.9	48.6	57.4	.....	62.6	.....	55.7	42.9	.....	26.5	3.7	23.5	30.8	47.0	58.5	74.5	.....	63.5	27
28	.....	41.7	39.8	6.2	13.3	31.0	30.3	48.9	.....	57.7	57.1	62.0	54.1	39.0	.....	2.6	4.7	23.7	25.0	46.5	66.1	63.5	60.2	61.6	28
29	.....	37.1	31.9	3.8	.....	.....	35.2	43.7	64.6	49.9	56.4	66.6	56.4	35.4	.....	10.0	15.1	.....	34.3	49.5	78.9	55.9	68.2	68.8	29
30	.....	.....	37.5	23.0	26.4	.....	36.6	.....	66.5	53.8	.....	61.3	60.3	34.4	.....	6.5	17.8	.....	39.2	45.7	75.2	61.3	72.7	65.5	30
31	.....	39.5	.....	27.7	35.6	.....	27.0	.....	69.2	.....	56.4	53.8	.....	37.8	.....	16.2	31.5	.....	27.6	.....	72.1	.....	63.9	56.8	31
	60.3	48.6	35.5	24.5	19.9	19.9	33.1	41.4	50.9	57.5	61.1	63.1	59.7	49.2	.....	19.3	5.6	13.5	31.9	42.4	56.7	65.4	67.8	67.2	

VII.—MEAN DAILY TEMPERATURE, corrected for diurnal variation at

QUEBEC.																	QUEBEC.																	
Days.																		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.				
1																		62.0	57.5	33.0	36.0	15.0	26.2	32.0	27.6	41.5	64.2	66.2	61.4	1				
2																		58.0	55.0	37.5	35.0	17.0	29.0	21.7	36.9	44.1	73.8	71.5	66.3	2				
3																		56.5	53.5	40.0	22.0	18.5	1.3	26.8	38.8	42.7	68.8	65.5	70.0	3				
4																		56.0	49.5	36.5	26.0	7.0	11.7	24.1	39.4	42.9	70.5	65.6	73.2	4				
5																		54.5	47.0	34.5	21.5	7.5	8.3	24.1	25.8	37.7	64.1	66.7	66.1	5				
6																		54.0	44.0	29.5	31.5	20.0	4.5	31.8	29.0	40.3	56.0	68.0	66.8	6				
7																		54.5	43.5	33.0	29.5	2.0	12.1	22.2	36.8	39.5	53.5	65.5	68.7	7				
8																		55.5	46.5	33.0	31.0	9.0	21.0	32.1	34.8	45.3	54.2	68.2	65.6	8				
9																		63.0	51.5	41.0	30.0	10.0	28.2	38.0	34.1	45.6	56.6	67.5	57.2	9				
10																		53.0	56.5	33.0	27.0	9.5	11.9	35.0	37.2	45.6	63.4	63.7	65.5	10				
11																		49.5	60.0	39.0	34.5	23.5	6.6	41.0	33.2	49.2	59.6	66.6	62.0	11				
12																		51.5	56.5	33.5	32.5	9.0	1.9	39.1	33.7	45.0	65.3	68.4	67.8	12				
13																		49.5	60.0	39.0	34.5	23.5	6.6	41.0	33.2	49.2	59.6	66.6	62.0	13				
14																		57.5	52.5	40.5	33.0	31.5	10.4	33.5	37.4	39.3	54.7	73.5	61.7	14				
15																		62.0	48.0	37.5	34.0	31.0	10.5	29.5	36.6	42.9	57.0	67.2	64.8	15				
16																		63.5	46.0	35.0	23.0	18.5	17.5	22.0	34.9	42.9	57.0	69.3	68.0	16				
17																		55.5	53.0	37.0	24.5	13.5	26.8	24.6	35.6	53.0	65.3	61.0	64.4	17				
18																		57.0	56.0	37.5	19.0	15.0	20.0	30.5	36.4	45.6	59.9	61.0	62.2	18				
19																		54.5	43.0	35.5	20.0	2.5	32.4	34.9	34.8	48.2	65.3	60.4	.....	19			
20																		52.0	55.0	31.0	15.0	5.0	9.5	29.0	39.6	49.3	66.4	62.5	55.6	20				
21																		54.5	41.5	29.0	25.5	15.0	11.2	23.4	39.2	49.3	63.8	59.8	56.2	21				
22																		56.0	44.5	31.0	23.5	26.0	2.4	31.7	43.0	73.6	53.8	60.0	58.3	22				
23																		62.6	45.5	22.0	13.0	5.5	5.6	31.4	38.5	64.3	58.0	59.0	63.1	23				
24																		58.5	38.5	30.0	5.0	23.5	15.4	26.1	38.5	45.6	59.8	60.4	67.3	24				
25																		54.0	49.0	24.5	1.0	8.5	29.6	21.9	39.0	50.0	62.2	64.3	69.2	25				
26																		55.5	52.0	32.0	2.0	14.2	26.9	28.2	35.4	63.0	68.5	69.9	61.3	26				
27																		50.0	32.5	36.0	17.5	14.5	33.3	30.1	41.2	62.5	67.1	64.2	63.0	27				
28																		53.0	32.0	36.0	24.5	0.5	29.7	26.4	42.1	51.8	65.9	68.6	60.2	28				
29																		46.5	36.5	35.5	15.0	7.5	11.6	28.7	42.5	52.5	63.1	63.1	62.4	29				
30																		52.0	34.0	29.0	2.5	7.0	.....	26.2	41.0	73.2	58.5	63.5	64.7	30			
31																		57.0	34.0	20.0	1.5	13.0	.....	37.2	42.0	66.4	56.5	63.4	64.5	31			
																		33.5	.....	24.5	19.0	.....	26.3	.....	60.0	63.5	.....	58.2	31	
																		40.5	52.3	67.1	69.4	65.0	55.6	46.0	33.1	21.3	6.0	14.8	29.3	36.8	50.2	61.4	65.1	63.9

VIII.—MEAN DAILY TEMPERATURE, corrected for diurnal variation at

St. JOHN, 1870-71.													BASS RIVER, 1870-71.												
Days.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.
1					24.0	35.3	31.3	28.7	40.3	50.0	57.3	65.0	63.5	52.2	33.0	31.0	23.6	21.6	30.5	29.7	38.8	55.0	62.0	69.5	1
2					22.0	29.7	33.3	31.7	42.0	51.3	55.3	60.3	64.0	49.2	33.8	34.0	15.5	25.5	29.0	31.1	41.0	65.8	65.5	70.3	2
3					24.3	10.3	38.3	34.3	40.3	56.0	59.7	57.3	65.8	45.2	55.2	19.4	15.5	7.5	40.2	36.3	39.6	56.5	64.8	72.0	3
4					10.0	1.3	30.3	37.0	40.7	56.3	63.3	57.3	65.0	45.4	41.7	23.3	4.7	2.5	24.7	40.5	39.3	58.7	61.2	71.8	4
5					18.7	5.7	25.7	34.7	34.7	53.7	60.7	59.7	65.0	46.7	40.3	20.5	10.7	5.8	19.5	34.8	33.8	47.3	61.2	66.2	5
6					38.7	6.0	28.3	32.0	40.3	49.7	59.7	62.0	52.1	37.0	30.8	31.7	38.0	5.6	29.3	31.6	36.0	53.3	66.3	63.6	6
7					22.3	12.7	32.0	33.3	38.0	49.7	58.0	62.7	52.0	42.1	31.0	32.0	19.3	10.8	23.7	32.8	35.8	55.3	65.8	62.0	7
8					4.0	19.7	24.7	36.7	39.0	50.3	63.3	63.7	58.0	38.0	32.3	30.3	0.9	13.2	23.3	36.8	38.7	47.7	61.0	66.8	8
9					7.3	29.7	32.7	35.0	41.3	58.3	62.3	63.3	58.7	48.0	38.0	32.5	7.2	24.2	36.0	30.3	40.1	59.3	66.8	65.0	9
10					3.7	25.7	38.3	38.0	42.7	56.3	66.3	60.7	55.7	48.0	41.3	36.4	5.6	23.5	37.5	34.2	45.5	62.7	60.1	60.1	10
11					19.3	7.0	38.0	34.7	44.7	50.7	61.3	62.0	47.7	51.5	42.5	36.5	23.5	4.7	42.6	32.8	47.1	58.5	58.5	58.5	11
12					27.7	8.0	44.0	31.0	47.3	50.7	59.3	60.7	47.5	55.0	44.0	32.6	24.8	5.2	50.5	30.7	50.2	61.5	69.5	69.5	12
13					33.7	14.3	41.3	36.6	42.0	51.0	66.3	63.0	56.3	61.0	41.7	31.9	30.5	12.5	43.7	35.0	42.5	61.3	59.0	59.0	13
14					35.3	15.7	34.7	41.7	41.7	53.0	61.7	62.7	62.5	61.0	38.5	34.0	35.1	10.8	33.8	37.3	42.5	57.2	63.3	63.3	14
15					26.7	18.7	27.7	39.3	41.7	53.0	60.7	62.3	66.0	51.7	37.8	27.5	20.5	12.5	25.3	32.5	42.5	61.7	68.2	68.2	15
16					39.7	23.7	23.0	39.0	44.3	52.3	57.0	58.0	47.5	47.7	33.5	25.5	31.1	19.8	24.3	33.5	49.5	54.0	68.2	68.2	16
17					28.0	26.3	31.0	35.7	46.7	57.3	59.3	60.0	51.6	54.2	33.0	19.5	22.0	22.8	27.8	31.5	51.0	52.2	62.5	62.5	17
18					13.7	32.7	39.3	35.3	46.7	54.7	58.0	57.7	57.0	60.5	36.2	18.8	8.5	31.6	38.7	31.8	47.0	60.8	58.8	58.8	18
19					6.3	24.3	32.0	39.3	46.7	57.0	59.0	57.7	54.7	51.2	33.0	22.3	1.8	19.8	27.8	32.8	53.2	64.0	55.2	55.2	19
20					24.3	23.0	28.0	34.3	46.3	54.0	56.0	58.0	56.5	56.5	31.4	25.7	19.5	19.0	26.5	34.3	58.8	67.5	56.0	56.0	20
21					30.3	10.3	33.3	36.7	47.3	58.7	57.0	57.0	46.5	34.4	26.0	27.1	2.2	31.7	41.0	66.0	56.7	55.2	55.2	21	
22					14.3	8.3	35.3	41.0	48.7	55.3	57.0	58.0	62.5	50.2	22.5	18.3	13.7	5.0	34.3	34.5	58.3	58.1	56.5	56.5	22
23					13.3	19.3	35.3	39.7	47.3	54.0	57.3	56.7	53.3	44.0	35.8	7.2	14.2	14.2	31.5	33.6	46.0	55.3	61.0	62.1	23
24					5.0	31.0	27.3	38.3	45.3	55.7	58.7	56.0	54.0	42.0	29.9	1.8	6.0	23.0	26.1	35.0	41.2	59.0	63.7	65.7	24
25					2.0	26.3	26.3	38.0	48.0	54.7	62.3	60.3	55.7	52.4	30.3	4.8	6.3	37.0	25.7	42.2	56.2	61.5	66.8	61.8	25
26					12.0	33.7	34.0	38.7	54.3	53.0	60.3	58.0	47.8	32.2	37.2	10.5	9.8	30.7	33.3	33.5	55.5	64.2	58.5	58.5	26
27					6.3	35.0	27.7	40.0	48.3	57.0	56.7	57.3	46.7	30.7	36.2	19.0	1.3	32.2	24.8	36.2	39.0	65.0	57.3	57.3	27
28					4.3	23.3	25.0	40.0	44.7	58.7	58.3	59.7	49.0	36.2	29.0	25.6	0.0	20.9	23.3	41.5	48.5	66.0	60.2	60.2	28
29					7.7	27.0	27.0	40.3	48.0	55.3	64.0	60.7	45.2	32.5	27.0	15.4	2.0	26.6	38.2	62.3	63.0	61.5	62.1	62.1	29
30					26.3	32.4	42.3	57.0	60.0	66.0	66.0	61.3	48.9	31.7	20.6	4.3	15.0	.....	34.5	41.6	55.6	68.5	70.2	70.2	30
31					30.0	32.7	.....	51.3	.....	66.0	57.0	.....	.....	29.5	.....	28.7	23.1	.....	30.2	48.8	.....	72.3	64.7	64.7	31
					16.7	19.8	31.9	36.8	44.7	54.3	60.3	59.9	55.7	45.5	34.9	23.4	12.9	16.4	30.9	34.9	46.9	58.3	64.7	62.8	

IX.—MEAN DAILY TEMPERATURE at

HALIFAX, 1869-70.													HALIFAX, 1870-71.												
Days.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.
1	53.0	61.2	38.6	47.6	27.9	24.5	33.1	38.6	41.5	70.5	56.0	65.6	64.3	55.7	39.1	32.6	32.7	39.9	29.7	31.3	41.0	53.2	59.4	65.8	1
2	54.3	56.0	35.9	23.6	33.0	14.4	35.2	34.3	45.7	48.6	59.4	67.6	66.3	52.7	43.4	36.3	25.8	30.0	35.1	28.9	42.4	55.8	54.3	68.8	2
3	56.2	60.2	37.3	20.9	44.6	9.2	30.4	34.0	55.3	58.5	56.2	66.7	67.1	47.8	52.2	26.2	26.7	19.8	40.7	36.6	43.3	59.8	62.7	64.1	3
4	61.7	65.4	40.5	17.8	35.1	3.4	22.8	38.0	47.5	59.1	57.5	63.7	65.4	48.3	45.7	26.9	22.1	7.2	36.2	37.5	39.7	51.8	61.1	65.4	4
5	64.3	58.3	47.2	35.2	31.8	7.9	20.0	42.7	35.3	71.1	54.7	66.5	63.9	49.2	43.1	28.9	21.5	0.7	25.7	33.9	33.9	53.1	62.8	61.1	5
6	61.7	45.4	48.1	27.4	31.2	18.2	19.8	41.5	36.2	67.7	63.6	66.2	55.6	45.0	35.7	39.1	45.4	9.7	28.7	33.3	42.5	51.5	66.8	64.6	6
7	66.8	47.1	47.0	32.9	36.9	17.1	23.6	40.0	40.5	61.7	66.7	64.2	52.5	46.2	32.2	36.8	34.2	17.9	30.6	31.0	40.7	55.6	59.1	66.9	7
8	68.7	51.7	37.4	21.7	22.1	24.1	27.1	38.9	45.2	51.6	65.5	68.2	51.0	42.8	32.9	34.5	14.8	18.7	26.8	35.5	41.8	56.4	62.4	64.0	8
9	66.0	51.1	35.0	21.0	19.0	32.9	24.6	44.4	40.3	47.6	66.6	69.0	51.6	48.1	37.1	37.9	17.8	29.1	32.1	36.1	42.7	63.3	64.2	62.3	9
10	59.9	58.2	37.7	25.8	25.3	23.8	23.1	49.5	39.7	53.2	66.6	68.5	55.6	55.5	42.7	38.4	11.8	31.6	43.2	33.7	40.1	58.2	65.7	59.7	10
11	61.1	56.7	33.3	33.4	27.4	21.0	14.4	43.9	42.5	57.9	67.5	70.0	52.9	56.4	39.1	42.2	20.8	12.2	38.6	36.5	46.2	53.4	59.9	62.0	11
12	55.7	54.8	33.2	31.0	30.9	31.0	10.2	43.8	45.8	57.0	66.5	70.6	48.2	59.4	41.6	33.9	32.9	12.8	42.5	33.2	51.1	57.6	57.8	65.1	12
13	55.8	54.9	33.3	29.0	24.0	...	17.5	37.0	43.8	63.4	62.4	71.1	55.9	60.9	43.3	37.8	33.4	13.7	41.1	39.2	45.1	55.3	67.5	64.2	13
14	59.0	52.3	31.4	25.4	6.7	19.8	20.9	36.7	47.5	61.8	64.1	60.9	57.1	53.5	40.5	39.5	31.4	16.7	31.8	37.4	41.7	57.3	62.4	64.6	14
15	61.2	48.5	31.8	27.3	17.2	...	30.2	33.7	53.5	66.3	66.5	59.8	59.9	50.7	46.2	33.4	30.7	21.5	29.2	40.9	45.4	57.2	62.2	63.2	15
16	56.7	54.1	25.4	26.5	41.1	26.4	29.8	31.7	44.7	65.5	64.2	69.0	57.0	52.8	42.6	25.7	41.8	21.3	26.5	39.5	48.7	58.4	63.1	63.5	16
17	51.3	57.7	30.3	35.0	32.6	15.6	30.4	37.3	45.7	63.2	68.9	62.5	56.5	56.7	35.7	26.7	37.2	27.0	28.8	37.5	49.0	56.5	59.6	62.3	17
18	53.0	47.1	45.1	42.5	41.1	24.6	31.1	41.5	45.5	59.2	59.0	65.1	58.5	54.6	36.8	27.6	22.6	28.1	41.2	34.0	48.9	59.1	62.2	63.3	18
19	55.5	41.9	32.7	42.0	...	39.6	28.9	40.7	51.3	51.8	63.9	66.0	51.7	41.6	40.2	25.2	13.1	32.9	39.0	35.4	47.1	54.2	62.3	59.5	19
20	59.2	39.7	41.9	31.8	30.4	34.7	31.8	37.7	54.3	57.4	63.2	64.1	52.7	50.2	36.7	33.9	29.8	23.4	29.1	32.7	49.3	59.4	60.3	58.0	20
21	49.7	40.8	50.0	22.7	...	30.7	36.6	43.2	53.3	57.0	68.3	60.6	53.4	54.2	42.6	34.0	36.7	16.9	32.9	38.5	55.2	60.1	63.7	57.9	21
22	48.8	48.5	43.0	24.3	17.5	24.1	35.3	42.5	47.3	53.1	68.2	59.2	57.9	49.2	31.1	25.1	26.8	6.0	36.1	40.2	48.8	57.8	58.8	59.3	22
23	51.8	53.9	33.1	40.7	38.1	26.7	35.0	45.3	46.7	58.5	62.9	60.3	58.2	45.4	42.2	17.0	3.2	17.2	35.0	36.6	49.5	52.5	61.1	57.3	23
24	55.7	56.7	39.5	26.5	33.4	38.6	35.7	41.1	36.0	53.1	74.2	59.7	57.9	43.2	35.7	10.1	3.9	27.1	30.8	36.6	43.2	53.7	63.1	61.4	24
25	56.1	38.0	37.7	34.6	32.9	27.8	30.4	40.2	42.3	57.9	75.2	64.8	60.8	52.4	34.5	11.0	8.0	40.0	25.7	39.9	49.4	52.5	63.7	65.0	25
26	63.3	33.7	31.9	41.0	39.4	23.1	28.9	41.5	46.8	59.5	71.0	62.7	56.8	39.6	43.7	16.0	6.5	34.9	33.0	36.6	59.0	52.7	62.0	62.1	26
27	63.2	32.7	31.3	42.7	40.4	27.7	28.3	50.8	48.5	57.8	62.0	55.3	54.7	35.1	41.4	26.9	16.4	35.0	29.5	41.6	46.9	56.0	65.4	60.5	27
28	49.5	28.3	30.2	42.2	27.6	30.4	33.8	42.9	47.2	62.4	62.3	62.7	53.0	44.0	33.4	35.3	8.5	27.8	26.5	37.1	45.4	53.4	67.0	61.8	28
29	48.3	33.2	28.9	42.3	23.4	...	37.7	48.6	50.5	64.4	64.0	63.1	51.8	33.3	30.0	29.0	9.5	...	27.7	37.5	52.6	57.0	67.2	58.1	29
30	57.3	40.5	34.0	35.8	29.6	...	40.6	41.9	64.2	60.0	65.0	64.2	47.8	33.5	26.4	16.6	21.5	...	33.6	45.5	64.2	61.1	65.5	64.9	30
31	...	40.7	...	35.7	15.0	...	37.3	...	53.0	...	68.9	63.7	...	34.6	...	34.9	29.6	...	35.6	...	50.9	...	67.2	62.6	31
	57.5	48.4	36.8	32.0	29.9	24.6	28.8	41.2	47.1	59.9	65.3	64.9	57.2	48.1	39.2	30.0	22.6	22.1	33.0	36.8	46.7	56.1	62.8	62.6	

X.—MEAN DAILY TEMPERATURE, corrected for diurnal variation at

SYDNEY, 1870-71.													PICTOU, 1870-71.												
Days.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Days.
1	63.4	49.2	40.6	26.4	34.4	35.2	26.5	25.3	42.9	44.0	58.5	66.9	65.0	52.9	36.2	30.4	28.6	35.5	30.1	26.3	35.9	49.6	60.1	72.8	1
2	61.5	49.5	35.0	34.0	24.9	25.6	29.5	25.4	38.9	43.6	58.8	67.6	66.8	49.9	43.2	34.0	23.6	29.4	30.7	28.6	38.8	63.8	61.6	65.9	2
3	63.5	41.7	46.2	28.5	28.9	21.4	38.4	29.2	37.4	42.8	61.2	68.6	64.0	44.4	54.7	23.8	22.7	13.8	46.9	34.2	36.4	54.1	65.5	67.5	3
4	65.6	43.9	49.4	22.9	21.2	4.2	28.0	36.5	36.0	47.2	61.4	70.1	67.9	44.8	50.3	21.7	14.2	1.4	27.3	40.2	37.6	59.7	62.8	70.1	4
5	67.0	47.0	40.7	20.8	14.4	—0.1	27.0	31.9	37.1	45.4	59.0	65.4	68.0	48.7	42.8	23.6	17.0	—3.3	22.8	32.3	36.3	45.6	66.4	63.9	5
6	57.1	41.8	36.5	29.0	42.3	12.2	25.0	32.2	35.0	43.7	67.6	66.3	55.7	42.5	33.8	36.2	45.5	7.9	28.5	27.8	42.1	52.0	67.4	63.9	6
7	52.6	44.7	33.2	40.3	39.6	18.9	28.8	32.6	37.2	45.8	60.6	63.1	49.7	45.8	31.4	34.4	26.5	12.8	26.9	28.1	44.2	61.4	63.8	63.5	7
8	47.8	39.5	31.7	34.5	25.0	16.6	21.9	32.4	43.5	51.8	63.2	62.5	49.7	43.3	34.5	32.7	11.6	16.5	23.6	33.5	40.8	64.8	61.5	67.1	8
9	51.2	46.2	35.1	35.8	21.8	18.4	28.5	28.8	39.2	56.3	57.8	62.4	54.6	44.3	34.7	37.4	18.6	26.4	36.4	35.5	37.0	57.4	61.3	66.4	9
10	57.8	43.6	43.0	40.7	23.4	32.3	36.4	28.1	38.4	51.1	58.5	61.8	57.3	50.7	45.0	41.5	10.3	29.7	46.3	32.0	41.4	56.6	59.0	63.7	10
11	52.9	50.9	45.6	39.2	23.6	13.6	40.9	27.9	40.7	52.4	59.1	61.7	51.0	56.2	44.9	38.9	18.7	9.0	43.5	29.9	47.5	58.0	59.8	60.8	11
12	47.8	56.8	44.6	33.1	28.5	4.7	41.8	31.6	44.2	56.0	55.1	62.2	46.3	60.4	43.4	33.1	28.2	8.6	48.5	32.4	46.5	63.2	60.2	61.7	12
13	52.7	61.8	44.8	32.1	31.7	13.0	45.2	37.3	41.4	59.8	56.2	61.9	53.5	62.8	41.8	35.7	33.8	12.4	47.8	36.8	42.1	58.1	66.4	60.2	13
14	52.3	56.4	42.9	33.8	39.4	18.6	55.1	38.6	43.4	59.6	61.5	63.0	56.7	56.2	30.3	43.6	35.0	17.0	29.8	37.9	41.8	60.4	69.0	63.0	14
15	59.6	48.0	42.2	34.7	25.1	22.1	28.9	32.7	42.5	61.1	65.6	61.6	61.0	48.2	45.9	39.9	25.9	20.1	22.3	35.4	52.8	61.3	68.1	64.0	15
16	53.7	51.7	48.9	30.9	37.2	18.2	22.7	34.9	46.9	57.1	63.8	61.9	53.5	55.4	41.3	23.8	42.5	22.9	20.0	34.1	49.1	59.5	69.1	65.6	16
17	49.9	56.2	40.8	32.4	40.2	25.4	24.4	35.2	49.6	51.4	61.8	62.2	55.7	59.0	35.6	24.5	35.9	23.5	23.9	34.5	48.6	55.1	63.3	65.5	17
18	57.3	56.8	37.4	27.5	25.3	28.6	35.3	33.2	44.2	60.4	62.4	63.3	57.7	56.2	36.8	27.5	18.0	33.3	39.0	31.8	46.4	58.9	64.0	60.0	18
19	49.0	42.6	35.7	28.7	16.2	35.6	34.3	32.4	44.2	60.4	62.7	58.5	49.4	40.5	38.1	23.5	11.5	26.2	34.5	30.7	46.6	61.0	66.0	59.3	19
20	47.6	44.4	37.7	32.1	23.4	23.8	24.8	35.2	46.7	59.4	59.8	58.5	49.7	49.3	35.0	31.5	28.5	22.2	24.6	33.7	54.2	65.0	64.0	56.3	20
21	51.0	57.1	38.6	33.5	35.2	17.0	26.7	40.2	61.3	56.8	66.4	59.2	55.0	54.0	39.2	31.9	36.4	9.3	33.9	43.0	61.8	58.3	63.2	57.0	21
22	58.5	45.9	32.7	25.9	31.6	10.8	36.4	37.9	61.4	55.5	63.0	57.1	59.6	45.6	29.4	21.1	22.9	5.5	37.8	36.9	62.1	55.9	61.1	56.0	22
23	57.6	42.1	32.2	20.4	4.8	14.5	31.0	31.1	55.7	56.4	61.1	56.2	58.1	45.6	38.9	14.7	12.1	18.6	33.0	34.7	49.6	52.4	61.7	59.1	23
24	52.6	42.1	39.4	17.6	9.7	9.0	30.4	33.9	42.4	54.2	63.7	60.8	56.8	42.9	34.6	7.3	4.5	26.0	23.9	31.5	39.0	57.5	64.4	64.5	24
25	57.2	51.9	31.2	15.7	11.6	29.8	26.3	36.0	43.8	56.7	61.6	67.0	58.1	56.2	33.4	7.2	1.0	38.9	27.2	38.4	53.9	59.0	67.4	63.9	25
26	50.1	40.9	37.9	19.8	—0.8	31.2	28.4	35.7	51.4	50.9	62.2	57.3	51.2	37.0	42.3	21.7	11.0	30.5	28.2	34.1	59.9	56.2	64.2	60.9	26
27	50.7	33.4	40.2	25.3	12.0	30.4	28.2	35.0	40.0	59.9	68.1	55.7	51.1	34.4	37.9	25.7	8.8	35.5	27.2	35.0	37.6	63.5	68.9	60.8	27
28	46.9	38.9	34.9	33.8	7.4	28.4	29.8	35.7	41.6	56.2	60.7	60.8	49.5	41.0	32.2	33.5	20.7	24.8	25.5	36.3	47.4	65.1	71.3	58.5	28
29	47.7	39.4	31.9	35.1	7.2	.....	26.6	37.6	43.1	62.7	64.4	56.4	47.2	32.4	39.7	26.9	7.5	.....	24.5	41.4	54.2	64.2	64.8	58.6	29
30	44.6	38.7	26.3	25.9	13.2	.....	29.1	39.5	53.2	62.6	63.4	64.5	47.6	35.5	24.2	8.4	14.9	.....	32.1	44.3	55.2	61.5	69.2	70.8	30
31	.....	36.3	.....	28.8	16.3	.....	32.5	.....	44.4	.....	67.5	70.4	.....	35.4	.....	28.2	.....	.....	30.1	.....	45.8	.....	72.2	69.1	31
	54.3	46.4	38.6	29.7	23.1	20.3	30.6	33.5	44.1	53.9	62.1	62.4	55.1	47.0	38.1	27.3	19.4	19.8	31.6	34.0	46.1	59.0	64.8	63.3	

XI.—MEAN DAILY TEMPERATURE at the several Stations in Tables V. to X., collected in Five Day Periods for the year September, 1870, to August, 1871, inclusive.

Five day periods.	Kincardine.	Woodstock.	Stayner.	Fitzroy Harbor.	Quebec.	St. John.	Bas River.	Halifax.	Sydney.	Pictou.	Five day periods.	Kincardine.	Woodstock.	Stayner.	Fitzroy Harbor.	Quebec.	St. John.	Bas River.	Halifax.	Sydney.	Pictou.
Sept. 3 to 7, inclusive	61.5	59.8	60.6	55.1	60.2	60.9	61.3	61.1	March 4 to 8, inclusive	37.4	34.3	32.1	29.8	26.9	28.2	23.9	29.6	26.3	25.8		
„ 8 „ 12, „	59.2	49.2	58.4	54.5	52.4	51.9	51.5	51.8	„ 9 „ 13, „	37.4	30.2	41.2	39.8	37.3	38.9	41.9	39.5	38.6	44.5		
„ 13 „ 17, „	63.6	60.1	60.6	59.1	56.8	57.3	53.6	56.1	„ 14 „ 18, „	37.2	34.4	34.3	35.1	28.9	32.1	30.0	31.5	29.3	27.0		
„ 18 „ 22, „	59.2	54.8	60.7	55.9	58.1	54.8	52.7	54.3	„ 19 „ 23, „	35.0	30.6	31.8	30.0	28.3	32.8	30.4	34.4	30.6	32.8		
„ 23 „ 27, „	59.6	59.9	57.6	54.2	51.7	57.7	53.6	55.7	„ 24 „ 28, „	33.8	30.9	29.5	28.6	27.1	28.1	26.6	29.1	28.6	26.4		
„ 28 „ Oct. 2 „	60.1	58.6	53.6	47.5	48.9	52.2	47.6	49.4	„ 29 „ April 2 „	35.8	35.8	33.4	35.0	30.8	36.5	30.4	31.4	27.8	28.3		
Oct. 3 „ 7, „	51.6	52.9	55.1	54.2	48.1	52.4	47.4	51.0	April 3 „ 7, „	44.3	44.8	42.3	37.8	34.0	34.7	35.2	34.5	32.5	32.6		
„ 8 „ 12, „	52.9	52.1	55.4	51.1	55.1	54.9	54.8	56.5	„ 8 „ 12, „	45.9	49.9	44.8	43.1	34.6	35.1	33.0	35.0	29.8	32.7		
„ 13 „ 17, „	55.1	40.3	43.4	41.9	53.0	50.0	49.3	49.1	„ 13 „ 17, „	33.7	37.5	33.0	39.4	36.2	38.5	34.0	33.9	35.6	35.7		
„ 18 „ 22, „	44.6	48.9	44.2	40.8	40.3	43.1	42.1	43.2	„ 18 „ 22, „	44.8	43.3	42.1	48.3	39.0	37.3	34.9	38.2	35.8	35.2		
„ 23 „ 27, „	51.2	43.6	36.7	41.7	32.8	38.0	38.2	37.3	„ 23 „ 27, „	45.6	45.7	43.8	43.8	39.2	38.9	36.1	38.3	34.7	34.7		
„ 28 „ Nov. 2 „	44.4	39.9	39.7	34.7	41.8	41.8	41.2	42.6	„ 28 „ May 2 „	44.4	49.1	45.5	48.6	42.2	41.0	40.2	40.9	38.9	39.3		
Nov. 3 „ 7, „	42.2	38.2	36.6	35.9	39.6	38.7	40.0	40.5	May 3 „ 7, „	44.0	44.8	43.4	45.2	40.6	38.8	36.9	40.0	36.5	39.3		
„ 8 „ 12, „	36.3	34.5	34.0	37.5	36.9	41.7	43.9	33.0	„ 8 „ 12, „	42.7	48.5	43.3	49.6	46.1	43.0	44.3	44.4	41.2	42.6		
„ 13 „ 17, „	31.0	28.1	25.2	29.7	31.5	37.5	36.4	35.7	„ 13 „ 17, „	41.2	50.0	46.5	49.6	44.7	43.3	45.6	46.0	44.8	44.9		
„ 18 „ 22, „	36.9	32.7	33.7	31.7	33.9	39.5	36.2	37.4	„ 18 „ 22, „	60.2	61.9	57.0	65.5	58.9	46.9	57.9	49.9	51.6	54.2		
„ 23 „ 27, „	39.5	36.0	37.9	31.1	28.3	31.7	30.7	32.1	„ 23 „ 27, „	57.6	59.4	55.9	60.3	54.6	48.6	47.8	49.6	46.7	48.0		
„ 28 „ Dec. 2 „									„ 28 „ June 2 „	70.4	72.2	65.5	75.2	65.0	50.4	56.0	53.7	54.0	52.7		

0*101-0	Dec. 3,, 7,,	37.2	35.8	33.3	32.1	26.1	.....	27.4	31.6	28.3	24.9	June 3,, 7,,	....	67.0	71.0	67.3	73.7	62.6	53.1	54.2	54.4	45.0	54.6
	,, 8,, 12,,	31.0	29.4	28.3	25.9	31.0	.....	33.7	37.4	36.7	36.7	,, 8,, 12,,	....	53.4	57.8	53.2	62.1	59.8	53.3	57.9	57.8	53.5	60.0
	,, 13,, 17,,	29.5	27.5	26.8	23.8	26.7	.....	27.7	32.6	38.8	31.7	,, 13,, 17,,	....	48.3	54.9	49.3	55.6	56.8	53.5	57.3	56.9	57.8	58.9
	,, 18,, 22,,	24.9	21.1	22.6	16.7	19.4	...	22.2	29.2	29.5	27.1	,, 18,, 22,,	....	....	60.6	....	64.9	61.5	55.9	61.3	58.1	57.8	59.8
	,, 23,, 28,,	16.7	10.6	12.7	8.7	8.8	.....	8.7	16.2	19.8	15.3	,, 23,, 27,,	....	59.7	63.2	....	68.0	64.7	54.9	58.6	53.5	55.6	57.7
	,, 29,, Jan. 2,,	23.3	19.8	17.3	5.9	15.1	.....	18.9	29.1	36.6	24.9	,, 28,, July 2,,	....	56.2	58.8	54.9	62.5	63.2	57.3	63.5	57.0	59.8	62.6
	Jan. 3,, 7,,	20.2	18.0	16.8	5.4	4.4	22.8	17.6	30.0	29.3	25.2	July 3,, 7,,	....	66.4	65.6	62.6	68.3	65.2	60.3	65.2	62.5	62.0	65.2
	,, 8,, 12,,	30.6	25.5	34.8	5.6	0.8	10.6	12.3	19.6	24.5	17.5	,, 8,, 12,,	....	65.7	68.1	67.3	73.2	66.9	62.5	63.9	62.0	58.7	60.4
	,, 13,, 17,,	26.4	29.5	24.3	20.6	21.9	32.7	27.8	35.5	34.7	34.6	,, 13,, 17,,	....	67.4	69.1	67.1	70.4	66.4	61.0	....	63.0	61.8	67.2
	,, 18,, 22,,	20.7	21.9	23.4	4.9	6.6	17.8	13.4	25.8	26.3	23.5	,, 18,, 22,,	....	55.8	57.4	52.8	60.6	60.3	57.4	....	61.7	62.9	63.7
,, 23,, 27,,	9.6	7.1	3.5	15.8	12.2	5.2	7.6	3.7	7.5	2.6	,, 23,, 27,,	....	61.8	63.8	61.6	68.3	65.5	59.1	64.3	63.1	63.3	65.3	
,, 28,, Feb. 1,,	30.2	26.6	26.7	13.3	8.7	20.7	12.3	21.8	15.9	20.0	,, 28,, Aug. 2,,	....	62.4	63.6	58.5	66.4	63.5	63.3	68.0	66.9	66.6	69.4	
Feb. 2,, 6,,	11.1	17.9	9.2	1.6	2.4	7.8	6.1	13.5	12.7	9.3	August 3,, 7,,	....	71.8	72.4	71.4	72.6	69.0	59.8	67.1	64.4	66.7	65.8	
,, 7,, 11,,	22.2	21.0	21.9	13.2	13.0	19.0	15.3	21.9	20.0	18.9	,, 8,, 12,,	....	65.3	67.7	62.8	67.0	63.6	62.1	62.0	62.6	62.1	63.9	
,, 12,, 16,,	26.0	20.3	21.6	14.0	14.4	16.1	12.2	17.2	15.3	16.2	,, 13,, 17,,	....	66.6	69.3	65.7	70.7	64.2	61.2	64.2	63.6	62.1	63.7	
,, 17,, 21,,	22.2	23.0	17.3	13.1	15.2	23.3	19.1	25.7	26.0	22.9	,, 18,, 22,,	....	58.9	62.6	58.9	60.7	58.3	57.7	56.3	59.6	59.3	57.7	
,, 22,, 26,,	34.0	30.0	23.9	22.1	24.2	25.7	22.4	25.0	21.1	23.9	,, 23,, 27,,	....	58.1	66.2	59.9	66.5	64.2	57.7	61.1	61.3	59.4	61.8	
,, 27,, Mar. 3,,	27.2	31.5	27.7	26.5	24.4	32.2	30.6	33.7	30.6	33.6	,, 28,, Sep. 2,,	...	62.4	60.9	60.2	62.7	63.3	59.1	62.1	62.2	59.3	64.7	

XII.—RAIN FALL for each Month and Year, at the several Stations in the Dominion of Canada, September, 1869, to August, 1871, inclusive; the Stations in the Province of Ontario being divided into Districts.

		1869-70.												1870-71													
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.
Ontario.																											
W. and S. W. District.	Windsor	1.38	1.77	1.42	1.64	2.43	1.68	1.74	1.17	0.90	4.45	4.36	1.38	23.72	1.50	3.29	6.04	1.50	1.37	1.00	1.66	1.44	1.90	2.30	1.80	1.08	24.88
	Stoney Point																									1.87	
	Wyoming																		0.24	4.77	1.68	1.38	5.51	3.34			
	Glencoe								1.91	1.46	1.28	7.76	3.25		1.83			0.34	0.41	0.25	3.35	1.70	1.31	5.92	2.93	0.75	
	Woodstock						0.55	R.	1.42	2.42	3.90	5.55	9.11		1.16	4.40	0.90	1.28	0.93	R.	3.47	1.90	2.15	3.13	2.65	24.55	
	Plattsville																									0.77	1.19
	Ingersoll																						1.73	1.15	3.06	3.05	
	Simcoe	4.09	1.87	4.06	5.17	6.05	2.41	2.97	1.42	2.31	2.88	7.64	4.02	41.95	2.05	3.76	0.52	1.00	1.00	0.55	4.72	3.40	1.12	5.00	2.36	3.05	
	Widder						0.59	0.71	2.52	2.33	5.31	12.23	3.52		3.17	5.44	1.28	2.32	1.41	0.42	3.85	1.63	1.01	3.40	2.62	2.33	
	Ailsa Craig																		1.04	0.04	0.80	1.87	1.91	3.82	1.39	2.92	
	Dundas								1.81	2.05	4.12	4.46	2.20		4.73	3.23	0.53	1.08	0.90	0.10	3.65	2.85	2.28	3.20	1.42	2.75	27.72
Hamilton	6.24	1.36	1.86	4.37	9.54	1.44	1.53	1.61	2.53	2.83	4.43	2.64	49.45	4.01	2.97	0.61	2.31	1.39	0.79	5.46	2.63	1.96	3.12	1.24	4.02	29.21	
Mean of District.		3.90	1.67	2.45	3.73	6.01	1.21	1.39	1.70	2.09	3.55	6.64	3.74	36.04	2.77	3.85	1.66	1.40	1.04	0.35	3.32	2.03	1.63	3.85	2.14	3.16	27.42
N. and N. W. District.	Goderich	1.26	3.79	1.66	1.67	1.64	0.45	0.62	1.11	4.25	3.28	7.61	4.50	31.84	3.85	5.24	0.98	0.78	1.90	0.05	2.83	1.85	1.08	2.05	1.89	2.01	24.51
	Seaforth																0.87	0.30	0.80	0.00	0.30	0.85	1.00			0.70	
	Parkhill																		0.63	0.20	3.65	2.19	2.02	4.26	1.80	1.16	
	Lucan																		R.	1.63	1.55	1.38	3.67	2.57	1.65		
	Stratford	4.32	2.33	1.58	1.65	2.11	0.37	0.40	1.38	3.61	2.92	8.29	5.87	34.83	2.56	4.31	1.18	1.16	1.16	0.04	2.86	2.38	1.69	2.79	1.86	2.06	
	Kincardine														3.35	6.90	1.25	2.44	1.50	R.	2.55	2.19	1.19	1.07	1.24	2.43	
	Orillia																									2.12	
	Collingwood			0.12	0.11	R.	0.00	R.	1.49	1.35	5.11	4.50	1.81		3.52	4.55	0.95	R.	R.	R.	R.	2.53	1.20	1.40	0.47		
	Stayner						R.	R.	5.64	0.82	4.61	6.37	1.32		3.44	4.68	0.40	0.00	R.	0.00	1.10	2.45	1.36	1.56	0.59		
	Barrie	2.63	2.23	0.49	0.30	0.07	R.	0.22	1.68	0.79	4.44	5.47	1.74	20.06	2.33	4.91	0.85	R.	R.	R.	2.22	2.37	1.28	2.22	0.68	1.51	
	Gravenhurst																	0.06	0.16	0.52	1.83	3.23	1.04	2.04	0.90	0.94	
N. Gwillimbury	1.68	0.25	0.44	0.36	0.26	R.	0.98	0.82	2.52	4.62	1.75			3.64	4.10	1.00	0.56	R.	R.	1.54	2.54	1.52	1.10	0.20	2.00		
Georgina	1.76	0.51	1.28	2.00	0.24	R.	1.05	0.82	4.83	6.83	2.13			2.86	4.51	1.39	0.68	R.	0.10	2.15	2.29	1.08	1.92	0.88	1.73		
Mean of District.		2.74	2.36	0.77	0.91	1.03	0.19	0.18	2.02	1.85	3.74	6.12	2.66	28.91	3.19	4.90	0.99	0.60	0.56	0.08	1.89	2.20	1.31	2.29	1.14	1.54	

[illegible]

XIII.—QUARTERLY Rain fall at the several Stations, with the fall of Snow in each Month, and the total precipitation of Rain and melted Snow, from September, 1869, to August, 1871.

		Quarterly depth of Rain in Inches.				Depth of Snow in Inches. 1869. 1870.								Total precipitation.	Quarterly depth of Rain in Inches.				Depth of Snow in Inches. 1870. 1871.								Total precipitation.			
		Sept. to Nov., 1869.	Dec. 1869 to Feb. 1870.	Mar. 1870 to May, 1870.	June, 1870 to Aug., 1870.	October.	November.	December.	January.	February.	March.	April.	May.	Total.	Sept. to Nov. 1870.	Dec. 1870 to Feb., 1871.	March to May, 1871.	June to Aug., 1871.	October.	November.	December.	January.	February.	March.	April.	May.	Total.	Total precipitation.		
W. and S. W. District.	Ontario.																													
	Windsor	4.57	5.15	3.81	16.19	1.0	24.3	6.6	28.9	9.0	18.3	0.0	0.0	88.1	32.33	10.83	3.87	5.60	5.18	0.0	6.5	22.5	14.2	19.3	4.0	0.0	0.0	66.5	31.53	
	Stoneypoint																													
	Wyoming																													
	Glencoe				18.69																									
	Woodstock			3.84	18.62						11.1	36.2																		
	Plattsville																													
	Ingersoll																													
	Simcoe	10.02	13.63	6.70	14.60	6.0	11.5	6.0	22.5	3.0	20.5	0.0	0.0	60.5	50.00	6.33	2.55	9.24	10.44	0.0	7.5	19.5	9.8	8.0	4.0	0.0	0.0	48.8	33.44	
	Widder			5.57	21.06						6.0	25.0	S.			9.89	4.15	6.49	8.35		12.0	21.0	13.0	13.5	3.8	0.0	0.0	63.3	35.21	
	Ailsa Craig																													
	Dundas				10.78																									
	Hamilton	9.46	15.35	5.72	9.92	7.0	21.8	1.4	17.5	18.5	66.0	S.		132.2	53.67	7.59	4.40	9.44	8.48		10.0	10.5	9.0	16.6	5.1	S.	0.0	51.2	35.03	
Mean of District.		8.02	11.38	5.13	14.84	4.7	19.2	4.7	23.0	9.5	33.2	S.	0.0	93.6	45.40	8.44	3.04	7.25	8.11	10.2	11.1	21.4	10.2	12.5	5.5	S.	0.0	62.4	33.41	
N. and N. W. District.	Goderich	6.71	3.76	5.98	15.39	1.2	28.5	11.3	34.7	15.3	23.4	0.0	0.0	114.4	43.28	10.07	2.73	5.76	5.95	0.0	11.2	40.0	22.0	15.8	12.3	S.	0.0	101.3	34.64	
	Seaforth																													
	Parkhill																													
	Lucan																													
	Stratford	8.23	4.13	5.39	17.08	12.2	34.0	9.5	43.5	14.0	34.0	0.0	0.0	147.2	49.55	8.05	2.36	6.93	6.71	0.5	18.6	32.0	32.0	22.2	12.6	0.3	0.0	118.2	35.87	
	Kincaidine				9.58											11.50	3.94	5.93	4.74	0.0	6.5	39.0	25.3	27.8	16.5	S.	0.0	115.1	37.62	
	Orillia																													
	Collingwood		0.11	2.34	11.42		46.5	20.1	49.9	50.5	53.2					9.02	R.	3.73	3.47		24.5	38.0	58.0	23.0	19.2	0.1	0.0	162.8		
	Stayner			6.46	12.31						24.0	47.0				8.52	R.	4.91	3.32	0.0	23.5	33.0	45.0	31.0	25.0	0.0	0.0	157.5	32.50	
	Barrie	5.35	0.37	2.69	11.65	0.5	18.5	13.0	40.0	24.5	52.5	0.0	0.0	149.0	34.96	8.09	R.	5.87	4.41	S.	18.1	17.8	31.4	26.7	11.0	S.	0.0	105.0	28.87	
	Gravenhurst																	0.84	6.10				51.0	36.0	22.0	15.8	3.0	S.		
	N. Gwillimbury		1.06	1.60	8.89	7.0	30.5	15.5	24.5	17.6	45.2					8.74	0.56	5.60	3.30	S.	6.0	17.5	24.1	21.0	19.9	S.	0.0	88.5	27.05	
	Georgina		3.52	2.68	13.79	3.0	18.0	8.5	16.8	10.5	43.0					8.76	0.78	5.52	4.53	0.0	5.0	13.0	17.5	17.5	17.5	0.0	0.0	70.5	26.64	
Mean of District.		6.76	2.16	3.95	12.51	4.8	29.3	13.0	34.9	22.3	42.6	0.0	0.0	136.9	42.6	9.09	1.23	5.41	5.04	0.1	13.8	31.8	30.4	21.6	14.1	0.5	S.	113.6	31.88	
	Thornhill			3.28						10.0	79.0								8.14	5.76			18.0	23.0	23.0	0.0	0.0			
	Brampton																		6.46	4.47			16.0	14.0	15.0	S.	0.0			

XIV.—NUMBER of days Rain fall, for each Month and Year, at the several stations in Table XIII.

		1869-70.												1870-71.														
		September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Year.	
Ontario.																												
W. and S. W. District.	Windsor	10	6	5	8	9	4	6	13	13	11	11	9	105	5	11	4	5	4	4	10	9	6	7	8	5	78	
	Stoneypoint																			3	8	7	4	9	8	7		
	Wyoming								9	4	5	11	6		5			1	4	1	6	6	5	10		2		
	Glencoe						4	4	11	11	12	13	8		6	17	7	4	4	3	13	12	7	12	8	8	101	
	Woodstock																											
	Plattsville																											
	Ingersoll																					6	4	11	8			
	Simcoe	6	7	4	10	5	3	5	5	7	10	13	6	79	8	12	4	5	2	3	8	10	4	10	7	7	80	
	Widder						3	2	10	6	9	16	10		9	7	8	4	4	2	9	5	5	10	11	9	83	
	Ailsa Craig																	4	6	1	8	12	7	11	10	7		
	Dundas								9	4	13	12	11		10	15	3	2	6	1	9	9	5	7	7	8	84	
Hamilton	9	8	11	8	11	4	3	8	8	13	13	10	106	10	14	9	4	4	3	10	10	7	7	7	9	94		
Mean of District.		8.3	7.0	6.7	8.7	8.3	3.6	4.0	9.3	8.0	10.4	12.7	8.6	96.7	7.6	12.7	5.8	3.6	4.3	2.3	9.0	8.6	5.4	9.6	7.6	7.0	86.7	
N. and N. W. District.	Goderich	7	15	7	8	7	3	5	11	10	11	16	10	110	12	17	13	5	5	1	9	11	7	12	10	8	100	
	Seaforth																5	2	5	0	2	6	4			3		
	Parkhill																		4	3	7	8	7	12	7	3		
	Lucan																				7	11	6	9	10	6		
	Stratford	9	8	6	6	6	2	2	9	9	11	18	11	97	9	16	5	4	4	1	9	12	7	9	9	8	93	
	Kincardine										10	10	16	14			10	18	7	7	5	2	8	11	7	10	8	102
	Orillia																											
	Collingwood			2	3		0	3	8	8	12	12	7		12	13	3	1	4	1	7	12	6	12	6	5	82	
	Stayner						1	2	8	8	10	15	6		9	14	4	0	3	0	4	8	5	6	7	7	67	
	Barrie	12	11	5	4	5	1	2	11	8	12	13	11	95	13	18	7	2	2	1	5	11	11	11	9	10	95	
	Gravenhurst																	3	4	2	8	9	4	7	11	10		
N. Gwillimbury		11	3	5	3	1	1	5	6	12	13	11		14	20	9	2	1	1	7	13	7	6	2	4	86		
Georgina		9	3	11	8	1	3	8	7	12	14	10		17	20	10	2	1	1	9	15	10	9	12	9	115		
Mean of District.		9.3	10.8	4.3	6.2	5.8	1.3	2.6	8.6	8.3	11.2	14.6	10.0	100.7	12.0	17.0	7.0	2.8	3.5	1.2	6.8	10.6	6.8	9.3	8.1	6.8	92.5	

Central District.	Thornhill						1	1	6	3							1	0	4	4	2	5	3	5				
	Brampton																5	2	7	12	9	10	5	7				
	Newmarket																				15	9	5	7				
	Holland Landing																			12	5	1	9	7				
	Weston	10	8	7	7	1	0	4	5	11	8	10		12	10	2	2	0	0	5	6	2	7	4				
	Toronto	8	8	9	10	8	2	2	9	10	16	16	14	112	11	16	6	6	8	3	8	17	7	13	11	8	114	
	Markham				6		1	1	11	8	13	9	12		9	10	6	5	4	0	7	14	7	8	2	5	77	
	Niagara																				17	10	12	11	10			
Mean of District...	9.0	8.5	7.7	7.5	1.2	1.0	7.5	6.5	13.3	11.0	12.0		10.7	12.0	4.7	4.3	3.6	1.0	6.2	11.7	6.1	10.1	6.7	6.7	95.5			
N. E. & E. Dist.	Corawall	6	4	4	3	0	1	1	3	6	6	8	8	60	6	13	4	2	1	1	6	14	7	8	10	5	77	
	Peterborough	6	6	4	7	9	2	3	8	6	8	12	9	80	9	13	5	2	2	2	9	10	6	6	9	79		
	Belleville	6	9	7	6	7	2	3	12	7	10	12	9	90	10	15	7	3	6	1	10	9	6	12	7	10	96	
	Pembroke	10	11	3	5	4	1	3	11	8	11	12	14	93	8	16	3	2	2	2	6	9	10	12	16	13	99	
	Fitzroy Harbor								6	7	11	13	15		8	18		3	4	2	10	14	8	11	17	10		
	Mean of District...	7.0	7.5	4.5	5.5	5.0	1.5	2.5	8.0	6.8	9.2	11.4	11.0	80.8	8.2	15.0	4.7	2.4	3.0	1.6	8.2	11.2	9.4	8.8	11.2	9.4	87.8	
	Mean for Ontario...	8.2	8.6	6.0	7.0	6.7	1.9	2.5	8.4	7.4	11.0	12.4	10.4	92.7	9.6	14.2	5.6	3.3	3.6	1.5	7.6	10.5	6.9	9.7	8.4	5.2	90.6	
	Quebec.																											
Huntingdon					5	1	1	4	9	8	8	8		9	11	7	5	6	5	9	15	12	9	17	10	115		
Montreal					6	1	1	6	7	15	14	8		12	13	5	3	5	5	8	13	10	13	18	11	116		
Quebec Citadel			2	7	2	1	1	5	9	12	14	14		9	12	7	2	4	3	4	11	11	17	21	14	115		
Quebec, Upper Town					3	2	0	9	9	12	18	14		7	14	5	1	5	2	4	16	16	18	20	15	123		
Mean for Quebec...					4.0	1.2	0.7	6.0	8.5	11.7	13.5	11.0		9.3	12.5	6.0	2.7	5.0	3.7	6.3	13.7	12.3	14.2	19.0	12.5	117.2		
New Brunswick.	St. John					8	5	5	10	11	9	13	10		9	10	16	6	9	7	8	17	12	12	12	12	130	
	Bass River								10	11	11	14	14		13	15	17	5	3	5	7	8	15	19	11	11	129	
	Petersville																	5	4	5	12	8	8	7	8			
	Mean for New Brunswick								10.0	11.0	10.0	13.5	12.0		11.0	12.5	16.5	5.5	5.7	5.3	6.7	12.3	11.7	13.0	10.0	10.3	129.5	
Nova Scotia.	Wolfville														5	12	16	8	5	5	5	13	9		17			
	Yarmouth									7	9	9			6	9	15	10	8	6	9	14	13	12	15	11	128	
	Halifax					14	7	8	13	10	9	8	8		7	13	11	12	8	6	8	11	10	12	12	14	124	
	Pictou							3	10	7	10	9	11		8	12	15	9	6	3	7	10	14	16	11	10	121	
	Sydney					13	11	2	17	9	13	11	15		15	17	22	14	8	4	10	13	14	13	11	18	159	
	Glace Bay					9	10		12	9	10	13	15		12	16	19	7	12	10	10	5	15	12	11	20	149	
	Guysborough																							15	13	13		
	King's College, Windsor																							12	8	11		
	Liverpool																								9	9	14	
	Windsor					7	3	13	14	7	9	9			8	11	16	4	5	4	4	10	14	11	13	10	110	
	Mean for Nova Scotia.					12.0	8.7	5.3	13.0	9.3	9.7	9.8	11.6		8.7	12.9	16.3	9.1	7.4	5.4	7.6	10.9	12.7	12.4	12.0	13.4	131.8	

XV.—QUARTERLY Number of Days' Rain fall, with the Number of Days' Snow, during the period September, 1869, to August, 1871, inclusive.

		Quarterly No. of Days' Rain.				No. of Days' Snow.							Quarterly No. of Days' Rain.				No. of Days' Snow.											
		Sept. to Nov., 1869.	Dec. 1869, to Feb., 1870.	March to May, 1870.	June to Aug., 1870.	1869.			1870.				Sept. to Nov., 1870.	Nov. 1870, to Feb., 1871.	March to May, 1871.	June to Aug., 1871.	1870.			1871.								
						Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.					May.	Total.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	Total.	
W. and S. W. District.	Ontario.																											
	Windsor	21	21	32	31	7	8	9	14	6	13	0	0	57	20	13	25	20	0	6	10	8	7	4	0	0	35	
	Pointe Stoney																											
	Wyoming																											
	Glencoe				22											6	19			3	10	6	9	5	0	0		
	Woodstock			26	33						14	15				30	11	32	28	1	9	12	15	14	13	3	0	67
	Plattsville																											
	Ingersoll																											
	Simcoe	15	18	17	29	3	3	3	6	5	9					24	10	22	24	0	4	8	6	4	3	1	0	
	Widder			18	35					7	14	2	0			24	10	19	30	0	6	8	7	7	5	1	0	26
	Ailsa Craig																11	27	28			12	11	8	6	2	0	
Dundas				36											28	9	23	24		3	8	10	8	8	0	0		
Hamilton	28	23	19	36	3	11	7	11	10	15	1	0	58	33	11	27	23		1	4	6	7	7	6	1	0	32	
Mean of District		21.3	20.7	22.4	31.7	4.3	7.3	6.3	10.3	8.4	13.2	1.0	0.0	57.5	26.5	10.1	23.4	25.3	0.2	5.0	9.2	8.7	8.0	6.0	0.9	0.0	38.8	
N. and N. W. District.																												
	Goderich	29	18	26	37	5	16	8	17	16	17	0	0	79	42	11	27	30	0	9	20	20	13	10	2	0	74	
	Seaforth															7	12			5	20	12	6	8	1	0		
	Parkhill																22	22				9	7	5	1	0		
	Lucan																24	25					6	1	0	0		
	Stratford	23	14	20	40	9	18	15	16	11	13	0	0	82	30	9	28	26		1	9	16	16	10	10	4	0	66
	Kincardine				40											35	14	26	27		6	19	15	12	12	2	0	
	Orillia																	21										
	Collingwood			19	31		11	14	18	17	12					28	6	25	23	0	7	22	18	12	7	1	0	67
	Stayner			18	31					13	11					27	3	17	20	0	6	18	15	8	5	0	0	52
	Barrie	28	10	21	36	7	16	12	18	13	11	0	0	77	38	5	22	30	1	8	21	18	13	11	4	0	76	
Gravenhurst																9	21	28			15	15	11	11	1	1		
N. Gwillimbury		9	12	36		5	13	15	12	10	9	0	0	64	43	4	27	12	2	10	11	17	9	9	1	0	59	
Georgina		20	18	36		2	13	14	14	15	13	0	0	71	47	4	34	30	0	3	17	24	14	11	0	0	69	
Mean of District		26.7	14.2	19.1	35.9	5.6	14.5	13.0	15.8	13.6	12.3	0.0	0.0	74.6	36.3	7.2	23.8	24.5	0.6	7.0	17.9	16.3	10.1	8.3	1.4	0.1	66.1	

9*11-5 Central District.	Thornhill	.....	.....	10	.....	.....	.....	.....	.....	3	6	0	0	.....	.....	.....	10	13	.....	.....	.....	6	5	5	0	0	.....
	Brampton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28	22	.....	.....	.....	19	14	10	2	0	.....
	Newmarket	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29	.....	.....	.....	.....	.....	.....	.....	.....
	Holland Landing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27	.....	.....	.....	.....	.....	.....	1	0	.....
	Weston	.....	15	9	29	.....	5	3	7	6	12	2	0	.....	.....	24	2	13	.....	0	3	6	8	6	5	1	0	29
	Toronto	25	20	21	46	7	18	9	18	18	18	2	.....	90	.....	33	17	32	32	0	5	16	23	15	12	2	0	73
	Markham	.....	.....	20	34	.....	.....	4	.....	8	11	0	0	.....	.....	25	9	28	15	1	3	4	8	11	10	1	0	38
	Niagara	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean of District...		.....	17.5	15.0	36.3	.....	11.5	8.0	12.5	8.7	11.7	1.0	0.0	.....	.....	27.3	9.3	22.2	24.1	0.3	3.7	8.7	12.8	10.2	8.4	1.2	0.0	43.3
N.E. & E. District.	Cornwall	14	4	20	22	7	9	10	9	11	7	2	0	55	.....	23	4	27	23	1	6	12	9	5	3	0	0	36
	Peterborough	16	18	17	29	6	11	9	15	15	7	1	0	64	.....	27	6	25	21	1	3	15	17	10	3	2	0	56
	Belleville	22	15	22	31	5	9	8	11	12	8	0	0	53	.....	32	10	25	29	0	3	10	10	7	5	0	0	35
	Pembroke	24	10	22	37	4	12	10	7	22	8	0	0	63	.....	27	6	25	41	3	12	17	22	11	11	3	3	82
	Fitzroy Harbor	.....	.....	.....	39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	32	38	4	.....	12	18	11	6	2	0	.....
Mean of District...		19.0	11.7	20.2	31.6	5.5	10.3	9.2	10.5	15.0	7.5	0.7	0.0	58.7	.....	27.3	7.0	26.8	30.4	1.8	6.0	13.2	15.2	8.8	6.6	1.4	0.6	52.3
Mean for Ontario...		22.3	16.0	19.2	33.9	5.1	10.9	9.1	12.3	11.4	11.2	0.7	0.0	63.7	.....	29.4	8.4	24.1	26.1	0.7	5.4	12.3	13.2	9.3	7.3	1.2	0.2	50.1
Quebec.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huntingdon Montreal Quebec, Citadel Quebec, Upper Town	Huntingdon	.....	.....	14	24	.....	.....	9	11	8	3	.....	.....	.....	.....	27	16	36	36	0	4	14	12	9	2	2	0	43
	Montreal	.....	.....	14	37	.....	.....	16	13	8	2	0	.....	.....	.....	30	13	31	42	2	6	11	12	10	4	0	0	45
	Quebec, Citadel	.....	12	15	40	.....	15	11	18	13	6	3	0	.....	.....	28	9	26	52	3	5	16	14	5	7	8	2	60
	Quebec, Upper Town	.....	.....	18	44	.....	.....	14	17	8	3	0	.....	.....	.....	26	8	36	53	3	3	15	17	7	10	7	3	65
Mean for Quebec.		.....	.....	15.2	36.2	.....	.....	14.3	13.5	7.5	2.7	0.0	.....	.....	.....	27.8	11.5	32.3	45.7	2.0	4.5	14.0	13.7	7.8	5.7	4.3	1.3	53.3
New Brunswick.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. John Bass River Petersville	St. John	.....	.....	26	32	.....	.....	9	13	6	1	1	.....	.....	.....	35	22	37	36	4	6	13	14	8	10	4	0	59
	Bass River	.....	.....	.....	39	.....	.....	.....	.....	.....	.....	3	5	.....	.....	45	13	30	41	3	7	18	18	6	11	18	6	87
	Petersville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	23	.....	.....	.....	.....	1	4	3	1	1	.....
	Mean for N. Brunswick.	.....	.....	.....	35.5	.....	.....	.....	.....	.....	.....	2.0	3.0	.....	.....	30.0	17.5	30.7	33.3	3.5	6.5	15.5	11.0	6.0	8.0	7.7	2.3	73.0
Nova Scotia.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wolfville Yarmouth Halifax Pictou Sydney Glace Bay Guysborough King's College, Windsor Liverpool Windsor Digby	Wolfville	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	33	18	27	.....	1	1	7	9	4	7	2	0	31
	Yarmouth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	24	36	38	3	2	9	5	10	7	0	0	36
	Halifax	.....	.....	31	25	.....	.....	9	11	11	2	1	.....	.....	.....	31	26	29	38	1	2	7	10	7	7	3	1	38
	Pictou	.....	.....	20	30	.....	.....	.....	.....	16	2	2	.....	.....	.....	35	18	31	37	1	5	6	13	7	12	5	0	49
	Sydney	.....	.....	28	39	.....	.....	15	13	17	1	4	.....	.....	.....	54	26	37	42	1	4	17	17	6	9	12	0	66
	Glace Bay	.....	.....	.....	38	.....	.....	14	9	9	1	5	.....	.....	.....	47	29	30	43	2	5	13	6	7	12	12	2	60
	Guysborough	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41	.....	.....	.....	.....	.....	.....	.....	.....	.....
	King's College, Windsor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Liverpool	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Windsor	.....	.....	30	25	.....	.....	2	11	7	.....	2	.....	.....	.....	35	13	28	34	3	4	2	14	5	6	3	1	38
	Digby	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	3	9	8	10	5	3	1	41
	Mean for Nova Scotia.		27.3	31.4	10.6	11.0	12.0	1.5	2.8	37.9	22.0	31.1	37.3	1.7	3.2	8.7	10.3	7.0	8.1	5.1	0.6	44.9

XVI.—AVERAGE depth of Rain, in inches, for the several Provinces of the Dominion of Canada, from September, 1869, to August, 1871, with the average number of Days' Rain fall for the same period, the Province of Ontario being divided into Districts.

	1869.				1870.								1870.				1871.							
	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.
W. and S. W. District..	3.90	1.67	2.45	3.73	6.01	1.21	1.39	1.70	2.00	3.55	6.64	3.74	2.77	3.85	1.66	1.40	1.04	0.38	3.52	2.03	1.63	3.85	2.14	2.16
N. and N. W. District..	2.74	2.36	0.77	0.91	1.03	0.19	0.18	2.02	1.85	3.74	6.12	2.66	3.19	4.90	0.99	0.60	0.56	0.08	1.89	2.20	1.31	2.29	1.14	1.54
Central District.....	.....	0.94	2.39	2.73	3.94	0.52	0.26	2.71	0.91	5.60	3.06	2.47	5.39	2.55	1.00	2.05	0.96	0.05	3.31	2.92	1.85	2.26	1.52	2.67
N. E. and E. District...	6.46	1.62	1.72	1.84	1.69	0.47	0.42	2.93	1.36	2.33	2.85	1.80	2.80	4.32	1.36	0.37	0.68	0.36	1.72	2.75	1.46	2.55	2.81	1.63
Ontario	4.37	1.65	1.83	2.30	3.17	0.60	0.56	2.34	1.53	3.80	4.67	2.67	3.51	3.91	1.25	1.11	0.81	0.22	2.61	2.47	1.56	2.74	1.90	1.85
Quebec.....	3.50	5.12	0.33	0.50	0.64	0.31	0.06	0.67	1.54	1.90	4.29	2.79	2.25	4.15	2.34	0.42	1.10	0.17	2.36	2.56	1.21	1.79	5.83	3.27
New Brunswick.....	.....	.....	.....	.....	.....	.....	.....	4.15	1.62	2.90	2.96	2.70	2.79	6.41	5.43	1.08	1.64	1.58	1.67	3.35	2.94	3.46	2.97	3.76
Nova Scotia	2.22	7.12	5.13	5.40	4.79	4.87	0.67	3.29	1.95	2.81	3.16	2.99	4.82	5.13	7.08	4.61	2.20	1.54	2.92	2.91	2.58	3.43	3.22	4.08

DAYS.

W. & S. W. District....	8.3	7.0	6.7	8.7	8.3	3.6	4.0	9.3	8.0	10.4	12.7	8.6	7.6	12.7	5.8	3.6	4.3	2.3	9.0	8.6	5.4	9.6	7.6	7.0
N. & N. W. District....	9.3	10.8	4.3	6.2	5.8	1.3	2.6	8.6	8.3	11.2	14.6	10.0	12.0	17.0	7.0	2.8	3.5	1.2	6.8	10.6	6.8	9.3	8.1	6.8
Central District.....	.....	9.0	8.5	7.7	7.5	1.2	1.0	7.5	6.5	13.3	11.0	12.0	10.7	12.0	4.7	4.3	3.6	1.0	6.2	11.7	6.1	10.1	6.7	6.7
N. E. & E. District	7.0	7.5	4.5	5.3	5.0	1.5	2.5	8.0	6.8	9.2	11.4	11.0	8.2	15.0	4.7	12.4	3.0	1.6	8.2	11.2	9.4	9.8	11.2	9.4
Ontario	8.2	8.6	6.0	7.0	6.7	1.9	2.5	8.4	7.4	11.0	12.4	10.4	9.6	14.2	5.6	3.3	3.6	1.5	7.6	10.5	6.9	9.7	8.4	5.2
Quebec.....	.....	.....	.....	.....	4.0	1.2	0.7	.....	6.0	8.5	11.7	13.5	11.0	9.3	12.5	6.0	2.7	5.0	3.7	6.3	13.7	12.3	14.2	19.0
New Brunswick.....	.....	.....	.....	.....	.....	.....	.....	10.0	11.0	10.0	13.5	12.0	11.0	12.5	16.5	5.5	5.7	5.3	16.7	12.3	11.7	13.0	10.0	10.3
Nova Scotia.....	.....	.....	.....	.....	12.0	8.7	5.3	13.0	9.3	9.7	9.8	11.6	8.7	12.9	16.3	9.1	7.4	5.4	7.6	10.9	12.7	12.4	12.0	13.4

XVII.—QUARTERLY average depth of Rain in the several Provinces, with the average depth of Snow for each Month and Year, and the average number of Days for the same period.

	Quarterly depth of Rain in inches.				Depth of Snow in inches.								Quarterly depth of Rain in inches.				Depth of Snow in inches.									
					1869.				1870.								1870.				1871.					
					October.	November.	December.	January.	February.	March.	April.	May.					Total.	October.	November.	December.	January.	February.	March.	April.	May.	Total.
	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	Total.	Autumn.	Winter.	Spring.	Summer.	October.	November.	December.	January.	February.	March.	April.	May.	Total.
W. & S. W. District.	8.02	11.38	5.13	14.84	4.7	19.2	4.7	23.0	9.5	33.2	5	0.0	93.6	8.44	3.04	7.25	8.11	0.2	11.1	21.4	10.2	12.5	5.5	5	0.0	62.4
N. & N. W. District.	6.76	2.16	3.95	12.51	4.8	29.3	13.0	34.9	22.3	42.6	0.0	0.0	136.9	9.09	1.23	5.41	5.04	0.1	13.8	31.8	30.4	21.6	14.1	0.5	5	113.6
Central District.	6.82	3.88	11.13	.....	7.6	7.5	22.1	17.3	72.0	0.1	0.0	.....	8.95	2.65	8.67	5.67	0.0	4.5	16.0	24.3	22.4	14.7	0.4	0.0	70.9	
N. & N. E. District.	9.79	4.58	4.13	6.98	5.6	16.1	13.2	24.1	26.5	37.7	5	0.0	120.5	8.56	1.88	5.79	7.00	1.7	7.1	22.9	21.2	14.2	10.5	1.7	0.0	84.0
Ontario	8.19	6.23	4.27	11.36	5.0	18.1	9.6	25.0	18.9	46.4	5	0.0	118.6	8.70	2.20	6.78	6.45	0.5	9.1	23.0	21.5	17.7	11.2	0.7	5	85.0
Quebec	8.94	1.75	2.11	8.98	4.2	18.2	22.7	29.5	22.1	9.8	3.4	0.0	112.1	8.77	1.80	6.14	10.89	2.8	3.7	21.5	26.5	11.2	13.7	3.6	5	74.2
New Brunswick.	.....	.....	8.57	.....	.....	.....	.....	.....	.....	.....	4.7	.....	.....	14.62	4.02	7.82	10.22	4.0	4.3	37.1	12.1	8.7	11.2	2.2	0.3	88.2
Nova Scotia.	14.46	17.42	5.78	8.93	1.5	2.3	6.1	16.7	26.5	28.6	0.8	2.1	83.6	17.11	8.34	8.45	10.74	2.2	4.9	14.2	18.2	11.7	12.0	10.9	0.3	75.7

DAYS.

W. & S. W. District.	21.3	20.7	22.4	31.7	4.3	7.3	6.3	10.3	8.4	13.2	1.0	0.0	57.5	26.5	10.1	23.4	25.3	0.2	5.0	9.2	8.7	8.0	6.0	0.9	0.0	58.8
N. & N. W. District.	26.7	14.2	19.1	35.9	5.6	14.5	13.0	15.8	13.6	12.3	0.0	0.0	74.6	36.3	7.2	23.8	24.5	0.6	7.0	17.9	16.3	10.1	8.3	1.4	0.1	66.1
Central District.	.....	17.5	15.0	36.3	.....	11.5	8.0	12.5	8.7	11.7	1.0	0.0	.....	27.3	9.3	22.2	24.1	0.3	3.7	8.7	12.8	10.2	8.4	1.2	0.0	43.3
N. & N. E. District.	19.0	11.7	20.2	31.6	5.5	10.3	9.2	10.5	15.0	7.5	0.7	0.0	58.7	27.3	7.0	26.8	30.4	1.8	6.0	13.2	15.2	8.8	6.6	1.4	0.6	52.3
Ontario.	22.3	16.0	19.2	33.9	5.1	10.9	9.1	12.3	11.4	11.2	0.7	0.0	63.6	29.4	8.4	24.1	26.1	0.7	5.4	12.3	13.2	9.3	7.3	1.2	0.2	50.1
Quebec.	.....	.....	15.2	36.2	.....	.....	.....	14.3	13.5	7.5	2.7	0.0	.....	27.8	11.5	32.3	45.7	2.0	4.5	14.0	13.7	7.8	5.7	4.3	1.3	53.3
New Brunswick.	.....	.....	35.5	.....	.....	.....	.....	.....	.....	.....	2.0	3.0	.....	30.0	17.5	30.7	33.3	3.5	6.5	15.5	11.0	6.0	8.0	7.7	2.3	73.0
Nova Scotia.	.....	.....	27.3	31.4	.....	.....	.....	10.0	11.0	12.0	1.5	2.8	.....	37.0	22.0	31.1	37.3	1.7	3.2	8.7	10.3	7.0	8.1	5.1	0.6	41.9

XVIII.—MEAN TEMPERATURE, with the amount of Rain and Snow at several New Stations, for incomplete or short periods, not included in the previous Tables.

Station.	Mean Temperature.			Amount of Rain.			Amount of Snow.		
	September.	October.	November.	September.	October.	November.	September.	October.	November.
ONTARIO.									
Brockville.....			27·1			1·21			9·3
Perth.....		41·2	24·1			1·16			
QUEBEC.									
Bonner's Farm.....					5·37			3·0	
Murray Bay.....				3·30	4·16	0·40		3·3	8·9
Richmond.....		44·2	25·4		4·41	0·20			7·5
Danville.....						0·64			7·3
Conventual Establishment at—									
Chicoutimi.....				3·10	3·81				
Riviere du Loup.....				2·64	4·67			1·0	
Charlesbourg.....				2·34	6·09			5	
Carleton, (Bay of Chaleur).....					2·37			0·1	6·8
St. Nicolas (Quebec).....						0·14*			
NOVA SCOTIA.									
Seaforth.....				3·27	3·34				
Woodlands.....				4·86	4·41				
Cape North.....				3·24	3·27				
NEW BRUNSWICK.									
Dorchester.....						2·95			4·2
<i>Lighthouses.</i>									
Cape Rosier.....	48·7	39·2	27·9	2·18	0·70				
Point Clark.....	55·7	50·0	31·7	2·37	3·49	2·84			17·6
MANITOBA.									
Winnipeg.....		39·4	12·2		0·95	0·15		0·3	11·5

* Observation began on 12th November.

APPENDIX No. 14.

REPORT OF THE MONTREAL OBSERVATORY FOR THE YEAR 1871

To the Honorable PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR,—I have the honor to report for your information, the work done at this Observatory for the year ending 31st December, 1871.

A short, and necessarily brief report has been sent yearly to the Governor in Council, but as the Department of Marine and Fisheries have assumed the charge, properly speaking, of scientific progress and research, a more lengthy and detailed report has been deemed advisable.

FIRST.—*Of Time.* The *Transit Instrument* which is the most reliable means from which true *mean time* is obtained, is used for that purpose, and is connected by means of the Electric Telegraph, with the *Fire Alarm Circuit*; with the *Time Ball*, and with the *apparatus for giving time at Ottawa*.

The *Fire Alarm Circuit* is connected with the Observatory by a line of Telegraph, erected at the expense of the City and Corporation of Montreal, extending to the City Hall, and at the hours of 7 a.m., at noon, and six p.m., one stroke is made on the fire alarm bells for the use of the workshops and factories in the city. This time is furnished from the Observatory daily (Sundays excepted).

The *Time Ball*, was erected by the harbor commissioners at the wharf on the top of an elevated building in view of the shipping in port. The winding up of the ball to the top of the mast, fifteen minutes before noon, is under the charge of that department. The ball is let fall from the Observatory at *noon*—Montreal mean time, daily, during the season of navigation, for the use of the ships in the harbor and others.

Ottawa Time.—At the request of the Hon. the Postmaster General, local mean time is given daily at Ottawa for the use of the Government offices, which is made known by the firing of a gun, the communication for that purpose between the Observatory and Ottawa is by means of the Montreal Telegraph line, which is connected a few minutes before the required time.

In reference to this subject, it may be mentioned, that for several years past, a quantity of ships' chronometers (the most part of which were *run down*) have been sent up to the Observatory for *setting going, correcting and rating*, last year (1870). Thirty-three were corrected and rated (free of charge). Most of this number had *run down*, owing, I believe, to the captains leaving their vessels at Quebec, and reaching Montreal by steamer some days before the vessel arrived, and in most cases, having locked the cabin door, and preventing the winding of them up by the officer in charge of the vessel.

This formed a very important item of increase in the work during that year.

During the past year, the number has decreased, but still forms a great addition to the usual summer work, and if continued, a more commodious and properly fitted up room must be provided.

The usual tri-daily observations on atmospheric pressure, temperature, humidity, wind, rain, snow, ozone, aurora, and the usual meteorological phenomena, have been faithfully observed and duly recorded, reports of which have been transmitted to Professor Kingston, at the Magnetic Observatory, Toronto, as Superintendent of the Meteorological Department of the Dominion, for the purpose of reduction and compilation.

I may be allowed to congratulate the Department of Marine and Fisheries in having secured the services of Professor Kingston, who is in every way fitted for promoting the advancement of meteorological science, by his eminent abilities and extensive knowledge, and to carry out these extensive and liberal views adopted by the Government for pro-

moting the spread of a science which conduces so much to the health of individuals, the progress of agriculture, and to the commerce and wealth of nations.

The magnetic observations, have been continued as heretofore, but owing to the want of proper assistance, not so fully as might have been desired, and which the importance of the work demands.

The magnetic instruments being of a construction easy of transport, it might be advisable at some future time to ascertain the exact magnetic elements of some of the most important points on the river St. Lawrence. The work might be undertaken at any season, but would necessitate the employment of two assistants.

Its utility in reference to the contemplated improvements in the river St. Lawrence, and the desirability of deepening the channel and providing suitable beacons must be apparent, and it is with this view that it was deemed expedient to refer to it, and to state that the Observatory was in possession of the necessary instruments and apparatus for following out so desirable an end.

TABLE No. 1.

Years.	First Snow of Autumn in comparatively inappreciable quantities.	First Snow of Autumn in appreciable quantities.	Depth in Inches.	First Frost of Autumn.	Date of First Descent of Thermometer to 32° Fahr.	Last Snow of Spring.	Date of Last Descent of Thermometer to 32° Fahr.	Winter fairly set in.	Date of the Ice leaving the St. Lawrence in front of the City of Montreal.
1849....	Nov. 27....	Dec. 1....	2.00.	Oct. 5....	Oct. 6....	Apr. 13....	Apr. 18....	Dec. 10....	April 7
1850....	" 17....	Nov. 18....	2.14.	" 14....	" 14....	" 14....	" 20....	" 7....	" 9
1851....	Oct. 25....	" 15....	1.50.	" 2....	" 16....	" 8....	" 14....	Nov. 21....	" 9
1852....	" 17....	" 11....	1.20.	Sep. 17....	Sep. 29....	" 16....	" 24....	Dec. 18....	" 19
1853....	" 24....	Oct. 24....	2.00.	" 12....	" 30....	" 14....	May 1....	" 17....	" 24
1854....	" 15....	Nov. 17....	1.10.	" 11....	" 11....	" 30....	" 7....	" 4....	" 25
1855....	" 24....	" 17....	2.74.	Aug. 9....	" 29....	" 11....	" 10....	" 23....	" 38
1856....	Nov. 1....	" 25....	1.30.	" 26....	Oct. 4....	May 31....	" 6....	Nov. 29....	" 24
1857....	Oct. 20....	" 16....	2.01.	Sep. 7....	Sep. 30....	Apr. 27....	" 14....	Dec. 21....	" 18
1858....	Nov. 4....	" 13....	3.25.	Aug. 25....	Oct. 23....	" 22....	" 14....	" 20....	" 9
1859....	Oct. 20....	Oct. 21....	2.30.	Oct. 7....	" 8....	" 23....	Apr. 27....	" 10....	" 4
1860....	Sep. 29....	" 15....	0.10.	Sep. 3....	Sep. 29....	May 20....	" 20....	" 2....	" 10
1861....	Oct. 23....	Nov. 3....	0.32.	" 5....	Oct. 21....	Apr. 17....	" 4....	" 21....	" 24
1862....	Nov. 10....	" 26....	1.84.	Aug. 24....	" 10....	May 7....	Apr. 27....	" 19....	" 23
1863....	" 11....	" 26....	1.94.	Oct. 24....	" 27....	" 2....	" 21....	" 9....	" 25
1864....	Oct. 8....	" 5....	3.10.	Sep. 29....	" 29....	Apr. 18....	" 5....	" 12....	" 13
1865....	" 28....	Oct. 29....	0.66.	Oct. 21....	" 23....	" 20....	" 19....	" 22....	" 10
1866....	" 4....	" 6....	0.80.	Sep. 16....	Sep. 24....	May 3....	May 2....	" 16....	" 19
1867....	Nov. 5....	Nov. 14....	1.60.	" 23....	Nov. 3....	" 2....	" 4....	" 1....	" 22
1868....	Oct. 17....	Oct. 21....	1.92.	Oct. 4....	Oct. 17....	Apr. 23....	" 1....	" 7....	" 17
1869....	Sep. 27....	" 25....	6.47.	Sep. 28....	" 20....	May 3....	Apr. 29....	" 4....	" 23
1870....	Oct. 29....	Nov. 20....	2.00.	" 6....	" 26....	Apr. 5....	" 5....	" 19....	" 18
1871....	" 18....	" 22....	0.92.	" 8....	" 18....	Mar. 27....	" 13....	Nov. 29....	" 8

The above table compiled and continued for the year 1871, is intended to illustrate the climatology of Montreal and its vicinity.

The first column gives the respective years from 1849 to 1871 inclusive, a period of 23 years. The second shows the time of the first fall of snow in autumn, in however small quantities. This amount, as a general rule, does not exceed a quarter of an inch in depth on the surface, and invariably disappears, lasting but a very short time, and, in some cases, only a few minutes. The third column shows the date, and the fourth the amount in inches of the heavier snow fall. This snow very seldom entirely disappears, it may be seen in sheltered places and on the hills and mountains. The dates in the fifth and sixth columns show the days of the first frost of autumn, and the earliest date that

the thermometer marks 32° F. These dates may seem somewhat anomalous, inasmuch as the descent of the thermometer to 32° F, (the freezing point), and the first frost of autumn do not in all cases coincide. This difference is owing to several causes, such as terrestrial radiation, amount of clouds, direction and velocity of the wind, and the humid state of the atmosphere. The effect of the first frost of autumn is generally perceived on the leaves and flowers of plants, and, although, in some cases, the thermometer has marked 32° F, frost has not perceptibly affected vegetation, owing to some of the causes above mentioned. The seventh column gives the date of the last fall of snow, without reference to quantity, which is sometimes very small. The eighth column shows the respective dates at which the thermometer stood at 32° F, for the last time in spring, and is a near approximation to the last frost, but as vegetation is not so prolific in spring the effects on flowers and plants are not so well marked as in the autumn, although occasionally late frosts have proved very injurious to fruit trees and early vegetables. The ninth column is intended to show the dates when winter may be said to have fairly set in, for the ground is frozen to some depth, and may also be covered with some snow. The ditches are then full from the previous autumnal rains, and are frozen over, as well as the small rivers, and loads are crossing on the ice, all out-door work being consequently suspended. The tenth and last column gives the date at which the ice left the river St. Lawrence in front of the city, the river being clear of ice. The arrival of steamers and small sailing vessels generally occurs in a very short time afterwards—sometimes the same day.

This table may be considered an important one, as bearing on our maritime interests, the interests of commerce, and the safety of our ships from foreign ports, and also on the navigation of our rivers and canals, exhibiting the period when our sea-going vessels ought for safety to leave our shores, and our inland navigation ought to cease. The average or mean of the 23 years would suggest that there is not much safety after the 20th November for vessels leaving the Port of Montreal, and the 25th for those leaving the Port of Quebec.

The table No. 2 is compiled from the records of the Observatory, and is intended to show the various meteorological elements for the year 1871, viz: atmospheric pressure, temperature, wind, rains, snow, and extent of clouds, and forms a *resume* of the most important phenomena of our climate.

TABLE No. 2.

1871—MONTHS.	BAROMETER AT 32° FAHRENHEIT, IN INCHES.				TEMPERATURE, FAHRENHEIT.										WIND.		RAIN IN INCHES.		SNOW IN INCHES.		CLOUDS.		
	Monthly Mean.	Highest.	Lowest.	Monthly Range.	Monthly Mean.	Mean Maxima.	Mean Minima.	Monthly Range.	HIGHEST.		LOWEST.		WARMEST DAY.		COLDEST DAY.		Most Prevalent.	Mean mile per hour.	Number of days.	Amount.	Number of days.	Amount.	Extent in 10ths.
									Range.	Date.	Range.	Date.	Date.	Mean Tem- perature.	Date.	Mean Tem- perature.							
January	30.157	30.985	29.475	1.510	11.04	17.48	2.22	66.9	40.1	13th.	26.8	24th.	13th.	36.2	24th.	12.9	N.E.	4.82	5	0.427	12	16.53	0.4
February	29.882	30.549	29.050	1.499	18.70	27.02	9.03	74.2	46.2	25th.	28.0	5th.	25th.	37.8	5th.	13.7	W.	3.77	5	0.509	10	8.36	0.3
March	29.950	30.422	29.424	0.998	35.25	43.43	28.09	44.6	61.6	9th.	17.0	4th.	9th.	50.0	2nd.	23.8	W.	2.86	8	3.059	4	13.49	0.4
April	29.712	30.346	29.451	0.895	44.41	52.64	57.45	30.9	68.0	7th.	27.1	1st.	7th.	52.4	1st.	37.3	W.	5.04	13	3.085	.....	.....	0.5
May	29.937	30.261	29.460	0.801	58.59	70.38	51.19	57.9	94.3	21st.	36.4	2nd.	21st.	79.3	2nd.	47.4	N.E.	6.59	10	1.570	.....	.....	0.3
June	29.875	30.149	29.402	0.747	67.52	74.81	59.08	54.1	92.2	4th.	48.1	30th.	4th.	75.5	13th.	53.0	W.	1.84	13	1.298	.....	.....	0.3
July	29.770	30.267	29.501	0.766	70.58	85.10	65.73	39.9	95.0	13th.	54.1	3rd.	13th.	81.7	22nd.	59.6	W.	1.84	18	7.144	.....	.....	0.4
August	29.976	30.301	29.642	0.659	70.67	79.48	63.30	32.9	89.6	7th.	56.7	19th.	11th.	77.3	20th.	59.6	W.	4.55	11	3.066	.....	.....	0.3
September	30.068	30.386	29.500	0.886	57.0	70.25	51.26	52.6	91.0	6th.	38.4	21st.	6th.	76.1	21st.	46.8	W.	4.34	7	1.253	.....	.....	0.3
October	29.781	30.504	29.463	1.041	50.5	57.30	45.10	53.3	83.0	10th.	29.7	21st.	10th.	67.6	21st.	42.1	W.	4.07	10	3.014	1	0.16	0.6
November	29.936	30.456	29.382	1.074	31.6	38.20	26.11	58.9	52.3	17th.	6.6	30th.	16th.	37.9	30th.	1.9	W.	3.84	6	1.669	8	9.20	0.6
December	29.885	30.462	29.132	1.330	18.5	22.66	12.41	68.9	46.0	3rd.	22.9	21st.	3rd.	22.6	21st.	12.5	W.	4.84	3	0.413	21	26.79	0.7

On the 15th of July last (1871), this observatory was placed in connection with the "*Signal Office of the War Department of the U. S. A.*" for the benefit of commerce, meteorological stations have been established on the North American continent, extending from the Pacific to the Atlantic coast, and from the Gulf of Mexico to the United States boundaries.

This was the first observatory connected in the Dominion of Canada, and the only one beyond the territory of the United States.

The introduction and complete success of this system marks a new era in the progress of meteorology, and one so long desired and so ardently wished for by most meteorological observers, the advantage of simultaneous observations over a large area like this continent, and their immediate transmission is of the greatest importance, and the old method of monthly or weekly reports must in a great measure succumb to the advance of the age and the present exigencies of daily life, its success in the prediction of storms and weather fore-casts have been fully tested and borne out by the system already adopted by this department, and which on the 1st of January, 1872, will receive some useful and advantageous modifications in the transmission of the tri-daily reports.

Its practical utility in reference to our maritime, commercial and agricultural interests has been fully realized, and it is to be hoped that more extended observations will be promoted by observers in the Dominion to the Signal office at Washington.

At the hours of 7.30 a.m., 3.30 p.m., and 11.30 p.m., *Washington mean time*, some seventy observers are at that identical moment of time, recording observations on the various meteorological elements, these hours, as a matter of course, are corrected for local time after.

As soon as possible these results are transmitted by telegraph to the central office at Washington, there they are examined and tabulated from which are deduced *probabilities*, and returned telegrams are sent with despatch to all the stations which have furnished reports and from as many others as may be required for the information of the individual observers. Storm signals and warnings are placed on the shores of the lakes and other places which are deemed of importance more especially to mariners.

This has imposed upon the observatory much extra work and incidental expenses, but the results will be amply repaid by the fact of forming one link in that great chain of communication, which will before long circle the whole earth.

A detailed account of expenditure will be furnished to the Department at the end of the year, June 30th, 1872.

I have the honor to be, Sir,

Your obedient servant,

CHARLES SMALLWOOD, M.D., L.L.D., D.C.S.
Director.

Montreal Observatory,
1st January, 1872

APPENDIX No. 15.

REPORT OF DIRECTOR OF QUEBEC OBSERVATORY, FOR YEAR ENDING 30th JUNE, 1871.

OBSERVATORY, August 12th, 1871.

SIR,—In submitting my annual report ending June 30th, 1871, I have to state that the "Time Ball" has been dropped each day, (Sunday excepted and also one day in November, when the ball was frozen to the mast.) The freezing of the ball to the mast may, by an alteration in the construction, be avoided, and all ships can have "Greenwich time" given them up to the end of navigation.

Having to perform duties each day in two places, two miles apart, the time occupied in going to and fro could be more profitably employed.

I therefore strongly urge upon the head of my department, the necessity of having an Observatory built, so that all the duties of computing and giving "Time," of recording and reducing the meteorological observations of a first class station, in connection with Professor Kingston; and also astronomical observations, as well as celestial photography, could be effectually carried out on the site so well adapted for that purpose on "Bonner's Farm." It may be remembered that the "Canadian Eclipse Party" of 1869, that went to Iowa under my command, took four negatives of the sun, during totality, and that I submitted them to Mr. De La Rue, that he might shew them to the Royal Astronomical Society, of which I am a Fellow.

I have no hesitation in saying that the Canadian party was most unjustly treated: for in the "Monthly notices of the Astronomical Society" of February 11th, 1871, we read a long description of the great success of the American parties, and the article finished with: "Commander Ashe obtained four photographs of the totality at Jefferson Town, with an eight-inch equatorial, the pictures being taken in the principle focus of the instrument. These pictures, although they do not possess the sharpness of the American photographs, confirm what has already been stated in regard to the identity of form preserved by the protuberances and entities with soft outlines.

"Unfortunately in photographs (Nos. 3, 4,) there is evidence of the disturbance of the "Telescope during the exposure of the sensitive plates." Now, had two out of the four been failures, there would have been no discredit, for there is rarely a greater percentage of success; but that the most valuable photographs that were ever taken of an eclipse should have been considered failures, seems to me incredible.

On the photographs in question (Nos. 3, 4), are to be seen two luminous concentric envelopes, besides a stratification on the protuberances, and as nothing of the sort was to be seen in the most admired American photograms, and also as they were never seen in any other eclipse, Mr. De La Rue came to the unphilosophical conclusion that Commander Ashe's Telescope must have moved irregularly.

Nothing now was to be done but to wait, and the moment that I heard that Lord Lindsay and his party had been successful in taking photograms of the eclipse of 1870, at Cadiz. I wrote at once and asked his Lordship the following questions:—

1st.—Do you see in your photograms any stratification on the prominences?

2nd.—Are there any concentric bands of light near the sun's limb?

3rd.—Are there notches under the protuberances?

4th.—Have any of your protuberances the appearance of being blown on one side

In answer I received the following reply:—

47, BROOK STREET, LONDON, W.

MY DEAR SIR,—I am very much obliged to you for your kindness in sending me a copy of the "Canadian Eclipse."

It is very interesting, indeed. I will try and answer the questions put.

1st.—I cannot see in my negatives any signs of vertical stratification, though there may be horizontal strata.

2nd.—On my negative, No. 4, I have three gradations distinctly marked as in the rough sketch herewith, but I do not find any cross rays.

3rd.—Under all the prominences, notches are found, the bigger the prominence the bigger the notch.

4th.—Only one of my prominences has any inclination to be blown over, the rest seem pretty steady, but I have noticed the fact in spectroscopic observations.

As soon as I get good transparencies made, I will send you a set if you will accept them.

Believe me to be,

Yours most sincerely,

(Signed) LINDSAY.

CAPTAIN ASHE, Quebec.

Here, then, is ample testimony of the "Canadian Eclipse Party" having recorded phenomena for the first time that were not known before, and the very fact of the correspondence being in print, will ever prevent Canada from being deprived of the honor of having made these important discoveries.

Knowing that Lord Lindsay was in a position to judge of the merits of celestial photography, I sent him enlarged negatives of our eclipse, and also a negative of the sun.

One or more I take every day, when possible to do so; and I received the following very gratifying reply:—

47, BROOK STREET, LONDON W.

MY DEAR SIR,—I am very much obliged to you for your letter, and the exceedingly interesting negatives of the eclipse you have been so kind to send me, to examine. They are most interesting. I hope in a few days to be able to send off to you a packet of my eclipse pictures.

I think your negative of the sun is as fine a one as any I have seen, with the exception of one by Rutherford. It quite beats anything of Kew Observatory I have ever seen. I am forced to stop to catch the post.

Believe me,

Very sincerely yours,

(Signed) LINDSAY.

CAPTAIN ASHE, R.N., Quebec.

I feel confident that every Canadian will feel proud that this country can hold so prominent a position in that most valuable aid to astronomy, celestial photography; and I feel persuaded that, if I had the means of taking advantage of our beautiful winter climate with its clear atmosphere, Quebec would stand unrivalled in this art.

As the Kew Observatory has asked me to co-operate with them, it will be seen how important it is that an Observatory should be built, in order that I may comply with the request.

I am now reducing three years' observations of "sun spots," in order to determine, very exactly, the time of its rotation on its axis.

I then turn my attention to the drift of the sun spots, as Mr. Carrington and other astronomers state, that the spots near the sun's equator give a shorter period of revolution than those in a higher latitude, in consequence of an equatorial drift.

Some four years ago, when first I got this very fine equatorial, all the astronomers in Europe, and in America, were agreed that "sun spots" were cavities in a luminous envelope, and that the nucleus of the spot was the dark body of the sun, seen through this envelope; but when I examined the surface of the sun through a telescope of eight inches aperture, I was convinced that the spots were not holes, but matter floating on its surface, and after close study I am in a position to prove that they are not cavities.

I believe that inside Mercury there is a zone of asteroids, that are drawn out of their orbits in passing their perihelion. These small bodies then melt and spread out, the dross forming the penumbra, and the metal the nucleus, which splits and cracks in pieces, accounting for all the phenomena seen.

If my theory is correct, then, there should be no difficulty in fixing the periods of maxima spot frequency.

At the time of my writing this report, Venus and Mercury are in inferior conjunction; therefore Mercury, Venus and the Earth, are all tending to draw these asteroids out of their orbits, and to-day, I see no less than thirteen spots on the sun, and more coming on. It has been suggested by many eminent philosophers, that there is a connection between the periods spot frequency, and magnetic disturbance. No country in the world has a better opportunity than Canada for discovering if any connexion does exist. The magnetic observatory, Toronto, being nearer the magnetic pole than any other, and the climate of Quebec better suited than any other for celestial photography, between Professor Kingston and myself, this most important question could be settled in a most satisfactory manner.

The meteorological observations have been forwarded to Professor Kingston.

I append a statement of the expenditure of this establishment during the financial year.

I have the honor to be, Sir,

Your obedient servant,

(Signed) E. D. ASHE,
Director, Observatory, Quebec.

Director's salary.....	\$1,346 64
Assistant's, do	491 40
Labourer's, do	80 00
Superannuation tax.....	56 04
Photographic materials, stationery, postage stamps and express charges, repairs to house, etc.....	425 92
	<hr/>
	\$2,400 00

(Signed) E. D. ASHE.

APPENDIX No. 16.

REPORT OF SHIPPING MASTER AT QUEBEC.

QUEBEC, 12th December, 1871.

Sir,—I cannot make a report as Shipping Master for the fiscal year ending 30th June, 1871, as I have no record of the fees received during the season of navigation of 1870.

I entered on the duties of the office on the 22nd April, 1871, and from that date to the 30th June, 1871, the fees received amounted to \$371.60. One hundred dollars of that sum was paid to Mr. Parker, Deputy Shipping Master, by order, being the balance of his salary to 30th June, 1871.

I herewith enclose a statement, marked A, shewing the number of seamen shipped from 22nd April, to 30th June, 1871, inclusive, also a statement marked B, shewing the number of seamen shipped from 1st July, to 28th November, 1871, inclusive. The number of ships who paid no fees, viz :—new ships and colonial built ships are noted in both these statements.

The total sum, as fees collected during the navigation of this year 1871, up to 28th November, was \$1,881.35, as per statement enclosed marked C.

One hundred and eighteen shipwrecked seamen, have been discharged at the shipping office to this date. No fees of course were charged. On Saturday last, five seamen of the *Aurelie* were sent by me to hospital. On Monday three of them came out, leaving two remaining in hospital.

I have the honor to be, Sir,

Your most obedient servant,

(Signed) R. H. RUSSELL,
Shipping Master and Chief of River Police.

The Honorable P. MITCHELL,
Minister of Marine and Fisheries, Ottawa.

STATEMENT (A.) shewing number of vessels that shipped seamen, number of seamen shipped, and fees received, together with number of vessels that paid no fees, from 22nd April, 1871, to 30th June, 1871, inclusive.

Number of British vessels that shipped seamen during above period,	61
Number of Colonial vessels	do do 16
Number of New vessels	do do 7
Number of Foreign vessels	do do 4
Total Number of vessels	do do 88
Total Number of seamen shipped during above period.....	437
Deduct those crews for vessels registered at Quebec, also seamen who engaged but did not join their vessels, and whose substitutes where shipped without fees.....	147
Total number of seamen shipped paying fees	290

Fees received from 290 seamen shipped at \$1 each.....	\$290 00
Fees from 87 seamen discharged....	43 10
Fees for 77 certificates; at 50 cents each.....	38 50
	<hr/>
Total amount received	\$371 60

Number of vessels that paid no fees during above period viz :—

Colonial.....	16
New.....	7
	<hr/>
	23

STATEMENT (B.) shewing number of vessels that shipped seamen, Number of seamen shipped, and fees received, together with number of vessels that paid no fees, from 1st July, 1871, to 28th November, 1871, inclusive.

Number of British vessels that shipped seamen during above period	205
Number of Colonial vessels do do	95
Number of New vessels do do	2
	<hr/>
Total Number of vessels do do	302

Total Number of seamen shipped during above period	1,567
Deduct, those crews for vessels registered at Quebec, also seamen who engaged but did not join their vessels, and whose sub- stitutes were shipped without fees	365
	<hr/>

Total Number of seamen shipped paying fees	1,202
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Fees received from 1202 seamen shipped at \$1 each.....	\$1,202 00
Fees received from 379 seamen discharged	184 25
Fees received for 247 certificates, at fifty cents each.....	123 50
	<hr/>
Total amount received	\$1,509 75

Number of vessels that paid no fees during above period, viz :—

Colonial.....	95
New.....	2
	<hr/>
	97

STATEMENT (C.) shewing amount of fees collected, amounts deposited in bank, and disbursements made, from 22nd April, 1871, to 28th November, 1871.

			\$ cts.	\$ cts.
Fees from 22nd April, 1871, to 30th June, 1871, inclusive, as per statement (A.)			371 60	
Fees from 1st July, 1871, to 28th Nov., 1871, inclusive, as per statement (B.)			1,509 75	
				1,881 35
			\$ cts.	
June 17.....	Deposited in Bank of Montreal		300 00	
July 10.....	Do do		142 00	
Aug. 1.....	Do do		100 00	
" 21.....	Do do		126 00	
Sep. 11.....	Do do		200 00	
Oct. 2.....	Do do		154 00	
" 27.....	Do do		174 00	
Nov. 7.....	Do do		241 00	
" 13.....	Do do		150 00	
" 27.....	Do do		93 41	
Total deposited in Bank			1,680 41	
June 28.....	Paid Mr. Parker, Deputy Shipping Master, per order	100 00		
Aug. 9.....	Paid Mr. Foote, Stationery for office.....	39 60		
Nov. 6.....	Paid for one cord firewood	5 30		
Total disbursements.....			144 90	
Balance in hands of Shipping Master.....			56 04	
				1,881 35

APPENDIX No. 17.

REPORT OF THE SHIPPING MASTER FOR THE PORT OF ST. JOHN, N.B., FOR THE FISCAL YEAR ENDED 30TH JUNE, 1871.

SHIPPING OFFICE, ST. JOHN, N.B., October 30th, 1871.

Sir,—I have the honor to enclose a statement of the income and expenditure of the shipping office at the Port of St. John, N.B., for the year ending the 30th June, 1871.

The number of men shipped during the past fiscal year were 4,471, against 4,020 during the previous corresponding year; shewing an increase of 451 men.

The supply of men has been equal to the demand, only four crews having been ordered from Boston since Spring. This is owing to the high rate of wages by the "Run" to Europe, which has averaged \$55.00 against \$45.00 for the previous year. Monthly wages have increased in proportion.

I am, Sir,

Your obedient servant,

(Signed)

ALLAN McLEAN,

Shipping Master.

The Honorable P. MITCHELL,
Minister of Marine and Fisheries, Ottawa.

STATEMENT of Income and Expenditure of the shipping office at the Port of St. John, N.B., for the fiscal year ended 30th June, 1871.

INCOME.				\$	cts.
Fees for shipping, etc.,	583 men in	July, 1870	.....	291	50
Do	338	do Aug.,	do	169	00
Do	387	do Sept.,	do	193	50
Do	373	do Oct.,	do	186	50
Do	430	do Nov.,	do	215	00
Do	407	do Dec.,	do	203	50
Do	196	do Jan., 1871	.....	98	00
Do	188	do Feby.,	do	94	00
Do	313	do Mar.,	do	156	50
Do	276	do April,	do	138	00
Do	440	do May,	do	220	00
Do	540	do June,	do	270	00
<hr/> 4,471				<hr/>	<hr/>
				\$2,235	50

EXPENDITURE.

Paid Assistant, and Incidental Expenses	1,256 70
Net proceeds of office,.....	<hr/> \$978 80 <hr/>

(Signed)

ALLAN McLEAN,

Shipping Master.

SHIPPING OFFICE, ST. JOHN, N.B.,
30th October, 1871.

APPENDIX No. 18.

REPORT OF THE CHAIRMAN OF THE BOARD OF EXAMINERS OF MASTERS AND MATES.

Sir,—I herewith forward for your information the Annual Report of the "Board of Examiners of Masters and Mates," for the year ended 31st December, 1871.

I have the honor to be, Sir,

Your most obedient servant,

P. A. SCOTT,

Captain R.N., Chairman.

Hon. P. MITCHELL,

Minister of Marine and Fisheries.

The Act respecting certificates to "Masters and Mates," 33 Vic., Cap. XVII, came into operation on the 27th February last.

On the 7th March, His Excellency the Governor General in Council was pleased at your recommendation to appoint me Chairman of the Board, and at the same time I was informed that the following appointments were made under the Act.

Capt. J. D. Armstrong, of Quebec, to be an Examiner at the Port of Quebec.

Capt. Joseph Prichard, of St. John, N.B., to be an Examiner at the Port of St. John.

After receiving my instructions, I proceeded to St. John, New Brunswick, to hold an examination of such candidates as might come forward.

On the 18th April, Capt. W. D. Cronk, of St. John, N.B., passed the examination and received his certificate, he having been appointed an examiner at that Port. No other candidates presented themselves for examination.

On the 20th June, Capt. Geo. A. McKenzie of Halifax, N.S., was examined by Capt. Joseph Prichard and myself, and being found duly qualified received his certificate, he having been appointed an Examiner at the Port of Halifax.

There being no candidates for certificates of competency at this time, the Board did not sit again until the 7th August, at the Port of St. John, N.B., when the examination resulted as follows :—

Masters who obtained their certificates, five.

Mates who obtained their certificates, one.

• Two candidates for the Masters' certificates having failed in navigation.

The next examination was held at St. John, on the 14th and 15th of September, with the following results :—

Masters who obtained their certificates, four.

Mates who obtained their certificates, two.

Two candidates for the Master's certificates having failed in navigation.

The next examination was held at St. John, on the 18th and 19th of October, with the following results :—

Masters who obtained their certificates, seven.

Mates who obtained their certificates, three.

Two candidates for the Master's and one for that of Mate having failed in navigation.

On the 28th of October, Captain John Taylor, of Halifax, Nova Scotia, was examined by Capt. G. A. McKenzie and myself, and being found duly qualified received his certificate, he having been appointed an Examiner at that Port.

The next examination was held at St. John, N.B., on the 20th and 21st November, with the following results:—

Masters who obtained their certificates, six.

Mates who obtained their certificates, three.

One candidate for the Master's certificate having failed in navigation.

Having received instructions from you to proceed to the Port of Quebec to enquire into the qualifications of the Examiners you had been pleased to appoint, I repaired there taking Capt. Cronk, of St. John, with me, and on, the 27th November, examined Commander E. D. Ashe, R.N., and Captain Anselme Marmen, of the Government Steamer *Druid*, of Quebec; they being found duly qualified received their certificates.

The Board sat at that port on the 28th and 29th, but no candidates presented themselves for examination.

The next examination was held at St. John, N.B., on the 14th and 15th of December, with the following results:—

Masters who obtained their certificates, six.

Mates who obtained their certificates, none.

One candidate for the Master's certificate having failed in navigation.

Thus twenty-eight candidates for the grade of Master, and nine for that of Mate, have received their certificates during the present year.

The next examination will be held at the Port of Halifax, on the 10th January next, when it is expected some may come forward for certificates of competency.

I have the honor to be, Sir,

Your obedient servant,

(Signed,) P. A. SCOTT,

Captain R.N.,

Chairman of the Board of Examiners of Masters and Mates.

APPENDIX No. 19.

REPORT OF CHAIRMAN OF BOARD OF STEAMBOAT INSPECTION.

BOARD OF STEAMBOAT INSPECTION,
CHAIRMAN'S OFFICE,

TORONTO, January, 1872.

Sir,—Accompanying this, I beg leave to forward to you, for the information of the Honorable the Minister of Marine and Fisheries, my Annual Report for the year ended December 31st, 1871.

I have the honor to be, Sir,
Your obedient servant,

(Signed) SAML. RISLEY,
Chairman of Board of Steamboat Inspection.

WM. SMITH, Esq.,
Deputy of the Minister of Marine and Fisheries,
Ottawa.

Meetings of the Board of Steamboat Inspection, composed of two members and the chairman, sufficient to form a quorum, were held during the year, at the following places:—

St. John, N.B.,	October 2nd, 3rd, 4th and 5th.
Fredricton, "	" 6th and 7th.
Pictou, N.S.,	" 10th and 11th.
Halifax, "	" 12th and 13th.
Quebec Province, Quebec,	November 22nd, 23rd and 24th.
Montreal "	" 25th, 27th, 28th, and 29th.
Ottawa, Ontario,	December 1st and 2nd.
Kingston, "	" 5th, 6th and 7th.
Toronto, "	" 8th, 9th and 11th.
Windsor, "	" 13th, 14th and 15th.
Hamilton "	" 18th and 19th.
St. Catharines, "	" 20th, 21st, 22nd and 23rd.

During the year there have been issued 625 Engineers' certificates, being 124 more than were issued during the year 1870.

The following exhibits the number according to the several grades:—

First Class Engineers	46
Second "	116
Third "	121
First Class Assistant Engineers	146
Second "	122
Third "	74

Of the above 165 are examinations and 460 are Renewals.

The annual meeting of the Board, in compliance with section 3 of the Steamboat Inspection Act, was held at Montreal, on the 17th November. All the Inspectors were present. The following are the Rules and Regulations approved by the Board, also suggestions recommended to the Department for approval by the Governor-General in Council.

1st. That the Chairman inform the Department, that it is desirable that the 2nd and 3rd Regulations passed at the last annual meeting of the Board at Ottawa, be approved by the Governor in Council, in view of putting the same in force.

2nd. That the investigations of the cause of the explosion of the boiler of the Steamer *Westfield*, at New York, involving great loss of life, have shown the importance of having the Test gauge used in testing boilers, proved to be correct. The Department is requested to provide each Inspector with a Standard Gauge and Test Pump with Indication for testing the accuracy of the Gauge.

3rd. As of necessity the Inspection of Steamboats must extend over the period of navigation, it is to be understood that the Certificate of Inspection shall be for a period of one year from its date, unless for some sufficient reason revoked. This resolution is not to conflict with section 49 of the Steamboat Inspection Act, which defines the word "Year," as meaning the calendar year, commencing on the 1st January, and ending on the 31st December, which applies to Masters or Owners of Steamboats, requiring them to make application for the inspection of their Steamers within the calendar year.

4th. That Engineers be required, when leaving a steamboat of which they have been in charge, as such, and also at the close of navigation, each year, to report in writing the condition of the engines and boiler, also the Fire pumps and hose. A copy of such report to be sent to the owner of the Steamer, also to the Local Inspector of the District in which the vessel was last inspected, or where the vessel is laid up, the original to be retained by the Engineer; and any Engineer taking charge of a Steamer shall demand the exhibition of such report from the Owner or Master of the Steamer, and in the event of such report not being produced or proving incorrect, he shall at once report the fact to the nearest Inspector. Any Engineer failing to comply with this resolution, his certificate shall, by order of the chairman be revoked.

5th. That the Board adopt the Bourne Tables of Horse power in estimating the power of Steamers' Engines.

6th. That the rule be applied hereafter, for determining the strength of flues, subjected to external pressure, shall assume one-third the pressure allowed for the shell, in accordance with sub-section 2, section 7 of the Steamboat Inspection Act, and no flue over sixteen inches diameter, shall be made of less than quarter inch plate. The spaces between the stays in steam chimneys, (measured on the inside) shall not exceed twice that of the flat surface of the boiler.

7th. Inasmuch as public opinion assumes, and late accidents to Steamboat boilers in the United States have proved, that, more or less, deterioration in the strength of the materials and workmanship takes place from use and age, and as the Inspectors have no means of ascertaining the quality or strength of plates used in the manufacture of boilers in the Dominion, or of determining the deterioration from wear and age, the Board request that it be furnished with suitable instruments for testing boiler plates, that the provision of the Steamboat Inspection Act, sub-section 2, section 7, which requires that all Steamboat boilers be made of the best refined plate, be enforced.

8th. That in future Inspectors be required to carry out, strictly, the provision of the Steamboat Inspection Act, sub-section 6, section 7, which provides that no boiler made after the passing of this Act, shall be made of boiler plates which have not been stamped or marked with the name of the maker thereof, nor shall a certificate be granted with respect to any boiler made wholly or in part of plates not so marked. The Board have to request that the above resolutions be printed in English and French in the form of a circular, 200 English and 100, French for distribution among Importers of Iron and Boiler Manufacturers.

The following resolution is submitted by the Board as an amendment to the Navigation Act. The total loss of the steamer *City of Quebec*, last year in the River St. Lawrence, and the frequent narrow escapes, which, both in open waters and narrow channels, it is thought may be almost entirely avoided by the adoption of these signals.

9th. As several accidents have occurred from misunderstandings arising as to the side steamers intend to take in passing at night, and as the sounding of the steam whistle by regulation has been found in practice to prevent confusion and add to public safety, the Board beg leave to recommend to the Department, that the following rule be added to the Navigation Act, it being an abstract of a rule in practice in the United States.

When steamers are approaching each other, the signal for passing shall be one sound of the steam whistle to keep to the right, and two sounds of the steam whistle to keep to the left. This signal to be observed by all steamers either day or night, by the time such boats shall have arrived at the distance of one thousand yards from each other, and should these signals not be made and answered by the time such boats shall have so arrived, the engines of both boats shall be stopped. Doubt or fear of misunderstanding these signals, shall be expressed by several short sounds of the whistle in quick succession, when the signal can be again made.

10th. In reference to the explosion of the boiler of the steamer *Fawn*, which occurred on the 14th May last, at Montreal, to which exception was taken by the Chairman to Mr. Inspector Fessenden's report as to the cause of the explosion, on the ground that the plates in the steam chimney, where the fracture occurred, were insufficient in strength, and the stays too far apart for the pressure allowed upon the boiler.

To prevent a recurrence of the kind, Inspectors of steamboats are referred to resolution six of this meeting, having reference to the strength of internal flues, by which they are in future to be guided.

11th. The Board recommend to owners of steamboats the use of some effective "Low Water Alarm Indicator," by which the danger arising from want of water in the boiler be guarded against. That Kimball's Low Water Indicator has been tried and found to answer the purpose intended, and gives satisfaction, and is therefore recommended by the Board for this purpose.

Appended are returns for the several divisions in the Dominion shewing the names of the steamers inspected during the year ended 31st December, 1871; the ports of inspection, name of collector, date of inspection, gross and registered tonnage, inspection dues and date of payment of the same.

The Return exhibits a total of 438 steamers, of a registered tonnage of 45,210 against 404 steamers for the year 1870, of a registered tonnage of 42,595.

West Ontario, Huron, and Lake Superior....	119 steamers,	12,833 tons.
East Ontario.....	64 "	6,033 "
Montreal	84 "	7,115 "
Three Rivers.....	41 "	5,146 "
Quebec	65 "	5,385 "
New Brunswick and Nova Scotia	65 "	8,698 "
Total.....	438 steamers,	45,210 tons.

These steamers may be classified thus :—

Passenger Steamers.....	127
Freight ".....	87
Tug ".....	194
Paddle ".....	236
Propellers ".....	78
Screw Tugs	124

Appended are returns of steamers added to the Dominion during the year 1871; their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built and how employed. Also a return of the number of steamers lost or broken up or laid up as unfit for service, in the Dominion during the same period, their class and horse-power, whether of wood or iron, their gross and registered tonnage, and where and how lost.

The following statement exhibits accidents of no serious import to the vessels in which they occurred, during the year in the several districts.

West Ontario, Huron and Lake Superior Division.

S. propeller *Dominion*, while off the Ducks Light, Lake Ontario, broke the strap bolt in the head of the connecting rod, damaging the engine considerably. Vessel towed back to Kingston for repairs. The accident occurred 27th August.

East Ontario Division.

24th May, Steamer *H. A. Calvin*, while in tow of barges off Farren's Point, broke the fork centre of her working beam, she got to the wharf for repairs, without further damage.

July 15th, Propeller *Magnet*, when entering Côté St. Paul Lock, Lachine Canal, screw got foul, and the engine became unmanageable, vessel struck the pier and sunk in the lock; hull afterwards condemned.

September 7th, Steamer *Norfolk*, reported having broken her crank.

October 17th, Passenger Steamer *John Greenway*, burnt at the wharf at Picton. Total loss. Fire supposed to have been accidental.

Montreal District.

May 14th, Steam Tug *Fawn*, while on her way up the current St. Mary, at Montreal, with barges in tow, collapsed her steam chimney.

October 13th, Propeller *Scotia*, on her way down struck the rocks at Lake St. Paul, near Lachine, and sunk inside the pier at Lachine Canal. The accident attributed to low water in the river.

Nova Scotia and New Brunswick District.

October 20th, Steamer *Rothsay*, on her way to Fredericton, broke the crosshead of the engine, the break was shown to have been caused by a flaw in the iron.

May 18th, Steamer *May Queen*, on her way from Grand Lake, broke the starboard driving shaft of the engine. The shaft, which was of cast iron, has been replaced by a wrought one.

There are no accidents reported in the Three Rivers District.

(Signed) SAML. RISLEY,
Chairman of the Board of Steamboat Inspection.

QUEBEC, January 23rd, 1872.

SIR,—I beg leave to report the accidents to the steam vessels in the Quebec Division.

On the 26th April, the Passenger Steamer *Lotbinier*, when fitting up at Lotbinier, in her winter quarters, was burned, cause of the fire, heating pitch in the kitchen.

In June, the Tug *Reindeer*, in coming into the harbor of Montreal, took fire and was towed down the current and run ashore.

In August, the Tug *Manitoba*, while lying at the wharf in Montreal, fired up without water in the boiler, and burned her furnace. The engineer has been suspended by the Board for this offence.

On the 22nd September, the S.S. *Secret*, when lying over night at the wharf at Newcastle, took fire in the cabin boys' room. The fire was extinguished before any serious damage was done.

On the 22nd July, the Market boat *Tiger*, in going down to St. Famille, the steam whistle blew out, and frightened a woman, who it is supposed to have jumped overboard and was drowned.

On the 12th October, the Passenger Steamer *Quebec*, when rounding Point Beauport, mistaking the Beauport lights for the city, ran inside the Point Carey Wharf on a sand bank. No damage sustained.

I am, Sir,

Your most obedient servant,

(Signed)

JOS. SAMSON,

Steamboat Inspector.

No. 1.—STEAM VESSELS Inspected in West Ontario and Superior Division, for the Year ending 31st December, 1871.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						\$ cts.	\$		\$ cts.	
Alex. Watson ..	Windsor	Benson	March 24	109	64	10 90	8	March 24	18 90	Screw, pass., Detroit and Wallaceburg.
Acadia	Hamilton	Kittson	April 4	331	302	33 10	8	April 5	41 10	Propeller, Montreal and Chicago.
James Norris ..	Port Dalhousie ..	Lamb	" 4	47	.....	4 70	5	" 4	9 70	Harbor tug.
Young Lion	"	"	" 4	54	.....	5 40	5	" 4	10 40	"
Minnie Parsons ..	"	"	" 4	45	.....	4 50	5	" 4	9 50	"
East	"	"	" 4	347	218	34 70	8	" 6	42 70	Propeller, Montreal and Chicago.
America	St. Catharines ..	"	" 5	331	302	33 10	8	" 5	41 10	"
Dominion	"	"	" 5	352	285	35 20	8	" 5	43 20	"
Europe	"	"	" 6	370	307	37 00	8	" 5	45 00	"
Shickluna	"	"	" 6	362	295	36 20	8	" 8	44 20	"
Bristol	Hamilton	Kittson	" 7	340	277	34 00	8	" 6	42 00	"
Dromedary	"	"	" 8	219	174	21 90	5	" 5	26 90	"
Ontario	"	"	" 8	35	24	3 50	5	" 7	8 50	Ferry and harbor tug.
Dominion	Chatham	Pennefather ..	" 12	178	117	17 80	8	" 12	25 80	Screw, passenger, Chatham & Detroit.
J. R. Cross	"	"	" 13	91	77	9 10	5	" 12	14 10	Screw barge, Chatham and Detroit.
Bella Taylor	"	"	" 13	38	17	3 80	5	" 13	8 80	Harbor tug.
P. E. McKerral ..	"	"	" 12	116	71	11 60	5	May 28	16 60	Screw, freight, Chatham & Lake Ports.
Manitoba	"	"	" 14	81	69	8 10	5	April 13	13 10	Screw, wood barge.
Mary Ward	"	"	" 15	345	336	34 80	8	" 13	42 50	Propeller, Chatham and Montreal.
W. P. Sprague ..	Port Rowan	Bennett	" 19	119	90	11 90	5	" 29	16 90	Lake tug.
Agnes McMahon ..	Port Dalhousie ..	Lamb	" 4	63	54	6 30	5	" 4	11 30	Harbor tug.
Herald	Goderich	D. Doty	{ Not in- spected. }	102	102	10 20	8	June 4	18 20	Screw, Goderich and Lake Ports.
J. C. Doty	"	"	" 17	17	17	1 70	5	" 4	6 70	Harbor tug.
Indian	Hamilton	Kittson	April 21	452	307	45 20	8	April 17	53 20	Propeller, Montreal and Chicago.
Osprey	"	"	" 21	375	199	37 50	8	" 10	45 50	Sidewheel, freight, Montreal & Hamilton
Metamora	Port Dalhousie ..	Lamb	" 22	239	151	23 90	8	" 22	31 90	Lake tug.
Enterprise	"	"	" 22	564	494	56 40	8	" 24	64 40	Propeller, Welland Railway.
Windsor	Windsor	Benson	" 26	61	50	6 10	5	" 12	11 10	Propeller, river, freight.
Great Western ..	"	"	" 27	1,252	712	125 20	8	May 4	133 20	Car ferry boat, Great Western Railway.
Union	"	"	" 27	1,190	999	119 00	8	" 4	127 00	Pass. "
John S. Noyes ..	"	"	" 28	34	22	3 40	5	April 10	8 40	River tug.
City of Toronto ..	Toronto	Smith	May 4	403	225	40 30	8	May 10	48 30	Pass., side wheel, Toronto & Lewiston.
Chicora	Collingwood	"	" 5	415	372	41 50	8	" 1	49 50	Pass., s. w., Collingwood & L. Superior.
Argyle	Hamilton	Kittson	" 8	121	82	12 10	8	" 4	20 10	Pass., side wheel, Hamilton & Dundas.
Ida Burton	Barrie	Smith	" 16	54	20	5 48	5	June 1	10 48	" Lake Simcoe.

STEAM VESSELS Inspected in West Ontario and Superior Division, &c.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						\$ cts.	\$		\$ cts.	
Deane.....	Gravenhurst.....	Smith.....	May 16	7	7	0 70	5	June 1	5 70	Passenger, screw, Muskoka.
Wenonah.....	Gravenhurst.....	".....	" 17	62	60	6 20	5	" 1	11 20	" side wheel, Lake.
Fred. Hotchkiss.	Collingwood.....	".....	" 19	15	7 $\frac{1}{2}$	1 50	5	April 11	6 50	Harbor tug, Collingwood.
Wales.....	".....	".....	" 20	188	96	18 80	5	" 11	23 80	Lake tug.
Waubuno.....	".....	".....	" 20	146	167	14 60	8	" 28	22 60	Passenger, side wheel, Georgian Bay.
Transit.....	Hamilton.....	Kittson.....	" 22	82	53	8 20	5	May 31	13 20	ferry, Hamilton.
L. N. G.....	Port Robinson.....	Lamb.....	" 24	16	7	1 60	5	" 20	6 60	Canal tug, Port Robinson.
William Ross.....	".....	".....	" 24	11	8	1 10	5	" 20	6 10	" "
Minerva.....	".....	".....	" 24	28	28	2 80	5	Sept. 20	7 80	" "
Ada Carter.....	".....	".....	" 25	25	15	2 50	5	April 8	7 50	" "
T. R. Secord.....	".....	".....	" 25	14	10	1 40	5	May 23	6 40	" "
Norseman.....	Port Hope.....	Whitehead.....	" 31	295	74	29 50	8	March 23	37 50	Pass., side wheel, Port Hope & Rochester
Annie Reid.....	".....	".....	June 1	42	28	4 20	5	May 2	9 20	Harbor tug, Port Hope.
Kincardine.....	Port Dalhousie.....	Lamb.....	" 2	176	176	17 60	8	Sept. ..	25 60	Screw, freight, Goderich and Montreal.
Lady Franklin.....	Toronto.....	Smith.....	April 10	32	19	3 20	5	June 6	8 20	Harbor tug, Toronto.
Bouquet.....	".....	".....	June 6	191	157	19 10	8	May 3	27 10	Pass., ferry boat, side wheel, Toronto.
Princess of Wales.....	".....	".....	May 1	94	58	9 40	5	April 8	14 40	" "
Emily May.....	Belle Ewart.....	".....	June 13	181	104	18 10	8	May 27	26 10	Passenger, side wheel, Lake Simcoe.
Emily Dunham.....	".....	".....	" 13	32	32	3 20	5	" 23	8 20	Pass., side wheel, ferry, Lake Simcoe.
Victoria.....	".....	".....	" 13	94	83	9 40	5	Sept. ..	11 40	Timber tug, Lake Simcoe.
Carella.....	Orillia.....	".....	" 14	29	19	2 90	5	June 1	7 90	Screw, passenger, Lake Simcoe.
Nipissing.....	Gravenhurst.....	".....	" 15	94	50	9 40	5	" 1	14 40	Passenger, side wheel, Lake Muskoka.
Commodore.....	Lindsay.....	Whitehead.....	" 19	109	95	10 90	8	April 18	18 90	Passenger and freight, Lake Scugog.
Champion.....	".....	".....	" 21	82	73	8 20	5	" 18	13 20	" "
Ogenah.....	".....	".....	" 21	102	75	10 25	8	June 13	18 25	" "
Victoria.....	".....	".....	" 21	94	83	9 40	5	March 21	14 40	" "
Novelty.....	".....	".....	" 21	67	57	6 70	5	June 21	11 70	" "
Anglo Saxon.....	".....	".....	" 20	47	39	4 70	5	May 19	9 70	" "
Ontario.....	".....	".....	" 22	38	21	3 80	5	" 10	8 84	" "
Samson.....	".....	".....	" 22	30	30	3 00	5	" ..	8 00	" "
Ranger.....	".....	".....	" 22	53	40	5 30	5	April 18	10 30	" "
Mary Ellen.....	".....	".....	" 22	31	13	3 10	5	March 21	8 10	Freight, side wheel, Lake Scugog.
City of London.....	Port Stanley.....	Hemphill.....	" 26	334	307	33 40	8	April 8	41 40	Propeller, Port Stanley and Montreal.
Adelaide Horton.....	Goderich.....	Doty.....	" 29	91	55	9 10	5	June 29	14 10	Propeller, Goderich and Montreal.
S. R. Norcross.....	".....	".....	" 29	22	.....	2 20	5	" 10	7 20	Harbor tug, Goderich.
William Seymour.....	".....	".....	" 29	77	46	7 70	5	" 5	12 70	Passenger, screw, Goderich and Sarnia.

Minnie Battle ..	St. Catharines ..	Clark	29	25	14	2 50	5	April	5	7 50	Welland Canal tug.	
Lady Ida	Port Hope	Whitehead	{	{	18	18	1 80	5	June	5	6 80	River, side wheel, passenger & freight.
Norfolk	Port Rowan	Bennett			43	48	4 30	5	"	5	9 30	
Cayagh	Amherstburg	Anderson			33	33	3 30	5	March	5	8 30	Harbor tug, Amherstburg."
Niagara	Coburg	Perry			6	6	0 60	5	Sept.	5	5 60	Coburg.
City of Montreal ..	Chatham	Pennefather	July	12	300	300	30 00	8	"	5	38 00	Propeller, Montreal and Chicago.
Revue	Collingwood	Watson	"	15	12	12	1 20	5	April	10	6 23	Screw fishing boat.
Okoua	Owen Sound	Stephens	"	17	37	10	3 70	5	July	8	8 70	Screw, pass. & freight, Georgian Bay.
*Francis Smith	"	"	"	17	462	109	46 20	8	May	31	54 20	Pass., s. w., Collingwood & Owen Sound.
Algoma	Collingwood	Watson	"	19	757	623	62 30	8	"	3	71 30	Pass., side wheel, Lake Superior.
George Watson	"	"	"	21	28	28	2 80	5	April	10	7 80	Harbor and Mill tug.
Clara M. Carter	Port Colbourne ..	W. A. Booth	"	27	29	23	2 90	5	June	23	7 90	Harbor tug, Port Colborne.
Sylvester Neelan ..	"	"	"	27	46	28	4 60	5	"	23	9 60	"
Jessie	"	"	"	27	115	67	11 50	5	Sept.	10	16 50	"
Lilly Kerr	Collingwood	T. E. Smith	"	"	58	26	5 80	5	May	1	10 80	Collingwood.
Florence	Sarnia	Verner	Aug.	2	108	73	10 80	8	Aug.	2	18 80	Screw ferry, Sarnia, Gt. Western Rail.
T. C. Clark	"	"	"	3	174	83	17 71	8	"	3	25 71	Screw, pass., Sarnia and Wallaceburg.
W. S. Spicer	"	"	"	3	356	239	35 60	8	"	1	43 60	Ferry, s. w., Sarnia, Gt. Western Rail.
St. Clair	"	"	"	3	36	16	3 64	5	"	1	8 64	Harbor tug, Rondeau.
J. Holt	"	"	"	4	70	45	7 00	5	June	24	12 00	River tug, Wallaceburg.
Philo Bennet	Wallaceburg	Fraser	"	4	7	7	0 70	5	Aug.	4	5 70	"
Beaver	"	"	"	5	52	52	5 20	5	"	3	10 20	"
Hero	"	"	"	5	38	38	3 80	5	"	5	8 80	"
Alexander Jones ..	"	"	"	5	22	22	2 20	5	"	2	7 20	"
River King	"	"	"	"	52	34	5 20	5	"	2	10 20	"
Reindeer	"	"	"	"	35	35	3 50	5	"	2	8 50	"
E. L. Stoddard	"	"	"	6	12	12	1 20	5	"	2	6 20	"
Manitoba	Port Robinson ..	Clark	"	11	338	300	33 80	8	"	"	41 80	Side wheel, passenger, Lake Superior.
Champion	Owen Sound	Stevens	"	22	51	34	5 10	5	July	18	10 10	Screw, Owen Sound and Bay Ports.
Minnie Hall	Byng Inlet	Smith	"	24	47	47	4 70	5	May	1	9 70	Harbor tug, Byng Inlet.
Mettie Grew	Waubausheno	"	"	24	30	30	3 00	5	"	1	8 00	" Warbanshine.
Beaver	Wallaceburg	Fraser	"	29	44	17	4 40	5	July	5	9 40	River tug, Wallaceburg.
Sea Gull	Sarnia	Verner	Sept.	4	51	51	5 10	5	June	24	10 10	Screw ferry, Sarnia.
Bob Hackett	Amherstburg	Anderson	"	6	72	52	7 20	5	April	20	12 20	Screw, passenger, Windsor.
Silver Spray	Chatham	Pennefather	"	13	173	142	17 30	8	Sept.	13	25 30	Side wheel, Chatham and Detroit.
Cumberland	Chippawa	"	"	23	750	229	75 00	8	"	13	83 00	Side wheel, passenger, Lake Superior.
Scotia	St. Catharines ..	Clark	Aug.	17	371	360	37 10	8	Aug.	17	45 10	Propeller, Montreal and Chicago.
Aln	Rice Lake	Perry	Oct.	31	35	35	3 50	5	June	30	8 50	Screw tug, Rice Lake.
Otonabee	"	"	"	31	84	46	8 40	5	"	30	13 40	Side wheel, freight, Rice Lake.
Forest City	"	"	"	"	79	79	7 90	5	"	30	12 90	"
Dover	Dunnville	W. A. McCrae	Nov.	8	54	40	5 40	5	Oct.	6	10 40	" river tug, Dunnville.
W. T. Robb	"	"	"	9	188	114	18 80	5	"	"	23 80	Screw tug, Dunnville.
Mary Ann	"	"	"	9	69	53	6 90	5	"	"	11 90	"
Corul	Windsor	C. Fraser	"	14	93	93	9 30	5	"	"	14 30	Screw tug, freight, Wallaceburg.
Simcoe	Belle Ewart	J. Smith	"	14	26	26	2 60	5	May	27	7 60	Screw, Lake Simcoe.
Advance	"	"	Not inspected.									
Prince Alfred	"	"	"	"								Screw tug, Lake Simcoe.
Samuel Lewis	Owen Sound	W. A. Stephens ..	"	115	115	11 50	5				16 50	Screw, Georgian Bay.

STEAM VESSELS Inspected in East Ontario Division, for the Year ending 31st December, 1871.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
Hiram Calvin	Garden Island	W. B. Simpson	March 13	309	163	30 90	5	March 9	35 90	Side wheel, tug, Lake Ontario & River St. Lawrence.
Robert Anglin	Kingston	"	" 20	105	68	10 50	5	April 6	15 50	Screw freight & tug, on Rideau Canal and River St. Lawrence.
Watertown	"	"	April 1	154	163	15 40	8	March 22	23 40	Side wheel, ferry & passenger, Kingston to Cape Vincent.
Rochester	"	"	" 3	232	126	23 20	8	April 6	31 20	Pass., s.w., Bay of Quinte & Kingston.
America	Garden Island	"	" 5	221	100	22 10	5	March 9	27 10	Tug, side wheel, Lake St. Louis.
City of Hamilton	"	"	" 5	224	120	22 40	5	" 9	27 40	Tug, s.w., Bay of Quinte & Montreal.
Highlander	"	"	" 5	309	182	30 00	5	" 9	35 00	Side wheel, freight & tug, Lake Ontario to Quebec.
J. A. Macdonald	"	"	" 5	268	119	25 80	5	" 9	31 80	Between Hamilton and Quebec.
Wellington	"	"	" 8	430	221	40 00	5	" 9	45 00	
William	"	"	" 8	267	169	25 70	5	" 9	31 70	
St. Lawrence	Portsmouth	"	" 12	243	107	21 40	5	April 12	29 40	Screw freight boat, between Upper Lakes and Montreal.
Heracles	Garden Island	"	" 12	470	331	47 00	5	March 9	52 00	Side wheel, freight and tug, between Hamilton and Quebec.
Kinross	Kingston	"	" 14	314	201	34 40	8	April 17	42 40	Pass., side wheel, Hamilton & Montreal.
Passport	"	"	" 14	346	163	34 60	8	" 17	42 60	Pass., s.w., Bay of Quinte & Montreal.
St. Helen	Pictou	John P. Roblin	" 15	269	119	26 90	8	" 17	39 90	
Rose	Kingston	W. B. Simpson	" 15	121	93	12 10	5	" 20	17 10	
Glide	"	"	" 17	60	20	6 10	5	" 19	11 10	Screw tug, Kingston and Montreal.
Quail	Pictou	John P. Roblin	" 25	34	25	3 40	5	" 23	8 40	Pass., side wheel, on Bay of Quinte.
Swan	Kingston	W. B. Simpson	April 25	35	29	3 60	5	April 25	8 60	Screw freight and tug, Rideau Canal and Ottawa River.
Watchman	"	"	" 25	13		1 30	5	" 24	6 30	Screw tug on Rideau Canal and St. Lawrence River.
John Bright	Brockville	Hiram Corman	" 29	29	13	3 00	5	Nov., 70 9	8 00	Screw tug between Kingston & Montreal.
Prince Alfred	Kingston	W. B. Simpson	" 29	19	10	2 00	5	May, 71 1	7 00	Screw ferry between Collingwood and Coldwater.
Frances	"	"	May 8	36	7	3 70	5	May 8	8 70	Screw tug between Kingston and Whitehall.
Prince Edward	Belleville	Anthony Dixon	" 9	72	26	7 20	5	March 23	12 20	Side wheel, ferry, Belleville and Prince Edward.

Ellen Jeffers.....	"	"	"	9	33	14	3 30	5	May	9	8 30	Screw tug on Bay of Quinté.
John Greenwood.....	Pictou.....	John P. Roblin.....	"	10	37	28	3 70	5	April	13	8 70	Side wheel, passenger.
Perry.....	Kingston.....	W. B. Simpson.....	"	13	34	29	3 40	5	May	12	8 40	Screw tug; route not known.
Simon Davies.....	"	"	"	13	24	17	2 40	5	April	17	7 40	Screw, freight, between Kingston and Port Ontario.
Nile.....	"	"	"	15	89	59	8 90	5	"	20	13 90	Screw, freight and tug, on Rideau Canal and St. Lawrence.
Jessie Abbey.....	Mill Point.....	John Benson.....	"	20	41	26	4 20	5	June	12	9 20	Screw tug on Bay of Quinté.
Eleanor.....	Kingston.....	W. B. Simpson.....	"	31	22	10	2 30	5	"	12	7 30	Rideau Canal.
Jessie C. Bickel.....	Aylmer.....	Duncan Graham.....	June	2	205	181	26 50	8	May	25	34 50	Side wheel, pass., str., on Lake du Chene.
Kepawee.....	Tait's Landing.....	"	"	3	41	12	4 10	5	"	13	9 10	Desjardins R.
Wren.....	Kingston.....	W. B. Simpson.....	"	8	57	15	5 70	5	June	1	10 70	Screw tug, on River St. Lawrence.
Athenian.....	Charlotte.....	"	"	9	1,083	705	108 30	8	"	20	116 30	Side wheel, pass., L. Ontario & Prescott.
Abyssinian.....	"	"	"	9	1,044	720	104 40	8	"	20	112 40	"
Raftman.....	Kingston.....	"	"	16	94	52	9 49	8	March	23	17 40	" ferry, Kingston & Wolfe I.
British America.....	Cornwall.....	R. K. Bullock.....	"	20	84	52	8 40	5	June	20	13 40	" pass., Lake St. Frances
Elswood.....	Kingston.....	W. B. Simpson.....	"	27	25	7	2 50	5	April	24	7 50	Screw tug, on Rideau Canal.
Bay of Quinté.....	"	"	July	3	250	150	25 00	8	July	6	33 00	Side wheel, pass., on Bay of Quinté.
H. M. Mixer.....	"	"	"	6	21	9	2 10	5	April	20	7 19	Screw tug, on Bay of Quinté and St. Lawrence River.
Carlyle.....	"	"	"	13	114	75	11 50	5	"	20	16 50	Screw, tug and freight, Bay of Quinté and Rideau Canal.
St. Jean Baptiste.....	Prescott.....	B. D. Jessups.....	"	15	116	73	11 60	8	July	14	19 60	Side wheel, ferry between Prescott and Ogdensburg.
Norfolk.....	Kingston.....	P. Bennett, Port Rowan.....	"	17	70	42	4 30	5	May	13	9 30	Side wheel, pass. boat, R. St. Lawrence.
Mary Ann.....	"	W. B. Simpson.....	"	22	41	31	4 20	5	June	9	9 20	Screw tug, Rideau Canal.
Bruce.....	Brockville.....	George Easton.....	Aug.	1	107	87	10 70	8	Aug.	1	18 70	Side wheel, ferry, between Brockville and Moretown.
Monitor.....	Aylmer.....	Duncan Graham.....	"	9	144	58	14 40	5	July	27	19 40	Side wheel tug, on Du Chene Lake.
Emerald.....	"	"	"	9	90	56	9 00	5	May	13	14 00	"
Alliance.....	Portage du Fort.....	"	"	9	191	167	19 10	8	"	13	27 10	" pass., on Chatts Lake.
Prince Arthur.....	"	"	"	9	239	169	23 90	8	Dec. '70	31	31 90	"
Prince Arthur.....	"	"	"	9	239	169	23 90	8	May '71	13	31 90	"
Snow Bird.....	"	"	"	9	62	45	6 20	5	May	13	11 20	" tug.
Sir J. Young.....	Havelock.....	"	"	10	157	56	15 80	8	"	13	23 80	Passenger, Ottawa River.
Allumette.....	"	"	"	10	22	5	2 20	5	June	9	7 20	"
Oregon.....	Portage du Fort.....	"	"	10	75	50	7 50	5	May	13	12 50	Side wheel tug, Chatts Lake.
Jason Gould.....	Cobden.....	"	"	10	37	23	3 70	5	"	13	8 70	" passenger, Muskrat Lake.
Pontiac.....	Allumette Lake.....	"	"	11	120	66	12 00	8	"	13	20 00	" Allumette.
Pembroke.....	Pembroke.....	"	"	11	62	57	6 20	5	"	13	11 20	"
Enterprise.....	Not inspected.....	"	"	"	41	41	8 20	19	July	4	18 20	Paid for two years and paid up.
Adolphus.....	Williamstown.....	W. B. Simpson.....	"	30	16	7	1 60	5	Sept.	1	6 60	Side wheel, pass., Lake St. Frances.
Kitty Friel.....	Kingston.....	"	Sept.	12	65	46	6 60	5	April	25	11 60	Screw, freight barge, on Rideau Canal.
Eva.....	"	"	"	19	7	3	0 70	5	Sept.	19	5 70	Screw, pleasure yacht, Upper St. Lawrence.
Pierrepont.....	"	"	Oct.	20	149	82	14 90	8	"	23	22 90	Side wheel, pass., on St. Lawrence.
Bell.....	Ottawa.....	Duncan Graham.....	"	25	8	3	0 90	5	May	31	5 90	Screw tug, on Rideau Canal.
Water Lily.....	Kingston.....	W. B. Simpson.....	"	28	97	74	9 70	5	Oct.	28	14 70	" and freight, Rideau Canal.

STEAM VESSELS Inspected in the Montreal Division, for the Year ending 31st December, 1871,

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						\$ cts.	\$		\$ cts.	
Aurora.....	Lachine.....	A. M. Delisle..	April 11	113	26	11 30	8	May 5	12 30	Ferry between Lachine and Caughnawaga.
Laprairie.....	Montreal.....	"	" 12	342	168	34 20	8	" 6	42 20	Ferry between Montreal and La Prairie.
Plover.....	"	"	" 12	45	16	4 50	5	" 4	9 50	Tug, Montreal harbor.
Dallouzie.....	Lachine.....	"	" 17	352	286	35 30	5	April 25	40 30	Freight, Montreal and Chicago.
Cultivateur.....	"	"	" 18	205	41	20 50	5	May 11	25 50	Tug, Lachine and Carillon.
Albert.....	"	"	" 18	104	30	10 40	5	" 11	15 40	" " "
Atlas.....	"	"	" 18	176	38	17 60	5	April 29	22 60	" " "
Magnet (prop.)..	Montreal.....	"	" 21	336	274	33 60	8	" 24	44 60	Propeller, between Montreal & Chicago.
Georgian.....	"	"	" 22	448	345	44 80	5	" 24	49 80	Freight, Montreal and Port Stanley.
No. 5 Grain Elevator.....	"	"	" 24	95	95	9 50	5	May 4	14 50	Grain Elevator, Montreal harbor.
No. 1 Grain Elevator.....	"	"	" 24	95	95	9 50	5	" 4	14 50	" "
Quebec Grain Elevator.....	"	"	" 24	132	90	13 20	5	" 4	18 20	" "
Huron.....	"	"	" 24	387	227	38 70	8	April 25	46 70	Passenger, Montreal and Hamilton.
Brandford.....	"	"	" 25	340	222	34 00	5	" 25	39 00	Propeller, freight, Montreal to Hamilton.
Bruno.....	"	"	" 25	359	236	35 90	5	" 26	40 90	" Montreal to Chicago.
Bytown.....	"	"	" 26	76	34	7 60	5	May 1	13 60	Freight, Montreal to Ottawa.
No. 4 Grain Elevator.....	"	"	" 26	95	95	9 50	5	" 4	14 50	Grain elevator, Montreal harbor.
St. Lawrence Elevator.....	"	"	" 26	98	23	9 80	5	" 4	14 80	Scow, Montreal harbor.
Express.....	Lachine.....	"	" 28	58	42	5 80	5	" 10	14 80	Tug, Ottawa.
Magnet (pass.)..	Montreal.....	"	" 28	427	279	42 70	8	" 4	50 70	Pass. between Montreal & Hamilton.
Cygnets.....	"	"	" 29	44	16	4 40	5	April 29	9 40	Tug, Carillon and Grenville.
Lawrence.....	Lachine.....	"	" 29	133	37	13 30	5	May 1	18 30	Tug, Montreal to Lake Champlain.
Corinthian.....	Montreal.....	"	" 29	374	220	37 40	8	" 4	45 40	Passenger, Montreal and Hamilton.
L. Renaud.....	"	"	" 29	336	127	33 60	8	" 4	41 60	" Montreal and Cornwall.
Maid of Canada..	"	"	May 1	314	125	31 40	8	" 30	39 40	Ferry, Montreal and St. Lambert.
Caroline.....	"	"	" 1	101	46	10 10	5	" 1	15 10	Freight, Montreal and Ottawa.
Relief.....	"	"	" 2	87	33	8 70	5	" 29	13 70	Tug, Montreal and Lake Champlain.
Victory.....	"	"	" 2	43	16	4 30	5	June 6	9 30	" Montreal and Kingston.
City of Ottawa..	"	"	" 3	122	64	12 20	5	May 31	17 30	Passenger, Montreal and Cornwall.
M. Stevenson.....	"	"	" 3	113	66	11 30	8	" 6	19 30	" Montreal and Moisie River.

Salaberry.....	"	"	"	"	5	238	98	23 80	5	"	5	28 80	Tug, Montreal and Quebec.
H. F. Bronson..	"	"	"	"	6	101	28	10 10	5	"	29	15 10	" Montreal and Kingston.
Sancho.....	"	"	"	"	9	39	10	3 90	5	June	6	8 90	" Montreal and Ottawa.
Messenger.....	"	"	"	"	9	28	18	2 80	5	"	2	7 80	" Montreal harbor.
M. K. D.	"	"	"	"	10	108	37	10 80	5	May	1	15 80	" Montreal and Ottawa.
Sorel.....	"	"	"	"	10	83	18	8 30	5	June	7	13 30	" "
John Brown.....	"	"	"	"	12	87	59	8 70	5	May	20	13 70	" Montreal harbor."
Grenville.....	"	D. Graham	"	"	13	21	12	2 10	5	April	17	7 10	" Montreal and Ottawa.
Shuckluna.....	"	"	"	"	13	64	54	6 40	5	"	17	11 40	" "
Louise.....	"	A. M. Delisle	"	"	15	157	67	15 80	8	May	17	23 80	Passenger, "Ottawa and Kingston, by Rideau Canal.
Arctic.....	"	"	"	"	16	104	61	10 40	5	"	1	15 40	Freight, Montreal and Ottawa.
Elfin.....	"	"	"	"	20	74	10	7 40	5	"	31	12 40	Tug, Montreal and Kingston.
Dagmar.....	"	"	"	"	22	141	55	14 10	8	April	29	22 10	Pass., Montreal and Lake Carillon.
Champion (prop)	"	"	"	"	22	124	26	12 40	5	May	1	17 40	Tug, Montreal and Lake Champlain.
Oak.....	"	"	"	"	23	81	21	9 10	5	"	26	14 10	" "
Spartan.....	"	"	"	"	27	422	262	42 20	8	"	4	50 20	Passenger, Montreal and Hamilton.
Canada.....	"	D. Graham	"	"	30	81	11	8 10	5	"	22	13 10	Tug, Montreal and Ottawa.
Corsican.....	"	A. M. Delisle	"	"	31	435	224	43 50	8	"	4	51 50	Passenger, Montreal and Hamilton.
Alice.....	"	"	June	"	2	83	33	8 30	5	"	1	13 30	Freight, Montreal and Ottawa.
Wood.....	"	"	"	"	3	97	23	9 70	5	"	26	14 70	Tug, Montreal and Ottawa.
Matilda.....	"	"	"	"	3	86	22	8 60	5	"	29	13 60	" "
Lady of the Lake	Newport Lake,	"	"	"	16	278	175	27 80	8	June	17	35 80	Passenger, Magog Outlet and Newport.
Nora.....	Gap of	"	"	"	16	60	20	6 00	5	"	17	11 00	Tug,
Banshee.....	Newport Lake,	"	"	"	23	274	133	27 40	8	"	23	35 40	Passenger, Montreal and Ogdensburg, United States.
Champion (pass.)	Gap of	"	"	"	23	373	127	37 30	8	"	23	45 30	Tug, Montreal, Ottawa, and Lake Champlain.
Fawn.....	Montreal	"	"	"	28	83	30	8 30	5	"	28	13 30	Passenger, Lachine and Carrillon.
Prince of Wales.	Lachine.....	"	"	"	30	214	68	21 40	8	"	30	29 40	Freight, Picton and Montreal.
Flamborough.....	"	"	July	"	1	670	455	67 00	5	July	19	72 00	Dues not paid. Tug.
Dandy.....	"	"	"	"	1	27	12	2 70	5	"	"	7 70	Freight, Montreal and Halifax.
Alhambra.....	"	"	"	"	1	1,092	702	109 20	5	July	4	114 20	Tug, Montreal and Ottawa.
Aid.....	"	"	"	"	3	89	23	8 90	5	Aug.	9	13 90	" Montreal and Lake Champlain.
Costor.....	"	"	"	"	3	87	40	8 70	5	"	9	13 70	Passenger, Ottawa and Grenville.
Queen Victoria.	Ottawa.....	"	"	"	6	217	61	21 70	8	"	29	29 70	Dues not paid. Tug.
Nymph.....	"	"	"	"	6	31	8	3 10	5	"	"	8 10	Tug, Montreal and Ottawa.
Lincoln.....	"	"	"	"	6	82	43	8 20	5	June	7	13 20	Ferry, Ottawa and Gatineau Point.
Mac.....	"	"	"	"	7	107	21	10 70	8	"	7	18 70	Tug, Montreal and Ottawa.
Rover.....	"	"	"	"	7	114	25	11 40	5	"	7	16 40	" "
Allen.....	Montreal	"	"	"	10	57	17	5 70	5	July	5	10 70	" Montreal harbor."
Delisle.....	"	"	"	"	12	45	17	4 50	5	May	20	9 50	New steamer, tug, Ottawa.
Mark Twain.....	"	D. Graham	"	"	13	95	64	9 50	5	June	22	14 50	Dues not paid.
Engineer.....	"	A. M. Delisle	Aug.	"	14	37	9	3 70	5	"	"	8 70	" New steamer for ferry.
L'Orarde.....	"	"	"	"	26	Not registered.	"	"	"	"	"	"	" New steamer. Tug.
Gypsy.....	"	"	"	"	28	95	35	9 50	5	"	"	14 90	Tug.
Boston.....	"	"	"	"	28	83	25	8 30	5	"	"	13 30	Ferry, Montreal and Longueil.
Longueil.....	"	"	"	"	29	308	189	30 80	8	Sept.	9	38 80	New steamer. Passenger.
Maude.....	"	"	"	"	29	133	43	13 30	8	Aug.	25	21 30	" "

STEAM VESSELS Inspected in the Montreal Division, &c.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
No. 2 Grain Elevator.	Montreal	A. M. Delisle	Aug. 30	95	95	\$ 9 50	5	Nov. 15	\$ 14 50	Grain elevator, Montreal harbor.
No. 3 Grain Elevator.	"	"	Sept. 31	95	95	9 50	5	" 15	14 50	"
Charlotte.	"	"	Sept. 20	41	10	4 10	5	May 29	9 10	Tug, Montreal and Lake Champlain.
Hochelaga.	"	"	" 21	228	95	22 80	8	Sept. 9	30 80	Ferry, Montreal and Longueuil.
Mink.	"	D. Graham	" 23	52	21	5 20	5	" 27	10 20	Tug, Montreal and Ottawa.
Alexandra.	"	"	" 25	265	95	26 50	8	April 29	34 50	Passenger, Ottawa and Grenville.
Victoria.	"	"	" 26	106	67	10 60	8	" 29	18 60	"
England.	"	"	" 26	142	54	14 20	5	May 12	19 20	Tug, " "

STEAM VESSELS Inspected in Three Rivers Division, for the Year ending 31st December, 1871.

Fire Fly.	Sorel	Wm. Bleakley	March 22	92	46	9 20	5	April 11	14 20	Passenger, St. Francis and Sorel.
Berthier	"	"	April 1	76	29	7 60	5	" 22	12 60	Passenger and Tug, Chambly and Three Rivers.
William	"	G. Campbell	" 4	208	131	20 80	5	" 14	25 80	Tug, Quebec and Montreal.
Montreal	"	Wm. Bleakley	" 4	570	284	57 00	8	" 11	65 00	Passenger, Quebec and Montreal.
Quebec	"	"	" 7	838	527	83 80	8	" 11	91 80	"
Trois Rivier	"	"	" 8	503	225	50 30	8	" 11	58 30	" Three Rivers and Montreal.
Berthier	"	"	" 8	350	153	35 00	8	" 11	43 00	Sorel and Montreal.
Hope	"	"	" 12	126	40	12 60	5	" 23	17 40	Tug, Montreal and Whitehall.
New York	"	"	" 13	176	53	17 60	8	" 17	25 60	Pass. and tug, Quebec and Montreal.
Louis Tourville.	"	"	" 13	72	34	7 20	5	July 11	12 20	Tug, Quebec and Chambly.
Rocket	"	"	" 14	387	172	38 70	8	April 11	46 70	Pass. and tug, Montreal and Gulf.
Richelieu.	"	Free	" 14	126	83					Passenger, buoys and lights.
Meteor.	"	Wm. Bleakley	" 14	232	109	23 20	8	April 11	33 20	Pass. and tug, Quebec and Montreal.
Royal	"	"	" 15	260	164	26 00	5	June 1	31 00	Tug, Quebec and Montreal.
Ignatius Tyler.	"	"	" 18	105	21	10 50	5	April 4	15 50	Tug, Rivier du Loup and Burlington.
Montreal	"	"	" 18	114	29	11 40	5	" 22	16 40	Tug, Montreal and Chambly.

Terrebonne	"	"	"	18	193	53	19 30	8	June	28	27 30	Passenger.
L'Assumption	"	"	"	20	176	80	17 60	5	April	22	22 60	Passenger, Chambley and Montreal.
Whitehall	"	"	"	21	118	63	11 80	5	"	22	16 80	Tug, Ottawa and Whitehall.
Champlain	"	"	"	22	117	47	11 70	5	"	22	16 70	" Montreal and Whitehall.
Chambly	"	"	"	29	238	76	23 80	8	June	28	31 80	"
L. A. Senecal	"	"	"	29	69	32	6 90	5	"	28	11 90	" Sorel and Whitehall.
Victoria	"	"	May	3	274	114	27 40	5	May	19	32 40	" Montreal and Chambley.
Canada	"	"	"	5	114	19	14 40	5	June	1	19 40	Quebec.
Maskinonge	"	"	"	12	33	22	3 30	5	"	28	8 30	Passenger.
Rivier du Loup	"	"	"	17	41	25	4 10	5	April	11	9 10	Passenger, Rivier du Loup and Sorel.
Carillon	"	"	"	20	87	80	8 70	5	May	26	13 70	Tug, Montreal and Whitehall.
Monaselle	Three Rivers	Charles Godby	"	24	34	34	3 40	5	June	7	8 40	" St. Maurice and Three Rivers.
Lavelle	"	"	"	24	66	66	6 60	5	"	1	11 60	Ferry, Legancour and Three Rivers.
Le Doré	"	"	"	24	45	45	4 50	5	"	6	9 50	" St. Grégoire and Three Rivers.
Arthur	"	"	"	25	15	7	1 50	5	"	6	6 50	Tug, St. Maurice and Three Rivers.
Castor	Sorel	Wm. Bleakley	"	27	92	58	9 20	5	May	27	14 20	" St. Frances and Chambley.
Canada	"	"	June	3	644	563	64 40	8	April	11	72 40	Passenger, Montreal and Quebec.
St. Paul	St. Grégoire	C. Godby	"	6	20	20	2 00	5	June	6	7 00	Ferry, St. Grégoire and Three Rivers.
Dixie	Three Rivers	"	"	6	185	185	18 50	8	"	6	25 00	Passenger, St. Grégoire and Three Rivers.
King Bird	Sorel	Wm. Bleakley	"	19	7	3	0 70	5	Aug.	21	5 70	Tug, Rivier du Loup and Sorel.
Union	"	"	"	22	686	432	68 60	8	"	23	76 00	Passenger, Quebec and Saguenay.
Merritt	"	"	"	24	1,127	979	112 70	5	July	4	117 70	Freight, Quebec and Montreal.
Sorel	"	"	July	4	86	43	8 60	5	June	28	13 00	L'Etroite Ferry.
Bismark	"	"	Sept.	7	18	10	1 80	5	Sept.	9	6 80	New Tug.
Notre Dame	"	"	"	25	50	50	5 00	5	"	27	10 00	Passenger, St. Hyacinth and St. Pie.

STEAM VESSELS Inspected in the Quebec Division, for the Year ending 31st December, 1871.

Gaspé	Quebec	J. W. Duncombe	April	21	340	231 76	34 00	8	April	24	42 00	Screw, passenger steamer to Fictou.
Quebec	Levis	"	"	26	158 91	100	15 90	8	"	26	23 90	Side wheel, ferry to Quebec.
Levis	"	"	"	21	158 91	100	15 80	8	"	26	23 80	"
Notre Dame and	"	"	"	"	"	"	"	"	"	"	"	"
Levis	"	"	May	13	137 22	66 19	13 50	8	"	26	21 50	"
St. Nicholas	Quebec	"	April	24	81 83	50 63	8 00	5	"	26	13 00	" ferry to New Liverpool.
Tadoussac	Levis	"	"	26	142 00	46	14 20	5	"	27	19 20	" tug, River Saguenay.
Hector	"	"	"	27	89 30	50 63	8 30	5	"	27	13 30	" to Montreal.
Georgia	Quebec	"	"	29	1 00	4 27	64 80	8	"	29	72 80	Screw, passenger, to Pictou.
St. Antoine	"	"	"	29	158 50	99 90	15 90	8	May	2	23 00	Side wheel, passenger, to St. Antoine.
Secret	"	"	"	28	406 50	293 17	46 60	8	"	2	54 60	" Pictou.
Phoenix	Levis	"	"	29	104 60	22	10 40	5	"	2	15 40	" river tug.
Hercules	"	"	May	4	119 51	125 88	20 60	5	"	5	25 00	"
Anglesa	"	"	April	18	153 42	16 66	15 30	5	"	5	20 70	"
E. P. Doré	Quebec	"	"	25	42 60	26	4 20	5	"	6	9 20	Screw harbour tug, Quebec.

STEAM VESSELS Inspected in the Quebec Division, &c.—Continued.

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						\$ cts.	\$		\$ cts.	
Margaret	Quebec	J.W.Dunscombe	April 25	67	36	6 70	5	May 8	11 70	Screw harbor tug, Quebec.
Mars	"	"	May 19	37	24	3 70	5	" 20	8 70	"
New Dominion ..	"	"	" 19	38	26	3 80	5	" 19	8 80	"
Mary	Mill Cove, Levis	"	" 6	60 27	22 16	6 00	5	" 9	11 00	Side wheel tug.
Maid of Orleans.	Quebec	"	April 24	109 87	75 52	12 00	8	" 19	20 00	"
St. Croix	"	"	May 9	149 49	55 31	14 90	8	" 20	22 90	Orleans Ferry.
Pointe Levis ..	"	"	" 10	93 30	58 78	9 30	5	" 22	14 30	pass. steamer, St. Croix.
Etoile	"	"	" 13	152 36	96 00	12 20	8	" 27	23 20	"
Kate	Levis	"	" 29	24 06	16 93	2 40	5	June 26	7 40	St. Nicholas.
St. Charles	"	"	" 10	103	103	10 30	5	July 3	15 30	St. Johns.
Beauharnois	"	{ W.Blackley, } Montreal.	" 17	165	46	16 50	8	June 2	24 50	Screw, Quebec Harbour tug.
Eugenie	"	J.W.Dunscombe	April 28	139	87	13 90	8	July 15	23 90	Side wheel, river tug.
Express	"	"	" 6	99 57	82 32	10 00	5	" 15	15 00	passenger, Beauharnois.
Conqueror	Quebec	"	July 6	198	25	19 80	5	" 25	24 80	"
Rescue	"	"	June 11	182	125	18 20	5	" 28	23 20	Gross Isle.
Tiger	St. Joachim ..	"	" 10	141 20	88 91	14 10	8	" 29	22 10	tug.
Hope	Levis	"	May 23	14 90	6 63	1 50	5	Aug. 2	6 50	Screw.
Fairy	Quebec	"	Aug. 25	13	6	1 30	5	" 10	6 30	Side wheel, passenger to St. Joachim.
Nationale	"	"	May 10	121	77	12 10	8	July 12	20 20	Screw, Quebec Harbour tug.
Amanda	"	"	July 29	11	6	1 10	5	Aug. 15	6 10	Screw, Quebec Harbour tug.
Samson	Levis	"	April 26	168	126	16 80	5	Sept. 15	21 80	Side wheel, river tug.
City	"	"	May 1	51 86	32 68	5 20	5	" 15	10 20	"
Midge	"	"	Aug. 28	30	30	3 00	5	Nov. 16	8 00	Quebec Harbour tug.
Dauntless	"	"	Sept. 6	80 62	35 40	8 10	5	" 16	13 10	Harbour tug, inspection not completed.
Assamettequequan	Matapedia	"	Aug. 8	65 59	65 59					Dues not paid this year.
Hero	Quebec	"	June 24	208 52	131 37	20 90	5	June 14	25 90	Side wheel, tug to Montreal.
Port Neuf	"	"	May 20	218 94	137 81	21 90	8	" 6	29 90	"
Prince Edward ..	Levis	"	Nov. 17	161 67	111 56	16 20	8	Nov. 20	24 20	passenger, to Port Neuf.
Fire Fly	Quebec	"	July 11	28	16	2 08	5	" 17	7 80	Screw steamer, winter ferry to Quebec.
Reindeer	"	"	June 13	126 56	63 84	12 60	5	June 13	17 60	Side wheel, harbour tug.
J. McKenzie	"	"	" 21	448	125	44 80	5	" 14	49 80	Screw tug.
Ranger	"	"	April 17	240 52	151 53	24 10	8	" 14	32 10	Side wheel, river tug.
St. Andrew	"	"	" 22	217 64	137 32	21 80	5	" 14	26 80	"
St. George	"	"	May 19	202 61	127 92	20 30	8	" 14	28 30	allowed to carry 25 pass.
Clyde	"	"	" 29	236 64	149 09	23 71	8	" 14	31 70	Grand Trunk Ferry.
										Side wheel, pass. steamer to Chicoutimi

Advance	"	W. Blackley,	June	2	392·98	235·31	39 30	5	"	2	45 30	"	tug.
Albion	"	Montreal	April	27	170·74	107·57	17 10	5	"	14	22 10	"	"
St. Roch	Levis	J. W. Dunscombe	"	22	125·42	79	12 50	5	"	14	17 50	"	"
Voyageur	Quebec	"	"	19	137	17	13 70	5	"	14	18 70	"	"
Scotchman	"	"	"	27	88·65	55·85	8 90	5	"	14	13 90	"	"
Quebec	"	"	May	4	91·83	57·76	9 20	5	"	14	14 20	"	"
Napoleon III.	Levis	"	June	10	91	57	9 10	5	"	14	14 10	"	"
*Manitoba	"	"	"	30	135·93	66·05	13 40	5	"	14	18 40	"	"
Queen	"	"	May	29	87·15	54·94	8 70	5	"	14	13 70	"	"
Storm	Quebec	"	"	25	51·52	39·08	5 20	5	"	14	10 50	Screw, harbour tug.	
Mersey	"	"	April	29	59·51	34·22	6 00	5	"	14	11 00	"	"
Alliance	"	"	May	19	69·15	47·13	6 90	5	"	14	11 90	"	"
Arctic	"	"	Nov.	16	153·15	104·15	15 30	8	"	14	23 30	"	winter ferry boat.
Powerful	Levis	"	May	9	199·26	125·54	19 90	5	"	14	24 90	Side wheel, river tug steamer.	
Eclipse	"	"	"	4	216	33	21 60	5	"	14	26 60	"	"
Lord Elgin	"	"	"	12	214	51	21 40	5	"	16	26 40	"	"

STEAM VESSELS Inspected in Nova Scotia and New Brunswick Division, for the Year ending 31st December, 1871.

Nephine	St. John, N. B.	J. R. Ruel	Jan.	13	52	19	5 20	5	Jan.	7	10 20	Screw tug, St. John Harbour.
Xanthus	"	"	"	14	64	23	6 40	5	"	11	11 40	"
Hiram Perry	"	"	Feb.	27	79	39	7 90	5	Feb.	27	12 90	"
Bessie B.	"	"	March	4	39	9	3 90	5	"	28	8 90	"
Fred Leavett	Annapolis, N. S.	T. C. Tobias	"	18	18	14	1 80	5	March	18	6 80	Screw ferry boat, Annapolis, N. S.
Sunbury	St. John, N. B.	J. R. Ruel	"	28	184	108	18 40	8	"	25	26 40	Side wheel tug, St. John Harbour.
Ada G.	"	"	"	25	102	30	10 20	8	"	25	18 20	"
Lincoln	"	"	"	27	87	32	8 70	5	"	25	13 90	"
Antelope	"	"	"	28	128	77	12 80	8	"	25	20 80	"
David Weston	"	"	April	1	765	552	76 50	8	April	1	84 50	Passenger steamer, river St. John.
Victor	"	"	"	3	29	8	2 90	5	"	3	7 90	Screw tug, St. John Harbour.
Rothsay	"	"	"	4	839	627	83 90	8	"	4	91 90	Passenger steamer, river St. John.
Empress	"	"	"	11	929	660	92 90	8	"	11	100 90	Bay of Fundy.
Tiger	"	"	"	15	105	19	10 50	8	"	15	18 50	Side wheel tug, river St. John.
Hercules	"	"	"	17	53	13	5 30	5	"	15	10 30	Screw, river St. John.
General	"	"	"	20	159	23	15 90	8	"	15	23 90	Side wheel, river St. John.
May Queen	"	"	"	21	502	361	50 20	8	"	27	58 20	Passenger
Speck	"	"	May	2	36	7	3 60	5	May	3	8 60	Screw tug
Alida	"	"	"	3	64	29	6 40	5	April	25	11 40	"
St. Lawrence	Pictou, N. S.	D. McCulloch	"	12	845	675	84 50	8	May	13	92 50	Side wheel, pass. between Nova Scotia, New Brunswick, and P. Ed. Island.
Princess of Wales	"	"	"	15	935	630	93 50	8	"	18	101 50	"
Tiger	"	"	"	13	60	28	6 00	5	"	15	11 00	"
May Flower	"	"	"	17	136	136	13 60	8	"	17	21 60	R. R. ferry boat, Pictou, N. S.

STEAM VESSELS Inspected in Nova Scotia and New Brunswick Division, &c.—*Continued.*

Name of Vessel.	Port of Inspection.	Name of Collector.	Date of Inspection.	Gross Tonnage.	Registered Tonnage.	Tonnage Dues.	Inspection Fees.	Date of Payment.	Totals.	Remarks.
						\$ cts.	\$		\$ cts.	
M. A. Starr	Halifax	E. Binney	May 17	244	244	24 40	8	May 16	32 40	Passenger, coastwise, N. S.
Chebucto			" 18	108	108	10 80	8	" 17	18 80	Ferry boat, Halifax Harbour.
Fawn	St. John, N. B. .	J. R. Ruel	" 20	621	457	62 10	8	" 19	70 10	Passenger, St. John River.
City St. John...	"	"	" 23	709	518	70 90	8	" 22	78 90	" Bay of Fundy.
Linda	"	"	June 7	497	338	49 70	8	June 6	57 70	" Yarmouth, N.S., Boston, U.S.
G. W. Johnson..	Yarmouth, N.S..	T. Moberley....	" 10	72	35	7 20	5	" 12	12 20	Screw tug, Yarmouth Harbor.
A. Knight	Hawkesbury C.B.	J. McDonald	July 1	21	21	2 10	5	" 28	7 10	" Straits of Canso.
Henry Hoover..	Halifax	E. Binney	" 4	34	32	3 40	5	May 17	8 40	" Halifax Harbor.
Commerce	"	"	" 3	314	278	31 40	8	July 3	39 40	Pass., P. Ed. Island, Halifax & Boston.
Sir C. Ogle	"	"	" 5	126	76	12 60	8	May 26	20 60	Ferry boat, Halifax Harbour.
Mic Mac	"	"	" 6	150	102	15 00	8	" 26	23 00	" "
East Riding	Pictou, N. S.	D. McCulloch ..	" 7	85	54	8 50	5	July 5	13 50	" New Glasgow, N. S.
Lion	"	"	" 7	10	4	1 00	5	" 7	6 00	Screw tug, Wallace River.
New Era	Newcastle, N. B.	D. Ferguson	" 21	54	43	5 40	5	" 21	10 40	Passenger, Miramichi.
Sultan	"	W. Parker	" 25	50	15	5 00	5	" 24	10 00	Screw tug.
Newcastle	"	"	" 22	30	20	3 00	5	" 22	8 00	Ferry, Newcastle, N. B.
Teaser	Chatham, N. B.	D. Ferguson	" 21	42	24	4 20	5	" 21	9 20	" Chatham, N. B.
Laddie	"	"	" 26	42	28	4 20	5	" 22	9 20	Screw tug, Chatham.
Rothersey Castle	Shediac	"	" 27	177	84	17 70	8	" 10	25 70	Passenger, Coastwise, N. B.
Enterprise	St. John, N. B. .	J. R. Ruel	Aug. 4	72	72	7 23	5	" 25	12 23	Ferry, Millidgeville, N. B.
Onangondy	"	"	" 7	294	98	29 40	8	Aug. 8	37 40	" St. John Harbour.
Ida Whittier	"	T. Robinson	" 8	250	207	25 00	8	June 20	33 00	Passenger, Upper River, St. John.
Relief	"	J. R. Ruel	" 11	59	59	5 90	5	Aug. 10	10 90	Screw tug, St. John Harbor.
Tobique	Fredericton	T. Robinson	" 12	145	107	14 50	8	June 20	22 50	Passenger, Upper River, St. John.
Highlander	"	"	" 12	184	184	18 40	8	" 20	26 40	" "
Marysville	"	"	" 14	25	25	2 50	5	Aug. 11	7 50	Ferry boat, Fredericton.
New Dominion ..	"	"	" 14	18	18	1 80	5	" 11	6 80	" "
Forty Second...	"	"	" 15	49	40	4 90	5	" 11	9 90	" "
Prince of Wales.	St. John, N. B. .	J. R. Ruel	" 14	168	68	16 80	8	" 14	24 80	" St. John Harbour.
Dot	"	"	" 16	37	37	3 70	5	" 16	8 70	Screw, tug boat
La Have	Halifax, N. S. .	E. Binney	" 28	47	32	4 70	5	Sept. 9	9 70	" LaHave.
Goliath	"	"	" 29	114	114	11 40	8	" 4	19 40	" Halifax Harbour.
Daisy	"	"	" 30	47	7	4 70	5	" 9	9 70	" Liverpool, N. S.
Olive	St. John, N. B. .	J. R. Ruel	Sept. 4	366	257	36 60	8	" 4	44 60	Passenger, river St. John.
Unicorn	Halifax	E. Binney	" 18	46	20	4 60	5	" 1	9 60	Screw tug, Halifax Harbor.
J. C. Vail	St. John	J. R. Ruel	" 6	28	14	2 80	5	" 6	7 80	Ferry, Gondola Point.

St. George.....	".....	".....	Oct. 17	37	18	3 80	5	" 25	8 80	Screw tug, St. John Harbour.
Gazelle.....	Fredericton.....	T. Robinson.....	" 24	109	77	10 90	8	June 20	18 90	Passenger, Upper River, St. John.
Conqueror.....	Pictou.....	D. McCulloch..	Nov. 7	146	146	14 60	8	" 21	22 60	Sea-going tug, Pictou.
Dragon.....	".....	".....	" 8	136	136	13 60	8	Sept. 26	21 60	"
Fred Clinch....	St. John, N. B..	J. R. Ruel.....	" 8	13	3	1 30	5	" 20	6 30	Screw tug, Musquash River.
Telegraph.....	".....	".....	July 17	135	59	13 50	8	July 17	21 50	Ferry, Indian Town, N. B.

No. 2.—STATEMENT of the Number of Steam Vessels added to the Dominion, during the year ended the 31st December, 1871; their Class and Horse-Power, whether of Wood or Iron, their Gross and Registered Tonnage, where built, and where and how employed.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where and when built.	Where and how Employed.
City of Montreal.....	50	Propeller	Wood ..	300	.....	Chatham, Ontario .. .	Montreal and Chicago Freight Steamer.
Scotia	38	"	" ..	371	300	St. Catharines, Ontario.....	" ..
Manitoba	85	Side Wheel	" ..	338	.....	Port Robinson .. .	Georgian Bay and "Lake Superior."
Cumberland.....	90	" .....	" ..	.....	.....	" ..	" ..
St. Clair	6½	Screw Tug	" ..	36	15	Algoma, Lake Superior ..	Rondeau Harbor.
Adelaide Horton	24	" Steamer	" ..	91	55	Goderich, Ontario.....	Lake Huron, Passenger and Freight.
Samson	10	" Barge	" ..	30	.....	Lindsay .. .	Lake Seugog, Freight.
Nipissing	26	Side Wheel	" ..	94	50	Gravenhurst .. .	Lake Muskoka, Passenger and Freight.
Kincardine	37	Screw Steamer	" ..	176	.....	Port Dalhousie, Ontario ..	Goderick and Lake Ports, Freight
Windsor	8	" Barge	" ..	61	50	Detroit, U.S.	River Detroit.
J. R. Crow .....	.....	" ..	" ..	91	77	Chatham, Ontario	River Thames, Freight Steamer.
J. C. Clark	35	" Steamer.....	" ..	174	88	Marine City, U.S.	Sarnia and Wallaceburg, Passenger and Freight.
Coral	18	Screw .....	" ..	.....	.....	Wallaceburg, Ontario.	Windsor and Wallaceburg, Passenger and Freight.
Prince Alfred .....	.....	" ..	" ..	.....	.....	United States	Steam Yacht. Not inspected.
Silver Spray	47	Side Wheel	" ..	173	142	Chatham (rebuilt)	Chatham and Detroit, Passenger & Freight.
Chickluna	60	Propeller	" ..	362	295	St. Catharines .. .	Montreal and Chicago .. .
Herald .....	.....	.....	.....	102	.....	.....	Not reported for inspection.
S. C. Doty .....	.....	.....	.....	17	.....	.....	" ..
Cayagh .....	.....	.....	.....	33	.....	.....	" ..
Jessie Cassels	51	Side Wheel Pas'ng'r	" ..	265	181	Aylmer, 1870	Passenger Steamer on Lake du Chêne.
Keparve	34	" ..	" ..	43	12	Tait's Landing, 1870.....	" .. Des Joachim River.
Wren	43	Screw Tug	" ..	57	15	Kingston .. .	Tug, Kingston and Montreal.
Eva	1	" Passenger	" ..	7	3	Brockville .. .	Passenger, River St. Lawrence.
Pierrepont	18	Side Wheel Pas'ng'r	Composite ..	149	82	Kingston, 1871	Ferry and Passenger, Kingston and Cape St. Vincent.
Sancho	21	Screw	Wood ..	39	10	Montreal	Montreal and Ottawa, Towing.
Louise	30	Side Wheel	" ..	158	63	" ..	Ottawa to Kingston, Rideau Canal, Passenger.
Alhambra.....	100	Screw	Iron ..	1092	722	Liverpool	Montreal to Halifax, Freight.
Mark Swain	12	" ..	Wood ..	95	64	Hull	" .. Ottawa, Towing Freight.
L'Ontario	5	Side Wheel	" ..	Not Registered...	.....	Bout Delisle.....	Bout Delisle and Repentigny Ferry.

Gypsy	22	"	Iron			Montreal	Moisie Iron Works, Towing.
Maude	31	"	Wood	133	43	Montreal and Carillon, Passenger-	
Mary	60	"	"	60.27	22.16	Mill Cove, Levis, 1871	Towing Lumber, Montreal to Quebec.
Manitoba	25.84	"	"	135.93	66.05	Levis	"
Beauharnois	38	"	"	165	46	"	Passenger, Montreal to Beauharnois.
Mersey	75	Screw	"	59.51	34.22	"	Quebec Harbor, Tug.
Hope	30	"	"	14.90	6.63	"	"
Dauntless	100	"	"	80.62	35.46	"	"
Assemctguagar	50	Three Wheel	"	65.09	65.09	Dalhousie, 1871	Freight Boat to Matapedia.
Louis Tourville	30	Tug	"	72	34	Whitehall, U.S.	Montreal and Whitehall, Towing.
Terrebonne	34	Passenger	Iron	193	53	Sorel	Terrebonne and Montreal, Passenger and Freight.
S. A. Simeal	30	Tug	Wood	69	32	Whitehall, U.S.	Montreal and Whitehall, Towing.
Chambly	55	Passenger	Iron	238	76	Sorel	Chambly, Passenger & Freight.
Maskinonge	11	"	Wood	33	22	"	Marking and Sorel
Lavall	13	Ferry	"	66	Not known..	Begancour	River and Becan
Sorel	13	"	Iron	86	43	Sorel	Berthier and Sorel
Bismark	9	Tug	Wood	18	10	Rivière du Loup	Rivière du Loup and Sorel, Towing.
Neptune	30	Screw Propeller ..	"	52	19	Portland, N.B., 1871	Tug Boat, St. John Harbor.
Xanthus	35	"	"	64	23	"	"
Fred Leavett	10	"	"	18	14	Annapolis, N.S.	Ferry, at Annapolis, N.S.
Linda	60	"	"	497	338	Connecticut, U.S.	Passenger, Coastwise, Nova Scotia.
New Era	40	Side Paddle Wheels	"	54	43	Chatham, N.B., 1871	Miramichi River, N.B.
Laddie	35	Screw Propeller ..	"	42	28	"	Tug
Enterprise	23	Side Paddle Wheels	"	72	35	Indian Town, N.B., 1871	Ferry, Millidgeville, N.B.
La have	20	Screw Propeller ..	"	47	32	Yarmouth, N.S., 1871	Tug, La have, N.S.
Goliah	50	"	"	114	40	Philadelphia, U.S.	" Halifax Harbor.
Unicorn	35	"	"	46	20	East Port, U.S., 1854	"
St. George	20	"	"	37	18	St. George, N.B., 1871	" St. John Harbor.
Fred Clinch	16	"	"	13	3	Philadelphia, 1868	" Musquash River, N.B.

No. 3.—STATEMENT of the number of steam vessels lost, broken up, or laid up as unfit for service, in the Dominion, during the year ended the 31st December, 1871; their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and when and how lost.

Name of Vessel.	Horse Power.	Class.	Wood or Iron.	Gross Tonnage.	Registered Tonnage.	Where and when Built.	Where and how Lost.
Victoria	32	Side Wheel.....	Wood..	95	83	Buckshoon, Ontario.....	Lumber Carrier on Lake Scugog; burnt on the wharf at Lindsay.
Windsor	8	Screw Barge.....	" ..	61	50	Detroit, U.S.....	Detroit River Freight Barge; burnt at the wharf.
Alex. Watson.....	18	Screw Steamer ...	" ..	109	69	Wallaceburg, Ontario.....	Passenger and Freight Steamer; between Wallaceburg and Detroit.
Essex.....	42	Side Wheel.....	" ..	93	51	Windsor	Ferry between Essex and Detroit; laid up and hull rebuilt.
John Gordon	32	Screw Tug	" ..	109	73	Buffalo, U.S.....	Harbor Tug, Port Colborne; broken up and rebuilt.
Sam Lewis.....		" ..	" ..	115			Reported lost in Georgian Bay; not inspected, and no particulars of loss.
Ann Sison	1	Side Wheel Pas'ng'r ..	" ..	212	92	Aylmer; in 1857	At Aylmer, unfit for service.
Pierrepont	18	" .. Ferry ..	" ..	112	42	Kingston, in 1859.....	At Kingston ..
Magnet.....	100	Screw Freight	" ..	336	274	Ohio City, O., in 1854.....	Sunk in Lachine Canal; burst with grain.
John Greenway.....	26	Side Wheel Pas'ng'r ..	" ..	37	28	Geneva, N.Y., in 1843	At Pictou; burnt at the wharf.
Gem	43	" ..	" ..	116	28	Montreal	Burnt at Rousse's Point, U.S., last May; no official report has been sent; total loss.
Iraquois	108	" ..	" ..	351	223	" ..	Burnt at Caughnawaga, 29th March, 1871; total loss; cause unknown.
Huron	98	" ..	" ..	387	227	Sorel	Burnt at No. 2 lock, in the Beauharnois Canal, 2nd June, 1871; total loss, one life lost.
Magnet.....	53	Propeller	" ..	336	274	Cleveland	
Boliver	44	Screw	Iron....	704	479	Low Walker, Newcastle-upon-Tyne	This steamer has left the Dominion for England.
Ouse	41	" ..	" ..	700	441	Hartlepool	This steamer has left the Dominion for England.
Terrebonne	34	Side Wheel Pas'ng'r ..	Wood..	141	37	Montreal	Broken up.
Maskinonge.....	11	" ..	" ..	30	20	Lotbinière	" ..
L'Etoile	13	" ..	" ..	57	21	Montreal	" ..
Fashion	37	" .. Tug ...	" ..	369	233	Sorel	" ..

St. Anns	13	„ Ferry .	„ ..	34	Not known	St. Anns	„
Helen	23	„	„ ..	135	63	Three Rivers	„
Whitehall	44	„ Tug ...	„ ..	118	139.58	Sorel	„
Lotbiniér	60	„ Pas'ng'r	„ ..	205.87	41	Lotbinière	Burnt at her winter quarters.
St. Louis	25.84	„ Tug ...	Wood ..	108		Levis, 1854	Tug Boat, between Quebec and Montreal, and her engine put in Steamer "Manitoba."
Unity	75	Harbor Tug	„ ..	58.24	39.61	„ 1856	In Quebec Harbor; her engine put in Tug "Mersey."
Lady Colbrook (Ferryboat, St. John Harbor)	30	Side Wheel	„ ..	130	71	Carleton, N.B., 1841	Broken up at Carleton, N.B., 1871.
Lion (Tugboat, Richibucto, N.B.)	48	Screw Propeller...	„ ..	42	10	Philadelphia, U.S., 1851	Got aground on the Richibucto Bar, N.B., and sunk.
Tobique (Passenger Steamer on the Upper St. John River)	60	Stern Wheel	„ ..	146	107	Hampden, U.S., 1860	Broken up at Fredericton, N.B., and her engine taken up to be put in a new steamer.

No. 4.—STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st March, 1871, their Class and Place of Residence, the Year of their First Examination, and the Number of their Renewals, the name of the Steamer, last Employ, by Whom Examined, the Date of the Certificate, and Amount of Fee.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
									\$ cts.
Frank Lapointe.....		Third.....	1870	1	Barrie.....	Red River.....	Board of S. B. I.	January 2	1 00
Geo. Collins.....		Second.....	1867	2nd Ex.	Orilla.....	Wenonah.....	Chairman.....	" 2	5 00
F. W. Waterfall.....		First.....	1870	New	Montreal.....	Brigadier.....	J. Samson.....	" 2	5 00
Geo. Ostant.....	First.....		1863	8	Portage-du-Fort.....	Union Forwarding Co.	Board of S. B. I.	" 1	1 00
David Labourier.....		Second.....	1869	1	".....	Alliance.....	"	" 1	1 00
Thos. Elliott.....	Third.....		1862	9	Brockville.....	John Bright.....	"	" 1	1 00
Andrew Shank.....	Second.....		1865	6	Portsmouth.....	Osprey.....	"	" 1	2 00
John Miller.....	".....		1865	6	Garden Island.....	America.....	"	" 1	1 00
James Allen.....		Second.....	1869	2	".....	".....	"	" 1	1 00
Joseph F. Taylor.....	First.....		1861	10	Kingston.....	Dromedary.....	"	" 1	1 00
T. W. Hugo.....		First.....	1869	3	".....	Dalhousie.....	J. Taylor.....	" 1	5 00
Thos. Hickey.....	Third.....		1868	3	Garden Island.....	City of London.....	"	" 1	5 00
T. B. Sherwin.....		Second.....	1870	1	Toronto.....	Tug Novelty.....	Board of S. B. I.	" 1	1 00
Joseph Sherwin.....		".....	1869	2	".....	Algoma.....	"	" 1	1 00
S. S. Malcomson.....	Second.....	".....	1861	10	Hamilton.....	Osprey.....	"	" 1	1 00
Pierre Tour.....	".....	".....	1860	11	Sorel.....	Aid.....	"	March 29	1 00
Francis Belair.....	".....	First.....	1869	1	".....	Rocket.....	X. Befort.....	January 1	1 00
Mayent Gillott.....		Second.....	1869	1	".....	Champion.....	"	" 1	1 00
Eli Dulac.....		Third.....	1860	1	".....	Rever.....	"	" 1	1 00
Onesienne Querry.....	First.....		1860	11	".....	Union.....	Board of S. B. I.	" 1	1 00
F. Mandrille.....	Second.....		1860	11	".....	Beaver.....	"	" 1	1 00
Pierre Berard.....	Third.....		1865	6	".....	Royal.....	"	" 1	1 00
Maxieme Clement.....	First.....		1860	11	".....	Gem.....	"	" 1	1 00
E. Desjardin.....	Second.....		1860	11	".....	Lincoln.....	"	" 1	2 00
H. Ritier.....	".....	".....	1860	11	".....	New York.....	"	" 1	1 00
Charles Clement.....		Second.....	1869	1	".....	Beaver.....	X. Befort.....	" 1	1 00
Pierre Blett, sen.....	Third.....		1864	7	Sorel.....	Cygne.....	Board of S. B. I.	" 7	1 00
Thos. Poliquir.....	First.....		1860	10	Levis.....	S. S. Georgia.....	"	" 1	1 00
Isidore Thanguay.....	Third.....		1867	4	".....	".....	"	" 1	1 00
Louis Frechette.....	".....		1867	4	".....	Beaver.....	"	" 1	1 00
Thos. Gibb.....	Second.....		1860	10	Quebec.....	Providence.....	"	" 1	1 00
Guillaume Moreau.....	".....		1860	10	St. Apollinaire.....	J. McKenzie.....	"	" 1	1 00
Francis Lavallier.....	Third.....		1860	10	Windsor.....	Gaspé.....	"	" 1	1 00

Archelle Lemarille	First	1870	1	Becancour	St. Anns	X. Bafort	"	24	5 00
Albert Charbonneau	Second	1870	1	Sorel	Tug Montreal	"	"	24	5 00
Atcheson Kerr	First	1860	11	Orilla	Emily May	Board of S. B. I.	"	24	1 00
Anel Mills	First	1865	5 R., 2nd Ex	Lindsay	Ranger	Chairman	"	5	00
Henry Thurston		1818	3rd Ex.	Kingston	Eclipse	J. Taylor	February	3	5 00
Charles Tozette	Second	1868	3		Dromedary	Board of S. B. I.	"	3	1 00
Therence Kerry	"	1869	2	Pembroke	Pontiac	"	"	3	00
Charles Munroe	Second	1860	11	Kingston	"	"	"	3	1 00
Arado Brillo	Third	1870	1	Berthier	Perthier	X. Bafort	"	3	1 00
Joseph Dion	"	1870	1	Sorel	New York	"	"	3	5 00
Peter Underkirk	Third	1861	10	Brantford	Cariella	Board of S. B. I.	"	13	1 00
Robert McAlangh	"	1870	1	St. Catharines	America	"	"	13	1 00
Richard Fairbairn	Third	1870	1	"	"	"	"	15	1 00
Wm. Walsh	Second	1875	6	"	City of London	"	"	15	1 00
Asa Martin	First	1860	11	Sorel	Millary	"	"	15	1 00
Robert Cook	Third	1868	3	Owen Sound	Hero	"	"	17	1 00
John Hay	"	1867	4	Toronto	No steamer	"	"	21	2 00
James Gule	Second	1862	9	Brockville	Bruno	"	"	21	3 00
Wm. Ward	Third	1871	60 days	Kingston	Tug M. M. Wright	J. Taylor	"	22	1 00
Jesse Elbridge	First	1869	2	Port Rowan	Norfolk	Chairman	"	25	5 00
Alex. McDonald	Second	1869	2nd Ex.	Dundas	Florence	"	"	25	5 00
Thos. Stanton	First	1869	2	Orilla	Tug Mixer	Board of S. B. I.	March	4	1 00
George Scamman	Second	1871		Port Hope	Bob Bills	Chairman	"	6	1 00
Erastus Banks	Third	1871		St. Anns	Metamora	"	"	7	1 00
John Cockburn	"	1871		Dundas	None	"	"	7	1 00
Franc Davis	First	1860	11	Chatham	Emily May	Board of S. B. I.	"	8	1 00
Robert McCaul	Second	1867	31 R., 2d Ex.	Kingston	Bruno	J. Taylor	"	3	5 00
J. W. Jeffers	"	1865	6	"	Rochester	Board of S. B. I.	"	3	1 00
John E. Bell	Third	1869		St. Catharines	Palhouse	"	"	13	2 00
Joseph Rousseau	Third	1871	60 days	Sorel	Canada	X. Bafort	Feb.	25	1 00
John Contain	Second	1871	60 days		Quebec	"	March	6	1 00
George Dunn	"	1871	60 days	Detroit	Gove	Chairman	"	8	1 00
Fred. Dewsbury	Second	1862	9	Kingston	Bristol	Board of S. B. I.	"	13	1 00
James McArthur	Third	1869	2	"	"	"	"	13	1 00
Wm. Noyes	Second	1867	4	Collingwood	Warbano	"	"	13	1 00
Joseph C. Osford	Third	1870	60 days	Toronto	None	Chairman	"	1	1 00
Wm. Bell	Second	1867	4	"	Igoma	Board of S. B. I.	"	10	1 00
Wm. Wardell	Second		1	Pell Swart	Emily May	Chairman	"	21	1 00
John G. Gossip	Second	1839	60 yrs. 2d Ex.	Halifax	M. A. Starr	W. M. Smith	"	10	1 00
T. W. Wells	Second	1871	60 yrs. 1st Ex.	"	"	"	"	10	1 00
T. T. Wilson	"	1870		New Brunswick	Rothsary Castle	"	"	27	7 00
T. Mariotte	"	1870		"	Princes of Wales	Board of S. B. I.	"	27	7 00
John Bell	Third	1869	2	St. John, N.B.	Tug Sultan	"	"	27	2 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 30th June, 1871, &c.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
									\$ cts.
Jos. Filteau	First		1860	11	Levis	Tug Tadoussac	Board of S. B. I.	March 31	1 00
Jean Sheridant	"		1860	11	"	S. S. Gaspe	"	" 31	1 00
William Barbour	"		1860	11	Quebec	S. S. Napoleon III.	"	" 31	1 00
Thomas Ryan	Second		1860	11	"	Saw Mill	"	" 31	1 00
Thimothée Roy	Third		1869	2	Levis	Tug Anglaise	"	" 31	1 00
Jean Nadeau	First		1869	2	"	Second in tug Ranger	"	" 31	1 00
Joseph Lemieux	Third		1870	1	"	Third in S. S. Georgia	"	" 31	1 00
Thadé Beaubien	"		1870	1	"	Land Engine Georgia	"	" 31	1 00
John Gerson	First		1869	10	Montreal	Dagmar	"	Sept. 17	1 00
Wm. McDowen	"		1865	5	Ottawa	Queen Victoria	"	January 1	1 00
Michael Quinn	Second		1865	5	Montreal	Brantford	"	April 28	1 00
Hugh Donerty	Third		1860	11	Hamilton	No employ	"	" 16	2 00
Louis La Touche	"	Second	1870	1	St. Andrews	Boston	T. Fessenden	" 16	5 00
Joséphine Bellefleur	"	"	1870	1	Beauharnois	Ottawa	"	" 16	5 00
George Rothwell	"	"	1870	1	Durham	Oak	"	" 16	5 00
Francis Bellis	First		1870	1	Montreal	Mary Ann	"	" 16	5 00
Naphtali Lapine	Second		1870	1	Carillon	Canada	"	" 16	5 00
John Smith	First		1870	1	Montreal	Magnet	"	" 16	5 00
William Browne	Third		1866	5	Kingston	"	Board of S. B. I.	" 11	2 00
P. T. McManus	Second		1865	6	Levis	Eclipse	"	" 11	1 00
Pierre Gataierre	Third		1860	11	Levis	Tug City	"	" 15	1 00
Thomas P. Thompson	"	Second	1871	60 days	Quebec	Secret	J. Samson	" 15	1 00
Michael Burke	Third		1865	6	Levis	Victoria	"	" 15	2 00
Michel McFaul	"		1865	6	Kingston	Norseman	"	" 15	1 00
John Painter	"		1869	3	"	Swan	"	" 15	1 00
Michael Madden	Second		1860	11	"	Norseman	"	" 15	2 00
George Johnson	"	Second	1868	2	"	Kitty Trail	Board of S. B. I.	" 15	1 00
George Gault	"	"	1870	60 days	Buffalo	Annie Rad	Chairman	" 15	1 00
Thomas Hudson	First		1869	2	Collingwood	Not a tug	"	" 15	5 00
J. D. Banks	Third		1868	3	Toronto	Metamora	Board of S. B. I.	" 15	1 00
Joseph Johnson	"	Third	1871	60 days	Bellefleur	None	Chairman	" 18	1 00
John Chapman	"	"	"	"	"	"	Board of S. B. I.	" 18	1 00
Donald Smith	"	"	"	"	"	"	"	" 18	1 00
Alex. McArthur	"	"	1870	1	Martin P. Wm.	Hercules	Board of S. B. I.	" 20	1 00
John Stevens	First		1866	5	Bobbeageor	Mill	"	" 24	1 00
Henry Bartliff	Third		1867	4	Chatham	P. E. McKerral	"	" 24	2 00

J. S. Wright	Second	1870	1	Toronto	Lady Franklin	Chairman	May 18	2 00
Robert Sloan	"	1868	3	Kingston	Rochester	Board of S. B. I.	January 1	1 00
Thomas Murphy	Third	1871	60 days	Newboro	Rose	J. Taylor	April 17	1 00
Delafield Dye	Second	1871	60 days	New York	Simon Davis	"	" 17	1 00
Philip Kenny	Third	1871	60 days	Kingston	D. M. Mixer	"	" 17	1 00
James Moffatt	Second	1871	60 days	"	"	"	" 17	1 00
Charles Hoad	"	1869	60 days	Toronto	Transit	Board of S. B. I.	" 9	1 00
John Haley	First	1871	60 days	Indian Town, N.B.	Speck	W. M. Smith	" 4	1 00
William Atkins	"	1871	60 days	Annapolis	Ellistury	"	" 18	1 00
Alonso Allan	"	1871	60 days	Indian Town, N.B.	Allida	"	" 11	1 00
John McAlamy	"	1871	60 days	St. John	Herald	"	" 8	1 00
E. Perkins	"	1871	60 days	Portland, N.B.	Tiger	"	" 3	1 00
James Fox	"	1871	60 days	Liverpool, N.S.	Daisy	"	" 3	1 00
William Turner	Second	1871	60 days	Toronto	None	Chairman	" 12	1 00
Joseph Brisson	Third	1871	60 days	St. Pierre des Beques	Lawrence	J. Samson	" 8	1 00
T. D. Finnegan	First	1867	4	Quebec	S. S. Secret.	Board of S. B. I.	May 12	1 00
William Belsan	Third	1871	"	Chatham	Mary Ward	Chairman	" 1	5 00
George Seaman	Second	1871	60 days	Port Hope	Bob Mills	"	March 6	1 00
John Lee	Second	1866	5	Goderich	William Seymour	Board of S. B. I.	May 20	1 00
John Cockburn	Third	1871	60 days	Dundas	Propeller East	Chairman	June 3	1 00
Francis Allan	Second	1839	2	Montreal	Allan	T. Fessenden	April 29	1 00
Trifley Piquin	"	1839	2	Deschambeau	Pore	Board of S. B. I.	January 1	1 00
John C. Cocquodale	"	1871	60 days	Toronto	H. M. Mixer	Chairman	June 6	1 00
J. B. Seplea	"	1871	60 days	Ryan	Oak	T. Fessenden	May 1	1 00
George Simmons	"	1869	2	Newborn	Chaffy	Board of S. B. I.	January 1	1 00
Fred. Sherman	"	1871	New	Lindsay	Champion	Chairman	May 27	1 00
Edward Perry	"	1868	3	"	Ogemah	Board of S. B. I.	January 1	1 00
J. B. Sequin	Third	1871	63 days	Montreal	H. F. Pronson	T. Fessenden	May 1	1 00
William Hopkins	Third	1860	5	Lindsay	Anglo Saxon	Board of S. B. I.	January 1	1 00
T. Robinson	"	1868	3	Kingston	None	"	" 1	1 00
Joseph Clissold	Second	1871	60 days	Toronto	"	Chairman	April 28	1 00
George Keats	"	1871	60 days	Lindsay	"	"	" 18	2 00
Silas Jacobs	"	1871	60 days	"	Anglo Saxon	"	May 23	1 00
Louis Pajunt	Third	1871	60 days	Deschambeau	Royal	X. Befort	April 30	1 00
James Mickle	Second	1863	8	Rockburn	Acadia	Board of S. B. I.	April 8	1 00

STEAMBOAT ENGINEERS—Examinations and Renewals during the Quarter ending 30th September, 1871.

John Heward	Second	1868	3	Jacket Harbor	Abyssinian	Board of S. B. I.	January 1	1 00
T. McAlamy	"	1868	3	Ogdensburg	Athenian	"	" 1	1 00
Delafield Dye	Second	1871	60 days	Jacket Harbor	Simon Davies	J. Taylor	April 17	1 00
Philip Kenny	"	1871	60 days	Kingston	D. M. Mixer	"	" 17	1 00
Thomas Murphy	Third	1870	60 days	Newboro	Rose	"	" 17	1 00
J. Meurier	Third	1860	11	Levis	Rescue	Board of S. B. I.	January 1	1 00
L. Durocher	Second	1869	2	Quebec	Fairy	"	" 1	1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 30th September, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fee.
J. Chesnut		Third	1871	60 days	St. Catharines	Enterprise	Chairman	August 1	8 cts.
A. K. Harris		First	1869	2	Toronto	Bouquet		14	2 00
J. N. Thomas			18 9	2	Morristown, N.S.	Frue	Board of S. B. I.	January 1	1 00
William Dugg			1871	60 days	Dartmouth, N.S.	Unicorn	W. M. Smith	August 8	1 00
Hector L. McDonald		Second	1871	60 days	Wallaceburg		Chairman	"	22 1 00
T. G. Reid	Third		1865	60 days			Board of S. B. I.	"	22 1 00
George Seaman		Second	1871	60 days	Port Hope	Algoma	Chairman	"	30 1 00
E. McMarack		First	1870	60 days	Goderich	A. Houghton	"	Sept.	1 5 00
David Kitz		Second	1870	60 days	Chatham	None	"	"	1 5 00
John Thorburn		"	1871	60 days	Goderich	William Seymour	"	August 27	1 00
P. Jardine		"	1869	2	Point du Fort	Prince Arthur	Board of S. B. I.	January 1	1 00
Delafield Dye		"	1871	60 days	Jefferson	Simon Davis	J. Taylor	April 17	1 00
P. Kenny	Third		1871	60 days	Kingston	Rose	"	"	17 1 00
John Ellis	First		1871	60 days	Joint Percy	Ontario	Chairman	Sept. 16	1 00
M. Morrison	Second		1871	60 days	Niagara	City of Toronto	Chairman	Sept. 25	1 00
W. Moir		First	1871	"	Halifax	None	W. M. Smith	July 12	1 00
D. McKay		"	1871	"	Pictou	Lion	"	"	12 1 00
E. Neilsen		"	1871	"	Chatham	Laddie	"	"	12 1 00
H. Orchard		"	1871	"	St. John, N.B.	Enterprise	"	"	12 1 00
John Ball	Third	"	1869	3	Newcastle	Sultan	Board of S. B. I.	For 1872 January 1	1 00
George H. Middle		"	1871		Yarmouth	Tug C. W. Johnson	"	"	1 5 00
William Dugg		"	1871		Halifax	Henry Hoover	"	"	1 5 00
J. Reddick		"	1871		St. John	Omangonudy	"	"	1 1 00
William Moir		"	1871		Halifax	None	W. M. Smith	"	1 5 00
Donald McKay		"	1871		Pictou	Lion	"	"	1 5 00
Robert Neilsen		"	1871		Chatham	Laddie	"	"	1 5 00
Hiram Orchard		"	1871		St. John, N.B.	Enterprise	"	"	1 5 00
James Fox		"	1871		Liverpool, N.S.	Tug Daisy	"	"	1 7 00
William Askien		"	1871			Countess of Ellsbery	"	"	1 7 00
James McWorrey		"	1871		St. John, N.B.	Enterprise	Board of S. B. I.	"	1 5 00
John McLurray		"	1871		Gondola Point	J. C. Vail	"	"	1 7 00
Edward Perkins		"	1871		St. John, N.B.	Telegraph	"	"	1 7 00
Jessie Matthews	Second		1868	3	Fredericton	Ica Whithier	"	"	1 1 00
George Dick		Second	1871		Chatham	ew Era	"	"	1 5 00
Alonzo Allan		First	1871	2 Ex.	St. John, N.B.	Alida	"	"	1 5 00

Hugh McMea		Second	1871	3	Portland, N.S.	Heracles	"	"	1	1 00
David McKinnon	Third		1871	2 Ex.	"	Enterprise	"	"	1	5 00
William John Pratt		First	1870	1	St. John, N.B.	Hiram Perry	"	"	1	1 00
William Robson		"	1869	2	"	Tug Relief	"	"	1	5 00
Alexander Wilson	First		1868	3	"	May Queen	"	"	1	1 00
F. Thorne		Second	1871		"	Antelope	"	"	1	5 00
Herman Allen		"	1870	1	"	Tiger	"	"	1	1 00
H. A. Hathaway	First		1868	3	"	Empress	"	"	1	1 00
J. E. Porter	Second		1868	3	"	Lincoln	"	"	1	1 00
J. C. Cumming		"	1868	3	"	General	"	"	1	1 00
J. B. Sinclair	First		1868	3	"	Rothesay	"	"	1	1 00
Alexander McMurray	Second		1868	3	"	Onangondy	"	"	1	1 00
Peter Sinclair		"	1868	3	"	"	"	"	1	1 00
Charles Rowe		First	1871		"	Empress	"	"	1	5 00
Robert Porter	Second		1871	3	"	David Weston	"	"	1	1 00
Robert M. Ewin		First	1868	3	"	Tug Victor	"	"	1	1 00
H. E. Tapley	Second		1869	2	"	Bessie B.	"	"	1	1 00
Alexander Chase	First		1868	3	"	Tug Neptune	"	"	1	1 00
Samuel William Smith		Second	1871	New	St. George, N.B.	Trader	"	"	1	5 00
Charles Cox	Second		1868	3	St. John, N.B.	Pawn	"	"	1	1 00
John Walsh		Second	1868	3	"	Tug Dot	"	"	1	1 00
M. McAlister	First		1868	3	"	Saw Mill	"	"	1	1 00
George Gordon		"	1868	3	"	Xanthus	"	"	1	1 00
D. G. May		"	1868	3	"	Ada G.	"	"	1	1 00
Alexander Edley	First		1871	2 Ex.	"	Emperor	"	"	1	5 00
John Edley		Second	1871	New	"	Speck	"	"	1	5 00
Alexander Wilson	First		1870	1	"	Emperor	"	"	1	1 00
G. W. Allen		"	1871	New	Yarmouth	E. W. Johnson	"	"	1	5 00
E. McAlister	Second		1871	2 Ex.	St. John, N.B.	Mill	"	"	1	5 00
P. Stevenson		First	1868	3	"	Oliver	"	"	1	1 00
George W. Allen		"	1868	3	"	No boat	"	"	1	1 00
John Curriek	Second		1868	3	"	Lincoln	"	"	1	1 00
John Ross	First		1868	3	"	City of St. John	"	"	1	1 00
Thomas Roush		Second	1871	2 Ex.	Fredericton	Enterprise	"	"	1	6 00
William Abbott	Second		1871	3	"	Highlander	"	"	1	1 00
John Crockett		"	1868	3	"	Tobique	"	"	1	1 00
S. H. Gill		First	1868	3	"	New Dominion	"	"	1	1 00
William S. Pratt	First		1871	1	St. John, N.B.	Rothesay	"	"	1	5 00
William Atkinson		First	1871	2 Ex.	Fredericton	Forty-second	"	"	1	5 00
James Turner	First		1868	3	Charlotte Town	St. Lawrence	"	"	1	1 00
John Graybury		First	1868	3	"	"	"	"	1	1 00
James Webster	Second		1868	3	Pictou	Tug Dragon	"	"	1	1 00
A. McDonald		Third	1870	2	"	"	"	"	1	1 00
Duncan Green	First		1868	3	St. John, N.B.	Rothesay	"	"	1	1 00
John Anderson	Third		1868	3	Pictou	Tiger	"	"	1	1 00
John Cumming	Second		1868	3	"	Princess of Wales	"	"	1	1 00
William Trail		First	1868	3	"	"	"	"	1	1 00
William Swanton	Second		1871	3	"	Ferry May Flowers	"	"	1	1 00
David McFarlane		Second	1871	3	"	Conqueror	"	"	1	5 00
Robert Russell	Third		1868	3	"	East Riding	"	"	1	1 00
E. Griffin	Second		1868	3	Halifax	Unicorn	"	"	1	2 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 30th September, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fees.
George Burrows		Second	1868	1	Halifax	Unicorn	Board of S. B. I.	January	5 00
William Morton		"	1868	3	"	Chebucto	"	"	1 00
William Wilson		"	1868	1	"	Sir C. Ogle	"	"	5 00
E. F. Allen	First	First	1868	1	"	Richmond	"	"	5 00
A. Warner	First	First	1868	1	"	Lady Head	"	"	1 00
William Barry		First	1868	1	"	"	"	"	1 00
Thomas H. v. Band		"	1871	New	"	Teaser	"	"	5 00
William M. Alister		"	1871	New	Newcastle	Miramichi	"	"	5 00
F. J. Johnson		"	1871	60 days	Yarmouth	La Havre	"	"	5 00
James Cameron		Second	1871	60 days	Collingwood	Fred Hotchkiss	Chairman	August	1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st December, 1871.

Joseph Spenard	Second	1871	12	St. Pierre	St. Pierre	Board of S. B. I.	Nov.	22	5 00
Louis Lamotte	"	1860	12	St. Croix	National	"	"	22	1 00
Michel Dion	"	1860	12	Levis	Ferry Quebec	"	"	22	1 00
S. Drysdale	Second	1867	2 Ex.	Quebec	Napoleon III.	"	"	22	5 00
Germaine Côté	First	1870	2	Levis	Powerful	"	"	22	1 00
Joseph Marchand	Third	1867	5	Champlain	Victoria	"	"	22	1 00
Isai Lemai	"	1866	6	St. Edward	Eugenie	"	"	22	1 00
Jean Theriault	First	1860	12	Levis	Clyde	"	"	22	1 00
Joseph Cayen	Second	1860	12	Port Neuf	Port Neuf	"	"	22	1 00
W. Arcaud	"	1860	12	Deschambeau	Ft. St. Louis	"	"	22	1 00
L. Desroches	First	1871	2 Ex.	Quebec	Fairy	"	"	22	5 00
H. Lafleur	Second	1860	12	St. Antoine	Tug Napoleon	"	"	22	1 00
Napoleon Oullet	First	1870	2	Levis	Tug E. P. Doré	"	"	22	1 00
M. Lemai	Second	1860	12	St. Antoine	Passenger St. Antoine	"	"	22	1 00
R. Lord	Third	1868	4	Lotbinière	Tug Eclipse	"	"	22	1 00
T. Stanley	Second	1871	New	Quebec	Napoleon III.	"	"	22	5 00
M. Fortier	First	1869	3	Buckland	Tug Marguerite	"	"	22	5 00

F. Ouillet		Third	1871	1
William Barbour	First		1860	12
X. Boufort		Third	1871	New
Joseph Denis		First	1871	2
Théophil Dion		"	1869	3
M. Fréchette	Second		1860	12
Simon Delisle	"		1860	12
Guillaume Morreau	"		1860	12
Joseph Lapointe	"		1860	12
Ignace St. Pierre	Third		1860	12
Xavier Tanguay	"		1860	12
F. Demers		Second	1870	2 Ex.
H. Boldue	Third		1860	12
Joseph Cayen		Second	1871	New
F. Thivierge	Third		1868	4
Josiah Rolph	Second		1867	5
Steven Carroll	First		1860	12
W. H. Short	"		1863	3 Ex.
John Bell	Third		1868	4
W. Dussire	Second		1860	12
Pierre Audet	Third		1860	12
F. Dion		Second	1869	3
E. Many	First		1860	11
V. Chariand		First	1868	2 Ex.
W. Lacroix	Second		1860	12
E. Auger		First	1868	3 Ex.
L. Moireau		Second	1870	2 Ex.
J. Madeau		First	1869	2 Ex.
T. Thompson	"		1870	2 Ex.
T. Roy			1868	3 Ex.
J. Lapointe		First	1868	4
T. Lacroix	Second		1860	12
W. Lacroix			1860	12
J. Filteau	First		1860	12
T. Short			1871	New
E. Filteau	Third		1871	New
E. Samson		Third	1871	New
A. Samson			1866	6
A. Ray		First	1868	4
M. Flemand	Third		1871	2 Ex.
J. Boldue	"		1869	2 Ex.
O. Langlois		First	1869	3 Ex.
A. Côté		Third	1871	New
J. Wool		First	1869	3
P. Langlois		Third	1871	New
R. St. Helaire		First	1868	4
M. Aubin	Second		1860	12
T. Terrault	Third		1868	4
August Côté	"		1860	12
T. Goules	"		1869	5
T. Milne		First	1868	4

Levis	Advance	"	"	22	5 00
Quebec	Napoleon III.	"	"	22	1 60
Levis	Ferry Quebec	"	"	22	5 00
Sorel	New York	"	"	23	5 00
St. Renand	Steam Mills	"	"	23	1 00
St. Nicholas	Pointe Levis	"	"	23	1 00
Pt. Levis	Ferry Quebec	"	"	23	1 00
St. Apollinaire	Engine	"	"	23	1 60
Levis	Victory	"	"	23	1 00
"	Maid D'Orleans	"	"	23	1 60
"	Hercules	"	"	23	1 00
"	Tug Fairy	"	"	23	5 00
"	Pass. Steamer George	"	"	23	1 00
"	Ferry Levis	"	"	23	5 00
Quebec	S.S. Druid	"	"	23	1 00
"	"	"	"	23	1 00
Montreal	None	"	"	23	5 00
Quebec	Police Steamers	"	"	23	1 00
Levis	Tug Drumless	"	"	23	1 00
Quebec	Manitoba	"	"	24	1 00
Levis	None	"	"	24	2 00
"	S.S. Secret	"	"	24	1 00
St. John	St. Andrew	"	"	24	5 00
Levis	St. Roche	"	"	24	1 00
"	Tadousac	"	"	24	5 00
"	Tug Hope	"	"	24	1 00
"	Tug St. Charles	"	"	24	1 00
"	S.S. Secret	"	"	24	8 00
"	Ferry Arctic	"	"	24	5 00
"	Tug Mars	"	"	24	1 00
St. John	Tug Samson	"	"	24	1 00
Levis	Ferry Prince Edward	"	"	24	1 60
"	Tug Tadousac	"	"	24	1 00
Montreal	Oxford	"	"	23	5 00
Levis	Ranger	"	"	23	5 00
"	S.S. Secret	"	"	23	5 00
"	Conqueror	"	"	23	1 00
"	"	"	"	23	1 00
"	S.S. Secret	"	"	23	5 00
"	Tug Quebec	"	"	23	5 00
"	Tug Amanda	"	"	23	5 00
"	Ferry Notre Dame	"	"	23	5 00
"	Steam Mill	"	"	23	2 00
Quebec	Tug Ranger	"	"	23	5 00
Levis	Tug Kate	"	"	24	1 00
St. Nicholas	St. Nicholas	"	"	24	1 00
Levis	Tug Phoenix	"	"	24	1 00
"	Tug Scotchman	"	"	24	2 00
"	Tug Massy	"	"	24	2 00
Quebec	Public factory	"	"	24	1 00

STEAMBOAT ENGINEERS—Examinations and Renewals during the Quarter ending 31st December, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fee.
									\$ cts.
J. Contois		Second	1871	1	Sorel	Quebec	Board of S. B. I.	Nov. 24	8 00
J. H. Leslie	First		1860	2 Ex.	Montreal	Louis Renard.	"	" 24	5 00
N. Piché		Third	1871	New	"	M. K. D.	"	" 24	5 00
E. Castonguay		Second	1870	2 Ex.	"	Tug Relief	"	" 24	5 00
L. Belierire	Third		1867	5	"	Merritt	"	" 24	2 00
F. Allard		Second	1869	2	Sorel	Tug Montreal	"	" 27	5 00
S. Charbonneau		First	1869	2	"	Three Rivers	"	" 27	5 00
J. Hamilton		"	1871	New	Montreal	None.	"	For 1871 Nov. 27	5 00
H. Brulé		"	1870	2 Ex.	Sorel	Berthier.	"	" 27	8 00
J. Arcand		First	1869	2 Ex.	"	Rivière du Loup	"	For 1872 Nov. 27	1 00
M. Sheridan		Second	1870	2 Ex.	Montreal		"	" 27	5 00
O. Clement		First	1869	2 Ex.	"		"	" 27	5 00
A. Marchand			1868	2 Ex.	Montreal	Champion	"	" 27	5 00
J. Hamelin		Second	1870	2 Ex.	"	Magnet	"	" 27	5 00
J. Ritche	Third		1869	2 Ex.	Halifax	Flambergough	"	" 27	2 00
T. Jones		First	1869	2 Ex.	"		"	" 27	2 00
E. Champagne	Second		1860	12	Montreal	Longueuil	"	" 27	1 00
J. Burtin	First		1860	12	"	Prince of Wales	"	" 27	1 00
A. McRobert		Second	1860	12	Chateaguay	Maid of Canada	"	" 27	3 00
Samuel Quigg	Second		1862	10	Beauharnois	Champion	"	" 27	1 00
James Quigg			1860	12	"	Aurora	"	" 27	1 00
F. Lacroix	Third		1860	12	Three Rivers	No boat	"	" 27	1 00
P. Lacroix			1865	7	"	Nowaseil	"	" 27	1 00
E. Ritter	Second		1860	12	Sorel	Assumption	"	" 27	1 00
L. Lacombe	Third		1861	11	"	Hope	"	" 27	1 00
M. Ducass	Second		1864	8	"	Star	"	" 27	1 00
L. Arsin, sen.			1860	12	"	Richelieu	"	" 27	1 00
L. Arsin	Third		1865	7	"	No employ	"	" 27	1 00
C. Gendron		First	1870	2	"	La Senecal	"	" 27	1 00
A. Martin	Third		1862	10	"	Montreal	"	" 27	1 00
O. Querry	First		1860	12	Sorel	Union	"	" 27	1 00
P. Trompe	Third		1864	8	"	Champlain	"	" 27	1 00
O. Lamotte			1864	8	"	Union	"	" 27	1 00
P. Toin	Second		1860	12	"	Albert	"	" 27	1 00

Ed. Denis	Third	1865	7	"	New York	"	"	27	1 00
C. Matte	Second	1860	12	"	Whitehall	"	"	27	1 00
Narcisse Dédoir	Third	1860	12	"	No boat	"	"	27	1 00
L. Lacroix	"	1867	5	Three Rivers	Arthur	"	"	27	1 00
J. B. Couter	"	1860	12	Sorel	No employ	"	"	27	1 00
L. Roudian	"	1864	8	"	Tug. New York	"	"	27	1 00
P. Blette	"	1864	8	"	Cygne	"	"	27	1 00
J. B. Gendron	"	1865	7	"	Relief	"	"	27	1 00
A. Ducharme	"	1867	5	"	Corillon	"	"	27	1 00
*Eli Dulac	"	1869	3	"	Champlain	"	"	27	1 00
A. Leffèche	Second	1860	12	"	Terrebonne	"	"	27	1 00
J. Denis	"	1864	8	"	Bismark	"	"	27	1 00
A. Lemotville	First	1870	2	Three Rivers	Lavalle	"	"	27	1 00
Tripley Paquin	"	1870	12	Quebec	Idre	"	"	27	1 00
J. R. Lafleur	"	1869	3	Sorel	Charlotte	"	"	27	1 00
J. Dion	"	1869	3	"	Albert	"	"	27	1 00
X. J. Marie	"	1869	3	"	Hope	"	"	27	1 00
L. Dumas	Second	1860	12	"	Chambly	"	"	27	1 00
P. Lablauc	Third	1860	12	Three Rivers	Dixie	"	"	27	1 00
M. Clement	First	1860	12	Sorel	Tourville	"	"	27	1 00
F. Chapdelaine	"	1860	12	"	Canada	"	"	27	1 00
F. Gendron	Second	1860	12	"	Carillon	"	"	27	1 00
A. Martin	First	1860	12	"	No employ	"	"	27	1 00
A. Ginac	Third	1865	7	"	Carter	"	"	27	1 00
P. Ellenburg	"	1865	7	"	Ignace Tyler	"	"	27	1 00
P. Melotte	"	1860	12	"	King Bird	"	"	27	1 00
P. Robert	"	1867	5	"	Bismark	"	"	28	1 00
N. Beaudit	"	1867	5	"	Mac	"	"	27	1 00
R. Susiner	Second	1860	12	"	Fire Fly	"	"	27	1 00
S. Torrian	Third	1860	12	"	Maskenongo	"	"	27	1 00
A. St. Martin	Second	1865	7	"	No employ	"	"	27	1 00
J. B. Matte	Third	1864	8	"	Quebec	"	"	27	1 00
Peter Dunn	First	1865	7	"	Montreal	"	"	27	1 00
J. Fortin	Third	1861	11	"	Ignace Tyler	"	"	27	1 00
P. St. Michel	"	1871	1	"	No boat	"	"	27	1 00
F. Mandrille	Second	1860	12	"	"	"	"	27	1 00
J. Paquet	"	1860	12	"	La Prairie	"	"	27	1 00
N. Drew	Third	1869	2 Ex.	Montreal	Adelhus	"	"	27	7 00
A. Lalouch	Second	1871	New	"	Tug. Aid	"	"	27	5 00
J. B. Seguin	"	1871	New	Rigaud	Tug. Arctic	"	"	27	7 00
J. B. Seguin	"	1871	New	Montreal	Pranson	"	"	28	7 00
T. Drysdale	"	1871	New	Chateauguay	L. Renaud	"	"	28	5 00
X. Charbonneau	Second	1860	12	Sorel	Three Rivers	"	"	28	1 00
J. Brille	Third	1869	3	"	Berthier	"	"	28	1 00
F. Bellair	First	1869	3	"	L. Outarde	"	"	28	1 00
F. Theban	"	1868	4	"	Atcor	"	"	28	1 00
M. Leclair	Second	1860	12	"	Berthier	"	"	28	1 00
T. Chapdelaine fils	Third	1871	1	"	Canada	"	"	28	1 00
P. Chalond	Second	1871	New	Montreal	Bayview	"	"	28	5 00
M. Roy	"	1860	12	"	Albano	"	"	28	1 00
J. Cayen	"	1862	10	"	No boat	"	"	28	1 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st December, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fee.
									\$ cts.
George Menish	Second		1862	10	Montreal	Passport	Board of S. B. I.	Nov. 28	1 00
J. Alexander	"		1865	7	"	St. Helen	"	" 28	1 00
F. Roy	"	First	1869	3	"	Beauharnois	"	" 28	1 00
A. Goulet	Second		1865	2 Ex.	Aylmer	Monitor	"	Dec. 1	5 00
J. Demers	"	Third	1869	3	"	"	"	" 1	1 00
E. Nash	"	Second	1870	2 Ex.	Morrisburg	Louisa	"	" 1	5 00
A. Snider	Third		1866	6	"	Lachine	"	" 2	1 00
William McGowan	First		1865	7	Ottawa	Dagna	"	" 2	1 00
S. McElroy	"	First	1867	5	"	Queen Victoria	"	" 2	1 00
George Cochran	"	Third	1868	4	"	Alexander	"	" 2	1 00
J. B. Malier	First		1860	12	Prescott	East	"	" 2	1 00
William Frechette	"	First	1860	12	Berthier	England	"	" 2	2 00
P. Doyle	"	"	1871	New	St. Nicholas	St. Andrew	"	" 2	1 00
A. Charbonneau	Second		1860	12	Pictou	Secret	"	" 2	5 00
J. Key	"	Second	1870	2 Ex.	Sorel	Emerald	"	" 2	1 00
J. Quigley	"	First	1869	3	Cornwall	Jessie Cassels	"	" 2	5 00
T. Murphy	"	Third	1871	4-60 days.	Kingston	Carlyle	"	" 3	1 00
M. Roy	Second		1860	12	Newboro	Rose	J. Taylor	" 5	2 00
W. F. Robinson	"	First	1868	4	Montreal	William	Board of I. B. S.	" 5	1 00
Wm. Sullivan	"	"	1868	4	Pictou	Victory	"	" 5	1 00
A. Rochefort	"	"	1867	5	Kingston	Rose	"	" 5	1 00
P. Lemaire	Second		1867	5	"	Robert Anglin	"	" 5	1 00
F. Sommerville	"	"	1871	New	Prescott	St. John Baptiste	"	" 5	1 00
S. D. Davis	"	Second	1871	New	Pictou	Bay of Quinte	"	" 5	5 00
J. McEwan	"	First	1870	2	Duck Island	S. Davis	"	" 1	5 00
L. Black	"	Second	1871	1	Kingston	Carlyle	"	" 6	1 00
J. Russell	"	"	1870	2	Brockville	Eva	"	" 6	1 00
D. Magden	Third		1867	5	Elgin	Tug Frances	"	" 6	1 00
G. P. Simmons	"	First	1871	2 Ex.	S. Crawley	Frances	"	" 6	1 00
T. Murphy	"	Third	1871	Confid.	Bedford Mills	Elenor	"	" 6	5 00
P. McNane	"	Second	1870	2 Ex.	Newboro	Caroline	"	" 6	5 00
A. Milne	Second		1862	9	Perth	Elswood	"	" 6	5 00
P. Kenny	"	Third	1871	Confid.	Kingston	Pierpoint	"	" 6	1 00
William Hurst	"	First	1871	2 Ex.	"	Rose	"	" 6	5 00
T. Smith	Third		1862	10	"	Kitty Trail	"	" 6	5 00
J. Hickey	Second		1862	10	Garden Island	Highlander	"	" 6	1 00
					"	William	"	" 6	1 00

J. O'Reilly	Third	1867	5		Wellington		6	1 00
William Johnson	Second	1864	8		No boat		6	1 00
T. O'Reilly	Third	1865	7		J. A. McDonald		6	1 00
J. H. Dickson	"	1870	2 Ex.		"		6	5 00
O. Prieur	Second	1868	4		City of Hamilton		6	1 00
S. Keely	Third	1870	4-60 days.	Cornwall	J. A. McDonald	J. Taylor	March 9	
F. Theribault	Second	1866	6	Garden Island	City of Hamilton	Beard of S. B. I.	For 1872.	4 00
G. Johnson	Third	1871	New	"	H. A. Calvin	"	Dec.	6 1 00
P. Pendergrast	"	1871	4-60 days.	Cornwall	Wellington	"	"	6 8 00
J. Doran	Second	1860	12	Kingston	Watertown	"	"	6 1 00
J. Johnson	"	1871	2 Ex.	Garden Island	H. A. Calvin	"	"	6 5 00
J. Simons	Third	1869	3	"	Highlander	"	"	6 1 00
Wm. Derry	Third	1869	3	Kingston	Tug Wren	"	"	6 1 00
S. Barlow	Third	1869	3	"	Ellewater	"	"	6 1 00
William Kelly	First	1866	2 Ex.	Garden Island	William	"	"	6 5 00
J. Bower	"	1865	7	Belleville	Prince Edward	"	"	6 1 00
E. Adams	"	1871	New	Kingston	No boat	"	"	6 5 00
J. Kedner	Second	1870	2 Ex.	Belleville	Ellen Jeffers	"	"	6 5 00
Robert McCaul	Second	1869	3	Kingston	P. Magnet	"	"	6 1 00
H. Burns	Third	1868	4	"	Norfolk	"	"	6 1 00
P. Power	First	1868	4	"	Elevator	"	"	6 1 00
M. McFaul	Third	1865	7	"	"	"	"	6 1 00
R. McBride	"	1863	9	"	Rochester	"	"	7 1 00
A. McBride	Second	1863	9	"	Magnet	"	"	7 1 00
J. Carroll	Second	1871	New	"	Rose	"	"	7 5 00
R. Hogan	Third	1871	New	Lachine	St. Helens	"	"	7 5 00
M. Blondin	Third	1866	6	"	Indian	"	"	7 1 00
D. Donnelly	"	1833	9	Kingston	Gazelle	"	"	7 1 00
J. Booth	Second	1861	11	Dundas	Rochester	"	"	7 1 00
T. Murphy	Third	1863	4	Kingston	Lilly Kerr	"	"	7 1 00
J. Moffatt	Second	1871	1	"	Prince Alfred	"	"	7 5 00
M. Quinn	"	1860	12	Montreal	Brantford	"	"	7 1 00
F. Muuro	"	1862	10	Howe Island	Hercules	"	"	7 1 00
J. Miller	"	1865	7	Garden Island	America	"	"	7 1 00
W. E. Swales	"	1863	9	Kingston	None	"	"	7 1 00
S. Wadsworth	"	1862	10	Hamburg	Corinthian	"	"	7 1 00
T. Corrigan	Third	1867	5	Ottawa	Quail	"	"	7 1 00
J. Painter	"	1868	4	Kingston	Nile	"	"	7 1 00
J. Arnold	First	1869	2 Ex.	"	Pictou	"	"	7 1 00
L. O'Brien	Third	1865	7	"	Elevator	"	"	7 1 00
T. Elliott	"	1863	9	"	J. Bright	"	"	7 1 00
J. Allen	Second	1869	3	Garden Island	America	"	"	7 1 00
Edmund Roy	Third	1860	1	Montreal	Corinthian	"	"	7 1 00
P. T. McMann	Second	1865	7	Bath	Pictou	"	"	7 1 00
H. Robertson	"	1866	6	Kingston	Bay of Quinte	"	"	7 1 00
William Milne	Third	1864	8	"	Avon	"	"	7 1 00
G. Johnson	Second	1868	4	"	Nile	"	"	7 1 00
W. Plume	Third	1870	1	"	Enterprise	"	"	7 1 00
J. Jameson	First	1869	3	"	H. Mixer	"	"	7 1 00
C. Scott	Second	1871	New	Manoelt	Indian	"	"	7 6 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st December, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom examined.	Date of Certificate.	Fee.
									\$ cts.
J. Matthews.		Second	1869	3	Kingston	Steam Mill	Board of S. B. I.	Dec.	7 1 00
P. Kilcawley			1871	New	"	"	"	"	7 5 00
P. Commerton.		First	1868	4	"	John Greenay	"	"	7 1 00
J. Hardy	Third		1865	7	"	Magnet	"	"	7 2 00
J. Murray.	Second		1860	12	"	Spartan	"	"	7 1 00
R. Sloan		First	1867	2 Ex.	"	Bay of Quinte	"	"	7 5 00
J. Gallivan	Third		1865	7	"	Elevator	"	"	7 1 00
J. Smith		Second	1870	2	Montreal	Corinthian	"	"	7 1 00
William Cunningham.		First	1869	3 Ex.	Kingston	Banshee	"	"	7 5 00
A. McArthur.		Third	1869	3	Glengarry	Hercules	"	"	7 5 00
J. Sherwin		First	1869	2 Ex.	Toronto	Tug Wales	"	"	7 5 00
David Sutherland.	Second		1860	12	Chatham	P. C. Clark	"	"	7 1 00
Isaac Davis	First		1861	11	"	Frances Smith	"	"	7 1 00
John Ellis.	Third		1871	2 Ex.	Point Perry	Ontario	"	"	7 8 00
J. F. Coerin		Third	1871	1	"	Ranger	"	"	7 8 00
George Craudell	Third		1860	12	Lindsay	Commodore	"	"	7 1 00
D. Walker		Second	1871	2 Ex.	"	Samson	"	"	7 8 00
C. Swainson			1870	2	Bell Ewart	Emily Dunham	"	"	7 1 00
Joseph Johnson.		"			"	"	"	"	7 8 00
William Black.	Third		1869	23	Montreal	Bruno	"	"	8 1 00
E. Graham		Second	1871	2 Ex.	"	"	"	"	8 5 00
William Ellis.		Third	1871	New	Point Perry	Champion	"	"	8 5 00
William Edington		First	1868	4	Keene	Otomabee	"	"	8 2 00
F. Lapointe		Second	1871	2 Ex.	Toronto	Prince Alfred	"	"	8 5 00
James Sherwin		"			"	"	"	"	8 1 00
George Scanan.			1871	3	Fort Hope	"	Chairman	"	8 2 00
Isaac Dunham		First	1868	4	Owen Sound	Champion	Board of S. B. I.	"	8 1 00
P. Suroott.		Second	1871	New	Montreal	Europe	"	"	8 5 00
R. Cook	Third		1868	4	Owen Sound	Champion	"	"	8 1 00
Edwin Perry		First	1868	3 Ex.	Lindsay	Osenah	"	"	8 5 00
William Turner		Second	1871	Conf.	Toronto	No boat	"	"	8 5 00
Leon Dion		"	1871	New	Otomabee	Alic	"	"	8 5 00
Andrew Kerr	First		1861	11	Orilla	Emily May	"	"	11 1 00
Allen Cameron	Second		1865	7	Toronto	Frances Smith	"	"	11 1 00
H. Hoode		First	1868	4	Levis	Tug Midge	"	"	12 1 00
M. Lapointe.		"	1868	4	"	" Hector	"	"	12 1 00

E. Costin			1868	4			" Shop			12	1 00
F. Lahey	Second	"	1860	12		"	" Powerful	"	"	12	1 00
L. Gagnon	Third		1860	12		St. Nicholas	" William	"	"	12	2 00
Walter Hunter	Third		1865	7		Wallaceburg	Tug Hero	"	"	13	1 00
J. McDonald		First	1870	2nd Ex.		Point Lambton	E. S. Stoddart	"	"	13	5 00
A. Robert	First		1861	11		Dover	Silver Spray	"	"	13	2 00
D. F. McDonald		Third	1871	New		Point Lambton	E. S. Stoddart	"	"	13	5 00
George Smith		Second	1868	4		Wallaceburg	Tug Reindeer	"	"	13	1 00
A. Heywood			1870	2		"	Philo Bennett	"	"	13	1 00
J. Roderick		First	1870	2nd Ex.		"	River King	"	"	13	5 00
J. Robert		Third	1871	New		Chatham	Silver Spray	"	"	13	5 00
George Yeates		"	1871	New		"	E. L. Stoddard	"	"	13	5 00
T. Head	Second		1861	11		Windsor	City of Montreal	"	"	13	1 00
James W. Wilson		First	1870	2nd Ex.		Petrolia	Algoma	"	"	14	8 00
J. Hammon	Second		1867	5		Windsor	Great Western	"	"	14	1 00
Robert Watt		Second	1870	1		Chatham	City of Montreal	"	"	14	1 00
Felix Jones		First	1869	2nd Ex.		Amherstburg	Bob Hackett	"	"	14	5 00
G. Francombe	First		1862	10		Windsor	Union	"	"	14	1 00
J. Francombe			1862	10		"	City of Montreal	"	"	14	2 00
R. Banfield	Third		1867	5		Sarnia	Alexander Jones	"	"	14	3 00
J. Craig			1867	5		Windsor	Great Western	"	"	14	1 00
David McDonald	First		1866	6		"	"	"	"	14	1 00
J. Pork	Third		1865	7		"	"	"	"	14	1 00
J. McDougall		Second	1868	2nd Ex.		Wallaceburg	Tug Hero	"	"	15	5 00
C. Lark	Third		1868	5		Windsor	Union	"	"	15	1 00
R. Rankin		Second	1870	2nd Ex.		Dresden	Steam Barge Event	"	"	15	5 00
William Belson		Third	1871	1		Chatham	Mary Ward	"	"	15	1 00
R. Reilly	Second		1863	9		Point Edward	W. S. Spicer	"	"	15	1 00
Henry Odette		First	1870	2		Sarnia	Sea Gull	"	"	15	1 00
David Kite			1870	2nd Ex.		Chatham	E. Windsor	"	"	15	1 00
P. Fitzgibbon		Third	1869	2nd Ex.		Point Edward	W. S. Spicer	"	"	15	5 00
H. Doherty	Third		1860	12		Hamilton	Ontario	"	"	18	1 00
S. Murphy		Second	1868	4		Kingston	Rescue	"	"	18	1 00
A. McDonald		First	1869	2nd Ex.		Dundas	Chicora	"	"	18	5 00
S. S. Malcomson	Second		1861	11		Hamilton	East	"	"	18	1 00
J. Cockburn		Third	1871	1		Dundas	"	"	"	18	5 00
J. Sharpe	Second		1865	7		Wellington Square	Mary Ward	"	"	18	1 00
A. Sharpe	Third		1868	2nd Ex.		"	Tug Wales	"	"	18	5 00
J. McCallum		First	1871	2nd Ex.		Goderich	Seymour	"	"	18	5 00
A. Williamson		Second	1869	3		"	Prince Alfred	"	"	19	1 00
J. Taylor	First		1861	11		Kingston	Chickluna	"	"	19	1 00
D. Dunbar	Third		1866	6		Montreal	Georgian	"	"	19	2 00
A. Meish		First	1868	2nd Ex.		"	"	"	"	19	6 00
J. Hazlett		"	1869	3		Garden Island	Chickluna	"	"	19	5 00
W. Scott	Second		1869	3		Hamilton	Osprey	"	"	19	2 00
H. Morrison		First	1869	3		Dundas	Argyle	"	"	19	1 00
S. Malcomson	Third		1869	2		Hamilton	Acadia	"	"	19	1 00
Napoleon Doré		Third	1871	1		Lachine	Osprey	"	"	19	5 00
William Walsh	Second		1865	7		St. Catharines	City of London	"	"	19	1 00
Oliver P. St. John	Third		1868	3		"	Dominion	"	"	19	1 00
T. Toussin		Third	1871	1		Montreal	City of London	"	"	20	5 00

STEAMBOAT ENGINEERS.—Examinations and Renewals during the Quarter ending 31st December, 1871.—Continued.

Name of Engineer.	Class of Engineer.	Class of Assistant.	Year of Examination.	Number of Renewals.	Place of Residence.	Name of Steamer, and by whom recommended.	By whom Examined.	Date of Certificate.	Fee.
									\$ cts.
William Ross		First	1869	3	Port Robinson	T. R. Secord	Board of S. B. I. Dec.	20	1 00
J. Ross		"	1868	4		W. Ross	"	"	20 1 00
D. Wilcox		"	1867	5	Port Colbourne	Ada Carter	"	"	20 1 00
S. R. Norcross	had	"	1863	3	"	S. Neelan	"	"	20 1 00
T. Good		Third	1871	1	"	"	"	"	20 5 00
R. B. Norcross		First	1869	2	"	Agnes McMahan	"	"	20 5 00
W. S. Fletcher	Third	"	1865	7	St. Catharines	Watson	"	"	21 1 00
T. Hickie	"	"	1868	4	Garden Island	Dromedary	"	"	21 1 00
J. Gillie		First	1871	2nd Ex.	Kingston	"	"	"	21 5 00
W. McGuinness		"	1864	5	St. Catharines	Tag U. F. Carter	"	"	21 1 00
W. H. Jones	Third	"	1862	10	"	W. A. Routh	"	"	21 1 00
Nelson Bush	"	"	1864	8	Dunville	Tug Lion	"	"	21 1 00
Alfred Coons	"	Third	1870	2	Port Dalhousie	"	"	"	21 1 00
J. H. Smith		Not classed			Port Colbourne	Clara Carter	"	"	21 5 00
J. Swanson		First	1869	3	Dunville	Tug Jessie	"	"	21 1 00
R. Cameron	Third	"	1864	8	"	Dover	"	"	21 1 00
J. A. May	Second	"	1864	8	Fort Erie	International	"	"	21 4 00
D. Ireland	Third	"	1864	8	"	"	"	"	21 4 00
William Bell	Second	"	1868	4	Collingwood	Cumberland	"	"	21 1 00
E. Wright	Third	"	1868	4	St. Catharines	America	"	"	21 1 00
F. Green		Third	1871	1	Dunville	Jessie	"	"	21 5 00
T. W. Hugo		First	1868	3rd Ex.	Kingston	City of London	"	"	21 1 00
W. Townsend	Third	"	1861	11	Port Dalhousie	Norris	"	"	21 1 00
S. McLean		First	1867	3rd Ex.	Kingston	Dominion	"	"	21 5 00
J. McLaugh	Second	"	1865	7	St. Catharines	Scotia	"	"	21 1 00
Edward Bacon	Third	"	1869	4	"	Europe	"	"	21 1 00
William Bampton		Second	1870	2	Dunville	W. T. Robb	"	"	21 1 00
Samuel Fletcher		First	1865	7	Port Robinson	Minerva	"	"	21 1 00
J. Bampton		Third	1871	New	St. Catharines	None	"	"	21 5 00
G. Poor		First	1863	9	Welland	St. Clair	"	"	21 1 00
Richard Fairbairn		Third	1871	New	"	"	"	"	21 5 00
William Saleott		"	1869	3	St. Catharines	Dominion	"	"	21 1 00
		Second	1869	3	"	None	"	"	21 5 00
J. Chapman		"	1871	2nd Ex.	Dunville	Mary Ann	"	"	21 5 00
J. H. Taylor	Second	"	1863	9	St. Catharines	Enterprise	"	"	21 1 00
Walter Leaney		Third	1871	New	Port Robinson	William Ross	"	"	22 5 00

B. Filteau.....	Third.....	1860	12	Levis.....	Margaret Stevenson.....	"	"	23	1 00
Sopha Miller.....	Third.....	1869	3	Dunville.....	W. P. Robb.....	"	"	23	1 00
William McMangh.....	".....	1871	New	St. Catharines.....	Scotia.....	"	"	22	5 00
T. Pettigrew.....	Third.....	1869	3	Collingwood.....	Manitoba.....	"	"	22	1 00
A. Ramsay.....	".....	1868	3	St. Catharines.....	Metamora.....	"	"	22	1 00
W. T. Foulds.....	Second.....	1869	3	".....	Europe.....	"	"	22	1 00
Erastus Banks.....	Third.....	1871	1	".....	Metamora.....	"	"	22	8 60
J. A. Mill's.....	First.....	1869	2nd Ex.	".....	America.....	"	"	22	5 00
J. E. Ball.....	Third.....	1868	2	".....	Dalhousie.....	"	"	23	1 00
J. Chesnut.....	Third.....	1871	1	".....	".....	"	"	23	6 00
Peter Morrison.....	Second.....	1869	3	".....	None.....	"	"	23	1 00
Reuben Morrison.....	Third.....	1870	2	Port Dalhousie.....	".....	"	"	23	1 00
W. S. Meneilley.....	First.....	1869	12	Toronto.....	City of Toronto.....	"	"	23	1 00
George Oshout.....	".....	1863	9	Portage du Fort.....	Sir John Young.....	"	1872.	1	1 00
S. Sullivan.....	Second.....	1860	12	Kingston.....	Norseman.....	"	Jun.	1	1 00
						"	"	1	1 00

APPENDIX No. 20.

EXPENDITURE by Department of Marine and Fisheries, on account of Examination and Classification of Masters and Mates, for the Fiscal year ended 30th June, 1871.

		\$	cts.
Capt. P. A. Scott.	Salary as Chairman of Board of Examiners, from 1st March to 30th June, 1871, at \$1,600 per annum	536	02
H. W. Johnston	Travelling expenses	348	40
R. Baxter	Amount advanced to Capt. Scott, to furnish office in St. John, N.B.	180	00
A. & H. Creighton	Closet	14	00
J. D. Nash	Books	4	75
C. M. Pike	Letter Press	5	50
Capt. Prichard	Wash Stand	5	75
Receiver General	Travelling expenses	30	40
Stationery Office	Tax on Capt. Scott's salary deposited	21	92
	Books, stationery, forms, &c	273	71
		1,420	45
	Less difference of currency	24	42
		1,396	03
	Stationery, books, forms, printing, &c., were obtained from the Stationery Office, Ottawa, for this service to the amount of....	295	40

WILLIAM SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,

Accountant.

APPENDIX No. 21.

THE TRINITY HOUSE, Quebec, in Account with the Dominion of Canada, for the year ended 30th June, 1871.

	\$ cts.	\$ cts.
By Expenditure during the year for salaries, viz. :—		
Vital Tétu, Master.....	1,200 00	
J. D. Armstrong, Harbour Master.....	1,840 00	
F. Gourdeau, senior Superintendent of Pilots.....	1,200 00	
J. Smith, junior.....	1,200 00	
A. Lemoine, Treasurer.....	1,610 00	
E. B. Lindsay, half year to 31st December.....	720 00	
A. Lindsay, Assistant Clerk.....	1,200 00	
B. S. Lafleur, Water Bailiff, half year to 31st December.....	375 00	
A. Martel, Housekeeper, „ „.....	150 00	
P. Chatigny, Messenger.....	120 00	
J. Eden, Harbour Master, Gaspé.....	124 92	
J. Cassidy, „ „ Amherst.....	49 92	
Office Contingencies.....	634 54	9,789
Rent and Taxes.....	942 50	
Harbour Master, Office Contingencies.....	527 91	
Stationery per contra.....	30 38	
		2,135 33
		11,925 17

WILLIAM SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON, *Accountant.*

26th Oct., 1871.

Esq., Secretary and Treasurer of the Trinity House, Quebec.

CR.

	\$	cts.	\$	cts.
1870. By balance in the hands of the Secretary-Treasurer on the 31st December, 1870.....			3,129	01
<i>Capitals and Interest received from the following, during the year 1871 :—</i>				
From Mrs. Widow Casgrain, amount due by estate C. H. Tetreault, under obligation of 6th March, 33, in conformity with judgment of the Court of Queen's Bench rendered in the cause, No. 217, and cost of suit	2,303	91		
Minister and Trustees St. Andrew's Church, one year's interest on \$2,000, to 18th November, 1870.....	120	00		
Quebec Harbor Commissioners, six months' interest on \$1,000, to 1st July, 1870.....	30	00		
Estate, P. Boisseau, one year's interest on \$2,600, to 26th January, 1871.....	156	00		
H. Gauthier, on account of loan.....	24	00		
Dominion of Canada, one year's interest on \$16,400, to 30th September, 1871.....	984	00		
J. B. Turgeon, on account of obligation.....	100	00		
„ one year's interest on \$200	12	00		
		112		
Amount Lapointe, one year's interest on \$100, to 20th November, 1871.....		6		
F. J. Pouleot, one year's interest on \$100, to 12th December, 1871.....		6		
A. Fournier, one year's interest on \$1,200, to 27th January, 1871.....		72		
Quebec Road Trustees, one year's interest on \$22,800, to 1st July, 1871.....	1,368	00		
Quebec City Corporation, one year's interest on \$9,000, to 1st July, 1871.....	630	00		
A. Marmen, one year's interest on \$240, to 28th March, 1869.....	14	40		
C. Brown, amount of his obligation.—Capital.....	40	00		
Interest.....	7	50		
		47		
<i>Fines.</i>			5,873	81
Amount received during year 1871.			62	00
<i>Poundage.</i>				
Amount collected during the year 1871....			7,128	06
			16,202	88

(E.E.)

TRINITY HOUSE, QUEBEC,
31st December, 1871.

(Signed,)

A. LEMOINE,
Secretary-Treasurer.

STATEMENT of Monies Received and Paid by the Trinity House of Quebec on
account of the Quebec Decayed Pilot Fund during the year 1871.

RECEIPTS.		\$	cts.	\$	cts.
Percentage on Contributions of Pilots				7,128	06
Capitals Paid in and Interest on Loans received.....				5,873	81
Fines.....				62	00
				13,063	87
EXPENDITURE.					
Pensions.....				10,398	07
Relief				659	46
Investments and Sundry Payments				2,826	66
				13,884	19
PERSONS RELIEVED OUT OF THE FUND.					
Jos. Mercier, Pilot.....				33	46
H. Gauthier, ".....				56	00
Ls. Cinqmars, ".....				96	00
F. Caron, ".....				24	00
Isaac Gourdeau, ".....				48	00
P. Gourdeau, ".....				96	00
A. Roy, ".....				96	00
Ed. Rousseau, ".....				48	00
B. Normand, ".....				10	00
M. Morin, ".....				52	00
Isaac Forbes, ".....				52	00
F. Bourget, ".....				48	00
				659	46
PENSIONERS ON THE FUND.					
<i>Infirm Pilots.</i>					
D'Amour, J. S.		120	00		
Lapointe, F. J.		120	00		
Paradis, N.		120	00		
Asselin, L.		96	00		
Bainville, R.		96	00		
Boucher, A.		96	00		
Caron, F.		96	00		
Caron, J. B.		96	00		
Chamberland, A.		96	00		
Chares, P.		96	00		
Côte, F.		96	00		
Curodeau, F.		96	00		
Dion, C.		96	00		
Fournier, G.		96	00		
Fournier, M.		96	00		
Gaulin, J. B.		96	00		
Genest, A.		96	00		
Genest, J.		96	00		
Lapointe, J.		96	00		
Lavoie, J.		96	00		
Lemieux, J.		96	00		
Marcoux, J.		96	00		
Menard, F. X.		96	00		
Morin, M.		96	00		
Nadeau, F.		96	00		
Paquet, P.		96	00		
Pelletier, F.		96	00		
Pelletier, J.		96	00		
Plante, G.		96	00		
Roy, J. L.		96	00		
Smith, M.		96	00		
St. Pierre, C.		96	00		
Vaillancourt, E.		96	00		
Vezina, C.		96	00		
Vezina, M.		96	00		
Vezina, O.		96	00		
<i>Carried forward.</i>				3,523	00

STATEMENT of Monies Received and Paid by the Trinity House of Quebec on
account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	\$	cts.	\$	cts.
<i>Brought forward</i>			3,528	00
PENSIONERS ON THE FUND.—Continued				
<i>Infirm Pilots.—Continued.</i>				
Eorbes, J.	80	00		
Côte, R.	40	00		
Lapierre, Denis J.	40	00		
			160	
<i>Widows of Pilots.</i>				
Widow Adams, C. J.	80	00		
" Asselin, J. B.	80	00		
" Asselin, L.	80	00		
" Baquet, F.	80	00		
" Baquet, F. (M. R.)	80	00		
" Blanchet, L. D.	80	00		
" Bernier, G.	80	00		
" Bouchard, M.	80	00		
" Caron, G.	80	00		
" Chevelier, E.	80	00		
" Couillard, F.	80	00		
" Crapeau, P.	80	00		
" Desrosiers, J.	80	00		
" Dick, J.	80	00		
" Dion, J.	80	00		
" Dorion, A.	80	00		
" Dumas, Chryst	80	00		
" Dumas, J.	80	00		
" Dunford, T.	80	00		
" Fournier, J.	80	00		
" Glynn, D.	80	00		
" Irvine, Wm.	80	00		
" Koenig, C. F.	80	00		
" Lachance, O.	80	00		
" Langlois, J.	80	00		
" Langlois, L.	80	00		
" Langolis, P.	80	00		
" Lapointe, A.	80	00		
" Lapointe, F.	80	00		
" Laroche, J. B.	80	00		
" Lavoie, A. (L. M.)	80	00		
" Lavoie, A. (U. S.)	80	00		
" Lavoie, H.	80	00		
" Levasque, F.	80	00		
" Marticotte, H.	80	00		
" McNeil, N.	80	00		
" Michaud, A.	80	00		
" Normand, P.	80	00		
" Ouellet, A.	80	00		
" Ouellet, E.	80	00		
" Paquet, A.	80	00		
" Petit, A.	80	00		
" Pettigrew, D.	80	00		
" Pouliot, Paul.	80	00		
" Plante, J. M.	80	00		
" Rioux, F.	80	00		
" Roy, Desjardins J.	80	00		
" Ruelle, J.	80	00		
" Simpson, F.	80	00		
" Simpson, J.	80	00		
" St. Amand, J.	80	00		
" Tremblay, L.	80	00		
" Amiot, W.	64	00		
<i>Carried forward</i>	4,224	00	3,688	00

STATEMENT of Monies Received and Paid by the Trinity House of Quebec on
account of the Quebec Decayed Pilot Fund, &c.—*Continued.*

	\$	cts.	\$	cts.
<i>Brought forward</i>	4,224	00	3,688	00
<i>Widows of Pilots.—Continued.</i>				
Widow Blouin, P.	64	00		
" Bossinot, F.	64	00		
" Campbell, J.	64	00		
" Côte, C.	64	00		
" Desnoyers, F.	64	00		
" Desrosier, P.	64	00		
" Lachance, P. P.	64	00		
" Leclerc, F.	64	00		
" Pelletier, M.	64	00		
" Reilly, J.	64	00		
" Royer, A.	64	00		
" Turgeon, C. E.	64	00		
" Gauthier, H.	60	00		
" Ballantyne, P.	48	00		
" Chasse, Z.	48	00		
" Chouinard, C. W.	48	00		
" Dandurand, J.	48	00		
" Fortin, J.	48	00		
" Képle, A.	48	00		
" Morency, G.	48	00		
" Rioux, M.	48	00		
" Royer, F.	48	00		
" Rouleau, P.	48	00		
" Servant, J. B.	48	00		
" Verreault, H.	48	00		
" Blanchette, Z.	40	00		
" Cavenagh, M.	40	00		
" Caron, L.	40	00		
" Côte, M.	40	00		
" Fortier, A.	40	00		
" Langlois, L.	40	00		
" Lapierre, P.	40	00		
" Lapointe, P.	40	00		
" Michaud, P.	40	00		
" McNeil, T.	40	00		
" Plante, G.	40	00		
" Raymond, A.	40	00		
" Simard, R. E.	40	00		
" Thivierge, L.	40	00		
			6,188	00
<i>Children of Pilots.</i>				
Chesseeur, Abraham (insane)	48	00		
Child of D. Charest (David) infirm	48	00		
" H. Couillard (infirm)	48	00		
" R. E. Simard	40	00		
" D. Charest (Gervais) infirm	32	00		
" Gourdeau, J. (infirm)	30	00		
" Petitgrew, W. (infirm)	50	00		
" Boutin, T. (infirm)	24	00		
" Côte, A.	24	00		
" Descombes, P. (infirm)	24	00		
" Toussaint, P. (infirm) (2)	48	00		
" Baquet, P. (infirm)	20	00		
" Dupuis, F. (infirm)	20	00		
" Forbes, B. (infirm)	20	00		
" Fortin, C. (infirm)	20	00		
" Fortin, N. (infirm)	20	00		
" Gauthier, H. (infirm)	20	00		
" Jahan, J. (infirm)	20	00		
Children of Lavoie, E. (infirm)	5 @ \$19.20	96	00	
			652	00
<i>Carried forward</i>			10,528	00

STATEMENT of Monies Received and Paid by the Trinity House of Quebec on
account of the Quebec Decayed Pilot Fund.—*Continued.*

	\$	cts.	\$	cts.
<i>Brought forward</i>			10,528	00
<i>Children of Pilots.—Continued.</i>				
Child of Dumas, F. (infirm)	16	00		
" Pouliot, J. (infirm)	16	00		
Children of Turcotte, M. (infirm) (2)	32	00		
" Garneau, P. (5)	80	00		
Child of Dumas, C.	12	00		
" Pichette, D. (infirm)	12	00		
" Pineau, B. (infirm)	12	00		
Children of Raymond, J. (3)	3 @ \$10	30 00		
			210	00
STATE OF THE FUND.			10,738	00
Money Lent			58,414	92
Interest due by divers persons			811	01
Cash in the Treasurer's hand			2,318	69
			61,544	62
Deduct Arrears of Pension due this day			309	82
			61,234.	80

A. LEMOINE,
Secretary-Treasurer.

(E.E.)
TRINITY HOUSE, QUEBEC,
31st December, 1871.

(Examined,) VITAL TETU,
Master.

APPENDIX No. 22.

STATEMENT of Expenditure Trinity House, Montreal, for the year ended 30th June, 1871, and Statement of Decayed Pilot Fund, for year ended 31st December, 1871.

1870.	\$	cts.	\$	cts.	By	\$	cts.	\$	cts.
July 1.--To balance from last year's account.....				7 98	deposited to credit of Receiver General				7 98
,, Warrants issued during the year.....	22,464	00			Salaries of Trinity House officers, viz.:				
Less Refund.....	10	48	22,453	52	Louis Marchand, master	625	00		
					E. D. David, treasurer and registrar	1,325	00		
					D. Rooney, clerk	600	00		
					P. E. Côté, superintendent of pilots	1,200	00		
					N. Brennan, water bailiff	400	00		
					By expenditure for sundries, viz.:			4,150	00
					Salaries and contingencies of lighthouse keepers.....	4,337	64		
					Wages & board of Captain & crew of S.S. <i>Richelieu</i>	2,423	04		
					Coal	865	00		
					Printing, advertising, and stationery	103	82		
					Boats and oars.....	113	30		
					Office rent.....	400	00		
					Office contingencies	424	26		
					Repairs to light-ship and Steamer <i>Richelieu</i>	519	24		
					Harbor Master at Sorel and disbursements	597	33		
					Professional services	87	35		
					Expenses, visiting lights	49	04		
					Repairs to lighthouses, including lamps	4,778	32		
					Painting lighthouses	172	62		
					Taking depth of water in Lake St. Peter.....	100	00		
					Buoys and beacons	1,823	22		
					Expenses at Sorel of P. E. Côté	201	20		
					Cartage	15	70		
					Insurance on furniture	17	25		
					Insurance on Steamer <i>Richelieu</i>	144	00		
					Ground rent Lavaltrie Island	30	00		
					Stores for vessels and lighthouses	331	51		
					Stores for Lavaltrie and Isle à la Baque	149	05		
					Cedars for buoys	245	00		
					Barges used in depositing buoys	226	64		
					Blacksmithing on buoys	74	99		
					Extra storage of lights	40	00		
					Deposited to credit of Receiver General.....	34	00		
Total.....			22,461	50	Total.....			18,303	52
									22,461,50

JOHN TILTON, Accountant.

MARINE AND FISHERIES' DEPARTMENT,
OTTAWA, 5th October, 1871.

WILLIAM SMITH,
Deputy of the Minister of Marine and Fisheries.

Dr.

DECAYED PILOT FUND, in account with Treasurer of the Trinity House of Montreal.

Cr.

1871.		\$	cts.	1871.		\$	cts.
Feb. 1.	To paid Widow T. Dubord, three months' Pension to 1st inst.	12	00	Jan. 1.	By Balance in Treasurer's hands	922	60
" 1.	Widow C. Hamelin, three months' Pension to 1st inst.	15	00	" 1.	Received difference on interest on Waterworks Bonds	66	00
" 1.	Widow Z. Boudreau " " ..	12	00	" 7.	" six months' interest on £400 Government Debentures 2,797 and 3,016 to 1st inst.	48	00
" 1.	Pierre Page " " ..	12	00	" 7.	" six months' interest at 5% on £300 Harbour Debentures 13 and 27 to 5th inst.	3	00
" 2.	Widow J. Lacoursiere " " ..	6	00	May 8.	" six months' interest on £1,950 Waterworks Debentures to 1st inst.	234	00
" 7.	O. Abelle, on account of Pension	5	00	" 8.	" six months' interest on £250 Government Debentures 3,705 to 1st inst.	30	00
" 7.	J. Beaudry, three month's Pension to 1st inst.	12	00	June 1.	Received from Collector of Customs Poundage on Pilotage for May	129	58
" 7.	Widow A. Mathon " " ..	9	00	July 1.	Received from Collector of Customs Poundage on Pilotage for June	222	16
" 7.	" L. D. Bouillie " " ..	15	00	" 5.	Received six months' interest on £400 Government Debentures to 1st inst.	48	00
" 7.	" A. Belcourt " " ..	15	00	" 5.	Received six months' interest on £300 Harbour Debentures to 5th inst.	30	00
" 7.	" Jos. Paquin " " ..	9	00	August 1.	Received from Collector of Customs Poundage on Pilotage for July	198	76
" 7.	" A. Bouillie " " ..	15	00	" 7.	Received from Captain of Schooner "Antelope," Pilotage from Quebec, 9 feet at \$2	18	00
" 7.	" S. Belisle " " ..	15	00	" 22.	Received from A. Naud, Poundage on Pilotage of Steamer "Merritt"	1	21
" 7.	Joseph Mathien " " ..	9	00	" 22.	Received from E. Boudreau, Poundage on Pilotage of Schooner	0	77
" 8.	Olivier Remond " " ..	15	00	Sept. 1.	Received from Collector of Customs Poundage for August	175	25
" 8.	Widow J. Bouez " " ..	15	00	Oct. 1.	Received from Collector of Customs Poundage for September	213	37
" 13.	" O. Abelle " " ..	9	00	Nov. 1.	Received from Collector of Customs Poundage for October	266	25
" 14.	" Jos. Paquet " " ..	15	00	" 1.	Received six months' interest on £1,950, Waterworks Debentures to 1st inst.	234	00
" 14.	Antoine Mayrand " " ..	9	00	" 11.	Received from Collector of Customs, Poundage for November	35	88
" 14.	Widow F. Hamelin " " ..	15	00	" 11.	Received twelve month's interest on Montreal City Bonds, \$250	60	00
" 21.	François Dolbec " " ..	15	00	" 11.	Received from Elzear Belisle, Poundage on his Wages	22	00
March 28.	Charles Hamelin " " ..	15	00	" 11.	Received from Zepherine Bouillie, Poundage on his Wages	32	00
April 26.	Olivier Remond " " ..	15	00				
May 24.	Widow N. Raymond " " ..	15	00				
" 1.	Pierre Page " " ..	12	00				
" 1.	Widow T. Dubord " " ..	12	00				
" 1.	" O. Abelle " " ..	9	00				
" 1.	Charles Hamelin " " ..	15	00				
" 1.	Widow C. Hamelin " " ..	15	00				
" 1.	Olivier Boudreau, six months	30	00				
" 1.	Widow F. Hamelin " " ..	15	00				
" 2.	Z. Boudreau " " ..	12	00				
" 8.	Widow J. Lacoursiere " " ..	6	00				
" 8.	Joseph Mathien " " ..	9	00				
" 8.	Widow J. Beaudry " " ..	12	00				
" 8.	" Jos. Paquet " " ..	15	00				
" 8.	" S. Belisle " " ..	15	00				
" 8.	" L. D. Bouillie " " ..	15	00				
" 8.	" Jos. Paquin " " ..	9	00				
" 8.	" A. Belcourt " " ..	15	00				

DECAYED PILOT FUND, in account with Treasurer of the Trinity House of Montreal.—*Continued.*

1871.			\$	cts.	\$	cts.	\$	cts.
May	8.	Widow N. Bouillie	"	"	15	00	Nov. 11.	Received from L. M. Bouillie, Poundage on his
"	8.	" A. Mathon	"	"	9	00		Wages
"	8.	" J. Bouez	"	"	15	00		37 50
"	20.	Antoine Mayrand	"	"	9	00		
"	20.	François Dolbec	"	"	15	00		
August	1.	Widow C. Hamelin	"	"	15	00		
"	1.	" T. Dubord	"	"	12	00		
"	1.	" O. Abelle	"	"	12	00		
"	1.	Charles Hamelin	"	"	15	00		
"	1.	Pierre Pagé	"	"	12	00		
"	2.	Widow N. Raymond	"	"	15	00		
"	3.	Olivier Remond	"	"	15	00		
"	3.	Widow Z. Boudreau	"	"	12	00		
"	3.	" I. Lacoursiere	"	"	6	00		
"	4.	" F. Hamelin	"	"	15	00		
"	7.	" L. D. Bouillie	"	"	15	00		
"	7.	" N. Bouillie	"	"	15	00		
"	7.	" S. Belisle	"	"	15	00		
"	7.	" A. Belcourt	"	"	15	00		
"	7.	" J. Beaudry	"	"	12	00		
"	7.	" A. Mathon	"	"	9	00		
"	7.	Joseph Mathien	"	"	9	00		
"	7.	Antoine Mayrand	"	"	9	00		
"	7.	Widow Jos. Paquet	"	"	15	00		
"	7.	" Jos. Paquin	"	"	9	00		
"	11.	" Jos. Bouez	"	"	15	00		
"	11.	François Dolbec	"	"	15	00		
"	24.	George Belisle, allowance for illness.....			10	00		
"	12.	Widow N. Raymond, three months Pension in advance, to 1st November			15	00		
Oct.	10.	City and D. Savings Bank Rent of deposit, Box No. 14, for year ending 1st October, 1872			15	00		
"	10.	J. Burns, box for bonds, &c.			3	50		
Nov.	2.	Olivier Boudreau, six months' Pension to 1st inst.			30	00		
"	2.	Widow C. Hamelin, three months' Pension to 1st inst.			15	00		
"	2.	T. Dubord	"	"	12	00		
"	2.	P. Pagé	"	"	11	00		
"	2.	O. Abelle	"	"	9	00		
"	2.	J. Lacoursiere	"	"	6	00		
"	2.	Z. Boudreau	"	"	12	00		
"	3.	Charles Hamelin	"	"	15	00		

"	3.	Widow F. Hamelin	"	"	15 00		
"	6.	Olivier Remond	"	"	15 00		
"	7.	Widow Jos. Paquin	"	"	9 00		
"	7.	" J. Beaudry	"	"	12 00		
"	7.	" A. Belcourt	"	"	15 00		
"	7.	" S. Belisle	"	"	15 00		
"	7.	" L. D. Bouillie	"	"	15 00		
"	7.	" N. Bouillie	"	"	15 00		
"	7.	Antoine Mayrand	"	"	9 00		
"	7.	Joseph Mathien	"	"	9 00		
"	10.	Francis Dolbec	"	"	15 00		
"	10.	Widow Jos. Paquet	"	"	15 00		
"	10.	" Jos. Bonez	"	"	15 00		
"	21.	" A. Mathon	"	"	9 00		
Dec.	22.	George Belisle, allowance for illness.....			10 00		
"	30.	Duvernay & freres, advertising statements of Decayed Pilot Fund.....			11 58		
		R. Meat, \$720 Dominion Stock					
		112½%	\$810 00				
		118 days' interest @ 6%.....	13 95				
		Brokerage	3 60				
				827 55			
		Allowance for Collections, &c.....		200 00			
		Balance per contra.....		809 70			
				3,055 33		3,055 33	
STATEMENT OF FUNDS.							
		Montreal City Bonds	\$1,000 00				
		Montreal Waterworks Bonds.....	7,800 00				
		Montreal Harbor Bonds.....	3,200 00				
		Government Debentures.....	4,800 00				
		Dominion Stock	720 00				
		Cash in Treasurer's hands	809 70				
				18,329 70			

(Signed)

E. D. DAVID, *Treasurer.*

APPENDIX No. 23.

EXPENDITURE of the Marine and Fisheries Department, on account of Investigations relating to Wrecks and Casualties, for the Fiscal Year ended 30th June, 1871.

		\$	cts.
J. Fraser.....	Expenses in connection with the investigation relating to the abandonment of the "Rob Roy".....	38	40
G. Collins	Expenses incurred in reporting wrecks and casualties in the Georgian Bay.....	21	50
A. Harvey	Expenses incurred in obtaining information in regard to wrecks and casualties, and printing the same.....	72	50
E. D. Tremain.....	Expenses incurred in investigating the loss of the "Emeline" at Port Hood, N. S.....	42	00
J. Mitchell	On account of expenses of investigation relating to the burning of the "Star of the West," and the death of the Captain.....	100	00
L. J. Burpee	Services in connection with investigation of burning of the "Star of the West".....	40	00
W. H. Tuck.....	Legal services in connection with the investigation into the steamboat "Empress" casualty resulting in the drowning of the late Mr. Reed at Digby, N. S.....	166	89
		481	29
	Less difference of currency.....	8	18
		473	11

WILLIAM SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,

Accountant.

APPENDIX No. 24.

STATEMENT of the Amount of Collections for Harbor Improvements made at the undermentioned Ports, at which Tonnage Dues have been imposed by Proclamation, for the Fiscal Year ended the 30th June, 1871.

RECEIPTS.	No. of Ships.	No. of Tons.	Amount.	Amount.
<i>Magdalen Islands.</i>				
House Harbor.....	23	840	84 00	
Amherst	87	3,899	389 90	
<i>New Brunswick.</i>				
Bathurst	47	7,034	703 40	
Richibucto	95	23,946	2,394 60	
	252	35,719	10c. per ton.	3,571 90

WILLIAM SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,

Accountant.

MARINE AND FISHERIES DEPARTMENT,

OTTAWA, 1st November, 1871.

APPENDIX No. 25.

A STATEMENT of the Trips made by the Steamships of Quebec and Gulf Ports Steamship Company, between Quebec and Pictou, calling at intermediate Ports, from the opening to the close of Navigation, 1871, under their agreement with the Government of the Dominion of Canada, with the time of arrival and departure at Quebec and Pictou.

Name of Steamer.	No. of Trip.	Date of departure from Quebec.	Date of Arrival at Pictou.	Date of Departure from Pictou.	Date of Arrival at Quebec.
Steamship Gaspé..	1	April 24, 4 p.m.	May 1, 4.30 a.m.	May 1, 8.30 a.m.	May 6, 6 a.m.
" Secret..	1	May 2, 4.15 "	" 9, 4 p.m.	" 10, 10.30 "	" 14, 6 "
" Gaspé..	2	" 9, 4 "	" 14, 4.30 "	" 16, 7 "	" 20, 6 "
" Secret..	2	" 16, 4.45 "	" 20, 11.30 "	" 23, 7 "	" 27, 6 "
" Gaspé..	3	" 23, 4.15 "	" 28, 4 "	" 30, 7.30 "	June 3, 9 "
" Secret..	3	" 30, 4.20 "	June 3, 8.15 "	June 6, 7.45 "	" 10, 6 "
" Gaspé..	4	June 6, 4 "	" 12, 10.30 a.m.	" 13, 7 "	" 17, 12.30 p.m.
" Secret..	4	" 13, 4 "	" 18, 4. "	" 20, 7 "	" 24, "
" Gaspé..	5	" 20, 4 "	" 25, 4 p.m.	" 27, 7 "	July 1, 6 a.m.
" Secret..	5	" 27, 4.15 "	July 2, 6.15 a.m.	July 4, 7 "	" 8, "
" Gaspé..	6	July 4, 4.5 "	" 9, 3.30 "	" 11, 7 "	" 15, 3.45 "
" Secret..	6	" 11, 4.15 "	" 15, 7.15 p.m.	" 18, 7.45 "	" 22, "
" Gaspé..	7	" 18, 4 "	" 23, 7 "	" 5, 7 "	" 29, 4 "
" Secret..	7	" 25, 4.10 "	" 29, 7 "	Aug. 1, 7.15 "	Aug. 6, 6 p.m.
" Gaspé..	8	Aug. 1, 4 "	Aug. 6, 2. "	" 8, 7 a.m.	" 13, 2 a.m.
" Secret..	8	" 8, 4 "	" 13, 8.30 a.m.	" 15, 7 "	" 19, 11 "
" Gaspé..	9	" 15, 4 "	" 20, 11.30 p.m.	" 22, 7 "	" 26, 5 "
" Secret..	9	" 22, 4.10 "	" 26, 4 "	" 29, 7 "	Sept. 2, 12 "
" Gaspé..	10	" 29, 4 "	Sept. 3, 5 "	Sept. 5, 7 "	" 9, 11.30 "
" Secret..	10	Sept. 5, 4 "	" 10, 4.30 "	" 12, 7 "	" 16, 6 "
" Gaspé..	11	" 12, 4 "	" 18, 4 a.m.	" 19, 7 "	" 23, 1 p.m.
" Secret..	11	" 19, 4.20 "	" 24, 6.40 "	" 26, 7.10 "	Oct. 1, 6 "
" Gaspé..	12	" 26, 4.10 "	Oct. 2, 4.30 "	Oct. 3, 8 "	" 7, 11.50 a.m.
" Secret..	12	Oct. 3, 4.20 "	" 8, 6 p.m.	" 10, 7.30 "	" 15, 9 p.m.
" Gaspé..	13	" 10, 4.10 "	" 17, 5.30 a.m.	" 17, 8 p.m.	" 23, 1 a.m.
" Secret..	13	" 17, 4.25 "	" 22, 8 "	" 24, 7.20 a.m.	" 28, 4.20 p.m.
" Gaspé..	14	" 24, 4 "	" 30, 7 "	" 31, 3 "	Nov. 8, 10 a.m.
" Secret..	14	" 31, 4.20 "	Nov. 8, 6 p.m.	Nov. 10, 7.20 "	" 15, "
" Gaspé..	15	Nov. 9, 3.15 "	" 16, 2 "	" 18, 5.30 "	" 25, 4 p.m.

REMARKS.

S. S. *Gaspé*, Trip No. 1, April 26.—Anchored off Sandy Beach and landed mails and passengers with ship's boat, the bay being frozen over. Same day landed mails and passengers at Paspébiac. The coast blocked with ice. April 29th h. Shediac. Strong E. wind and rain and fog, detained 19 hours.

S. S. *Secret*, Trip No. 1.—At Newcastle, on down trip, blowing half a gale of wind. Very high tide. Fenders on wharf gave way, allowing paddle-wheels to force in on wharf damaging badly and causing detention from 5.30 a.m. on Saturday, till 6 p.m. on Monday.

S. S. *Secret*, No. 2.—On down trip detained 5 hours at Newcastle on night of 19th, too dark to navigate river.

S. S. *Gaspé*, Trip No. 4.—Father Point, 7th June, 8 p.m., raining and heavy sea. Going only 4 knots an hour. Thursday 8th, 11 p.m., calm and foggy.

S. S. *Secret*, Trip No. 4.—Detained by fog 12 hours on 17th June in Straits of Northumberland.

S. S. *Secret*, Trip No. 5.—Outward. Detained 8 hours by fog between Gaspé and Dalhousie, and in consequence had to lay outside of Miramichi Bay on night of 30th June.

S. S. *Gaspé*, Trip No. 7.—Detained 5 hours in a fog between Gaspé and Percé.

S. S. *Gaspé*, Trip No. 8.—Too rough for boats to come out at Percé on return trip. Foggy, anchored at Father Point for seven hours and a quarter.

S. S. *Gaspé*, Trip No. 9.—Detained 7 hours by fog between Quebec and Father Point.

S. S. *Secret*, Trip No. 10.—Lay outside of Pictou from midnight waiting for daylight to go in.

S. S. *Secret*, Trip No. 11.—Detained 5 hours at Newcastle on night of 22nd, too dark to navigate river. Detained 12 hours by fog and south-easterly storm; on Wednesday lay inside of Miramichi Bar.

S. S. *Secret*, Trip No. 12.—Anchored outside of Miramichi Bay on Friday night 6th October, too dark to navigate river. Detained 11 hours in Paspebiac, on night of 12th, by north-east storm and smoke.

S. S. *Secret*, Trip No. 13.—Anchored in Miramichi Bar on Friday night, too dark. Anchored outside of Pictou Harbor on Saturday night.

S. S. *Gaspé*, Trip No. 12.—Anchored 6 hours at Crane Island, strong N. E. wind and rain; too thick to run.

S. S. *Gaspé*, Trip No. 13.—Anchored off Goose Island, thick fog. Hove anchor at 5 a.m., detained 14 hours with fog and strong wind.

S. S. *Gaspé*, Trip No. 14.—Friday, 3rd November, 9 a.m., anchored at Griffin's Cove, wind strong N. W.; left Sunday 5th, 11.45 a.m.

S. S. *Secret*, Trip No. 14.—Detained 30 hours between Father Point and Gaspé by gale and snow storm. Detained 12 hours in Gaspé by gale. Detained 24 hours in Dalhousie unable to land on account of gale and high sea.

I, William Moore, Manager of the Quebec and Gulf Ports Steamship Company. make oath and say that to the best of my knowledge and belief, the foregoing statements are correct in every particular.

(Signed,) W. MOORE.

Signed before me at Quebec, this 1st day of December, 1871.

(Signed,) P. GARNEAU, J.P.

APPENDIX No. 26.

STATEMENT OF QUEBEC HARBOR COMMISSIONERS.

OFFICE OF HARBOR COMMISSIONERS,

QUEBEC, 8th February, 1872.

SIR,—I have the honor to acknowledge receipt of your letter of the 30th January last, and to enclose herewith, by order of the Harbor Commissioners, a certified copy of the statement of the receipts and expenditure as well as the statement of their business for 1870-71.

As the fiscal year of the Harbor Commissioners expires on the 30th April, the Commissioners will supply a statement of their finances for 1871-72, in the beginning of May next, as soon as the books of the treasurer have been audited.

I have the honor to be, Sir,

Your most obedient Servant,

J. B. MARTEL,

Secretary-Treasurer.

WM. SMITH, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

HARBOR COMMISSIONERS' OFFICE.

SIR,—I have the honor by direction of the Harbor Commissioners, in answer to your letter of the 31st ultimo, to transmit herewith for the information of the Honorable the Minister of Marine and Fisheries, statement shewing the receipts and disbursements of the Commissioners, for the year ended 31st December, 1871.

Derived from the following sources, viz. :—

LOCAL TRAFFIC.

On ferry-boats, steamers, barges, &c. :—

Wharfages returned.....	1,046	67
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Net revenue.....	193.691 59
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Being an increase compared with the previous year of 23,902 17

The expenditure for the year was as follows :—

Interest on debentures.....	70,112	50
Repairing the wharves.....	10,178	23
Salaries for general management, office expenses, &c....	12,495	64
Dredging in the harbor and basins.....	34,404	77
For works on Elgin and Metcalf Basins.....	2,511	21
" Russell Pier.....	9,015	18
" Island Wharf.....	2,622	51
" Military Basin.....	8,376	50
" Commissioners Wharf.....	440	77
" Wind Mill Point Wharf.....	3,025	25
New boiler for tug "John Brown".....	1,507	37
Rebuilding hull for spoon dredge.....	4,045	81
Captain Armstrong for services.....	400	00
Miss Bell for Father's services.....	666	67

Total Expenditure	159,803 02
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It will be seen by the above statements that there is a balance of \$33,888 57 to the credit of the Trust on the year's transactions.

Assuming that the revenue of the present year will be equal to that of the last, it may be proper to mention that large contracts have been given out for new works in the harbor to be constructed during the coming season, and for "New Plant" now building for which debentures will have to be issued, the interest on this issue of debentures will absorb a great portion of this surplus.

The amount of debentures outstanding is \$1,169,060 81 with an annual interest of \$73,759 63.

You further ask for such other information of the proceedings of the Harbor Commissioners, as they may be pleased to afford, in order that such report may be printed and laid before Parliament in connection with the annual Report of your department.

I am desired to state that in September last, owing to the necessity for a further deepening of the Ship Channel between Quebec and Montreal, and in view of the increased size of the vessels trading to the St. Lawrence, the Commissioners decided, in order that no time should be lost, and for the information of the Government, if required, to have a survey made of the channel, with an approximate estimate of the nature and amount of material to be removed, and the probable cost thereof for a further depth of two or four feet at its present width, and for widening the same to 400 feet.

This work they intrusted to their Engineer, A. G. Nish, Esq., who at once commenced operations with a suitable staff, and completed the examination by the close of navigation. This Report was submitted to the Commissioners at their last meeting, and as it appears to them to be a very interesting and valuable document. I was desired by the Commissioners to transmit you a copy of it. The maps referred to are being engraved, and when ready, I will send you some of them as part of this Report.

In reference to the improvements in the harbor during the past year, and those it is proposed to carry on this, you will find them all enumerated in the Annual Report of the Harbor Engineer, a copy of which is herewith enclosed.

I am further instructed to send you a copy of the Harbor Master's Report with comparative statements of the number of vessels, and amount of tonnage for each year for the last five years.

In conclusion I have only to mention that the Commissioners have under contract the building of another dredge, a steam derrick, and several new scows, together with a powerful steam chain tug for the purpose of assisting vessels up the current from Hochelaga Bay into the harbor.

I have the honor to be, Sir,

Your most obedient servant,

To W. SMITH, Esq.,
Deputy of the Minister of
Marine and Fisheries.

(Signed,) H. H. WHITNEY,
Secretary.

HARBOR COMMISSIONERS' OFFICE,
MONTREAL, 29th January, 1872.

H. H. WHITNEY, Esq.,
Secretary, Harbor Commissioners of Montreal.

SIR,—On the 30th September last, I received yours of that date, accompanied by the resolution annexed.

Resolved—"On motion of the Mayor, Mr. Coursol, seconded by the Hon. John "Young"; That in pursuance of the resolutions passed at the last meeting of the "Board, relating to the deepening of the Ship Channel to Quebec, the Engineer of the "Board be instructed to make forthwith such an examination of the Ship Channel from "Montreal to Quebec as will enable him to furnish the Board with an approximate

" estimate of the cost of deepening the same to a uniform depth of twenty-four feet, and
 " of widening it to a uniform width of 400 feet, said estimate to show also the cost of
 " deepening the channel as above, but leaving the channel at its present width of 300
 " feet.

" Further, that when the above information has been obtained, consulting engineers
 " be employed, if deemed necessary (with the consent of the Government).

" That he also be instructed to furnish the Board with an estimate of the cost of
 " adapting the Harbor for the accommodation of the increased size of vessels which may
 " be expected to visit the port when the proposed improvement of the channel is
 " completed."

On the 4th October I left Montreal, to make an examination and survey of those portions of the river where required, so as to lay before the Commissioners an exact state of the channel, as well as such information as I required in the shape of soundings and borings; and I also herewith submit a series of sketches of the river from Pointe aux Trembles to Cap Charles, being the scene within our operations hitherto, and also that of any future ones.

During the course of my examination I have been greatly assisted by the elaborate surveys of the Admiralty, under Commander Orlebar, as well as that conducted by Mr. Baillairgé, under Mr. Page, on behalf of the Government, the latter having made close surveys of the whole of the dredged portions of the channel two years ago, and the only change since that time has been the construction of the New Channel at Pointe aux Trembles, which was executed by the Harbor Commissioners two seasons ago.

The result of my examination has been, that I consider the question of a further depth of two or four feet to be perfectly practicable; the material to be removed, soft, and of the same nature as that removed for the twenty foot channel. I took borings at different localities along the route to depths of eight or ten feet below the bottom of the twenty feet, and samples of which I have brought up to Montreal, so that they may be examined if necessary, and, therefore, the material being the same as that formerly dredged, the Commissioners can have all the confidence in our estimates, as the whole ground to be gone over for another four feet will, with the exception of one or two small patches of no great extent, be the same as for the twenty feet channel.

I commenced my examination from the Harbor of Montreal, but, as the Board are aware, the water from the Harbor to Pointe aux Trembles is all above twenty-four feet at low water, and, therefore, little remains to be said. There is, however, a jutting point abreast of the Village of Longueuil, where the "European" grounded last summer; this is, however, considerably out of the channel, but as this is the usual place for vessels anchoring in leaving the harbor, and a great number of vessels having grounded on it last fall, the Trinity Board caused a buoy to be placed here, which has been of great advantage. This has also been alluded to by Captain Armstrong, in his Report to the Harbor Commissioners of the 13th October, 1870, wherein he recommends a beacon, but on account of the great distance from the shore, the latter would be practically useless, and therefore a buoy, as at present, is all that is required.

At Pointe aux Trembles, however, the first scene of our active operations commences in the shape of obstructions, where there exists no less than three different channels or routes to escape the pouillier near this place, but the matter will be seen at a glance on reference to the annexed sketch, and as the question of these channels has been a good deal discussed, I think it necessary to allude to it more fully.

In the year 1865 I was deputed by the Harbor Commissioners to accompany the then Superintendent, to make an examination of the channel between Sorel and Montreal, with a view of a proper distribution of the dredging fleet, so as to endeavour to complete the twenty feet channel at the close of the season of 1865, and after a complete examination of the vicinity of Pointe aux Trembles, we recommended as follow:

" After sounding all over the channel, and more particularly the pouillier proposed to be removed, we found it to be of much larger proportions than as shown
 " by Commander Orlebar, this shoal is at last 800 or 900 feet long by 300 feet wide

"with from two to three feet of dredging on same, with a good many boulders. After examining this thoroughly, we then decided on following up the deep water about 600 feet more to the south where we found a channel of deep water up to opposite the high Light House, and we then crossed over the shoal, as shown on Orlebar's chart; but he shows sixteen and seventeen feet on same, whereas we found nothing less than nineteen feet six inches, and that by crossing six different times. We would recommend the finished channel to be located here, on account of the small amount of dredging required, compared with removing the pouillier and tail of the bank in the present channel."

Our recommendation as above was carried out at the close of 1865, but was never made use of from the same objections as the channel hitherto used, and further, the pilots, one and all, declined it. During the course of the summer of 1868, Mr. Page was engaged in a survey of the whole of the works under the jurisdiction of the Harbor Commissioners, and in view of the stand taken by the pilots, and the original route being only nineteen feet three inches in depth, I drew the attention of Mr. Page to the desirability of a channel in a more northerly direction than had been hitherto used; the latter gentleman made a most careful examination of the three channels, and finally, on the receipt of his Report, the Commissioners decided at once in carrying out his suggestion, which was done during the summer of 1869. Consequently, to excavate this portion of the river for either two or four feet, the operations will extend from A to B, a distance of about 8,000 feet, the material being soft, and the total number of yards to be removed for a two feet channel being 33,862 cubic yards.

Deep water then extends as far down as a small pouillier a little above the lights on Ile St. Therese, marked C on the sketch, on which there is twenty-two feet of water, consequently, no dredging will be required for a twenty-two feet channel, and only 800 yards for a twenty-four feet one.

On the line of the Ile St. Therese light, the dredging will have again to be resumed at the black buoy, at the turn, or D on the sketch, and will have to be extended, with some slight exceptions, as far down as the buoy near Cap St. Michel, or E on the sketch. This will necessitate the removal of about 90,000 yards for a two feet, and 200,000 yards for a twenty-four feet channel.

The next obstruction that we encountered, is the pouillier a little below Cap St. Michel, the channel is here down to the full depth of twenty feet, but not to the necessary width. By reference to the sketch, it will be seen that the pouillier lies between two deep pools of water, one of which becomes, consequently, lost to use unless the pouillier was removed; therefore, if this were done, the channel here, at a most inconvenient turn, is only about 280 feet in width, would, by this improvement, become 600 feet, but what is of more consequence, become perfectly straight, and I would recommend that the two beacons, formerly on Ile de Laurier (recommended by Captain Armstrong) should be replaced, as it would be a very dangerous matter for vessels meeting here, if any of the buoys should be carried away. The total amount of dredging required here for a twenty-two feet channel would amount to 11,574 yards.

At the pouillier abreast of "Marie Point," the channel has a very sudden and crooked turn, which makes it extremely awkward for vessels to meet here. Captain Armstrong, in the joint Report before alluded to, suggests removing the pouillier altogether, but as this involves a work of great magnitude, there being only seven feet of water on it in some places, and the removal of about 100,000 yards, I would recommend the cutting of an entirely new channel to the south of the pouillier. There exists at present eighteen feet of water in depth, and is used to a considerable extent at present by small vessels, and if this one was brought into use, it would make this channel perfectly straight; this would involve the removal of about 11,000 yards, for a twenty-two feet channel.

From thence to the line of the Contrecoeur lights, the water is of ample depth for a twenty-four feet channel, after being properly buoyed, the water-way being of great width, and the turns sufficiently practicable. The dredging at what we may call

Lavaltrie, consists of an unusual amount of work, being only second to Lake St. Peter, and extends over a distance of about five miles, the original depth was the same as the flats of Lake St. Peter, but the material of a somewhat stiffer nature; but, as aforesaid, the portion to be removed is the same as heretofore, in addition to a small pouillier with twenty-one feet on it, nearly opposite the Village of Lanoraie. There are also a couple of small pools in a portion of the work of deep water, but as the dredge would in any case have to pass over these, it would not make any difference in the expense. The total amount to be removed to make a channel here of twenty-two feet in depth would amount to about 550,000 cubic yards.

After leaving Lavaltrie, deep water intervenes until we reach the head of the Lake, with one small exception, viz.: at the head of Stone Island, where I found a small pouillier with only one sounding on it of 21 feet, and immediately jumping down to 26 feet, so that it is of small extent, but as it lies immediately in the route of the vessels passing, so that for a 22 or 24 feet channel it would require to be removed, and to do so would require the removal of 1,000 yards.

The next place where we encounter obstructions is Lake St. Peter. During my survey, I found the full depth of twenty feet at low water, with only one or two slight exceptions, which may have been caused during the dredging, or from the banks tumbling in. These obstructions amounted to only about a diminution of the depth of water of about six inches, and would from the soft nature of the material composing the soil here, offer no objection to a vessel under ordinary circumstances.

The last dredging that was done in the Lake was five years ago, when the Commissioners decided on removing the small shoal on which the trial ship "Ocean" had grounded the fall previous. On the removal of this shoal, advantage was taken to remove the small strip of a bank lying between two deep pools, so as to make both available, particularly as the turn is very sudden, thereby increasing the width from 300 to about 800 feet; and I may say that this action has met with the unanimous approval of the pilots, and steamboat men generally.

The dredging required in the lake for a twenty-two or twenty-four feet channel, would have to be commenced at the extreme upper end, and the whole lake gone over, with a very little exception. The pools in the lake, which formerly could be passed over as of ample depth, would not be available for a further depth, as the soundings show 21 feet and 21 feet 6 inches; consequently, to remove this six inches would be as expensive as to remove two feet, as the dredge would require to pass over the ground at any rate. The total distance required to be gone over for a twenty-four feet channel would be about fourteen miles; the total number of yards for a twenty-two feet depth would amount to 1,500,000 cubic yards, and for a twenty-four feet channel 3,080,000 yards.

The lake is well buoyed, and to a certain extent well lighted. I have no suggestions as to the buoying, but the lighting might, I consider, be improved by the addition of one at the White buoy, which is as much required as any of the others. I would, however, do away with the present system of floating lights (whenever they should require to be renewed), and replace them with houses built on cribs. The objection to the present ones are, that they are liable to be carried away by rafts, &c., which would not be the case with a permanent crib. I would therefore recommend a proper light to be placed at the "White Buoy."

I would recommend, also, that the gentlemen of the Trinity Board be requested to replace the beacon at the rear of the light at Pointe du Lac, or, what would be preferable, a leading light should be placed here, which would lead vessels up as far as the White Buoy by night as well as by day.

From the lower end of the deep water at the foot of the lake, deep water either for a twenty-two or twenty-four feet channel exists as far down as the upper end of the St. Anne's Shoals, and the whole distance is well buoyed, but there is a great absence of leading lights. Formerly, when the Provencher Channel was the only one in use, they were well protected by four lights, but since this channel has been abandoned by deep-water vessels for the more southerly, or Beçancour Channel, it has become imperatively

necessary that this latter channel should be lighted as other portions of the river. The two beacons on Cap Madaleine should be replaced by lights; the two beacons on the south shore should be replaced also; and, thirdly, the two at Champlain, above the Church, ought also to be replaced.

Our next scene of obstructions is, therefore, from the upper end of St. Anne's Shoals down as far as the Grondine Shoal, near Cap Charles; although deep water exists through the whole of this distance, the channel is a good deal obstructed by small pouilliers in the line of the lights, the position of which can be seen on reference to the sketch.

In the first place, on descending on the line of the Batiscan Lights, it is impossible to bisect, or bring the Grondine Lights into one without making a sudden turn between two buoys, the danger of grounding being avoided only by having a buoy on each side. A little further on is a small pouillier, also directly in the centre of the channel, but does not obstruct to such an extent, as it has nineteen feet of water on it at low water; but a little further on again in the line also of the Grondine Lights, is perhaps the largest of the obstructions (H) on the plan. This pouillier is about 800 feet in length, with only eighteen feet of water on it, *and is of solid rock*, the only piece of such that has been met in the whole of the river. Ships in passing frequently touch upon it, by hugging the lights of Grondine too close, and attempting to regain again the above lights before taking the lights of Cap Charles, where we again encounter three obstacles on these lights. The first of which we meet is the pouillier "Rayer," with sixteen feet on it; the next the pouillier "à Brambal," also with about seventeen feet on it. From the absence of buoys here to mark the position of these pouilliers, and lying as they do in the line of the lights, and the lights themselves close together, and difficult to be seen, being on the top of the Cap; and after leaving these lights we encounter the shoal of the Grondine Point, which extends clear across the channel, with seventeen and eighteen feet on it in some places, which would give the depth of water about twenty-one and twenty-two feet, and no doubt there is ample water there for a twenty feet channel provided vessels would wait for the extreme high tide, but which is not done in, every case. Allowance must be made for the anxiety and zeal of masters of vessels and the pilots, anxious to make as profitable a passage as possible, and risk more perhaps than is prudent. The whole of this distance is interspersed with huge boulders, which should be removed even for a twenty feet channel. The most serious obstruction, as I said before, is the Grondine Shoal. Lately there has been placed here a couple of buoys, one on the south and the other on the north side of the channel, the latter on the south side of the Grondine shoal, which has been of great assistance, and others should be placed on the two pouilliers aforesaid.

But the first and most important thing to be done is the cutting of a passage between the aforesaid buoys on the Grondine Shoal, a portion also of the pouilliers Rayer and Brambal should be removed, and afterwards the sides properly buoyed, as they lie right in the channel; and, if time and other circumstances permitted, a dredge should go over the whole of the distance from Cap Charles to the upper end of the St. Ann's Shoals, and the channel would be left at whatever depth may be determined on, irrespective of the state of the tide; and the amount to be removed to make a channel of twenty-two feet of water would be 40,000, or 80,000 yards for a twenty-four feet depth.

From this point downwards to Quebec, deep water extends, neither dredging nor buoying being required, and, consequently, requires no further reference. I have touched on all the points which are of interest to the Commissioners, both as to the buoying and lighting, which will I hope be brought under the notice of the Trinity Board, under whose control these matters are, and I annex a tabular statement of the localities of the contemplated works, as well as the cost of each for a twenty-two and a twenty-four feet channel respectively, retaining the width as at present; as well as an estimate for a twenty-four feet depth, with an increased width of 100 feet.

Approximate estimate of amount of dredging, and cost of same, for a further deepening of the Ship Channel to twenty-two and twenty-four feet respectively, between Quebec and Montreal.

For a further Depth of Two Feet.

Pointe aux Trembles and vicinity	\$33,862		
Cap St. Michel	11,574		
Varennes.....	44,444		
Marie Pointe	11,000		
Lavaltrie.....	550,000		
		650,880 yds. @ 30 cts. ...	\$195,264 00
Lake St. Peter	1,500,000		
		1,500,000 „ @ 15 „ ...	225,000 00
Batiscan, Cap a la Roch, and Cap Charles	40,000		
		40,000 „ @ \$1 00 ...	40,000 00
Total yards	2,190,880		
		Contingencies	39,736 00
		Total Cost.....	\$500,000 00

For a further Depth of Four Feet.

At all places above "Lake St. Peter"	1,301,760 yds. @ 30 cts. ...	390,528 00
Lake St. Peter	3,080,000 " @ 15 " ...	462,000 00
At all places below "Lake St. Peter".....	80,000 " @ \$1 00 ...	80,000 00
	<hr/>	
Total yards.....	4,461,760	
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	Contingencies	67,472 00
	<hr/>	
	Total Cost.....	\$1,000,000 00

For an increased Width of 100 Feet, and a further Depth of Four Feet.

Total for Lake St. Peter.....	5,505,412 yds. @ 15 cts. ...	825,811 80
Lavaltrie	1,747,206 „ @ 30 „ ...	524,161 80
Above Lavaltrie	200,000 „ @ 30 „ ...	60,000 00
Batiscan, Cap la Roche, &c.	150,000 „ @ \$1 00 ...	150,000 00
	<hr/>	
	7,602,618 „	1,559,973 60
	Contingencies	190,026 40
		<hr/>
		\$1,750,000 00

In the above estimates, however, is not included the cost of the original plant for the construction of same; the above estimates are based supposing the work to be done by contract, and which I would strongly recommend to the Commissioners, should they have control of the work. They would have no doubt to purchase the vessels in the first instance, but they could lease them out to the contractor, charging him or them a sufficient amount for ordinary wear and tear and interest of the outlay. I have no hesitation in saying that this work could be done by a contractor twenty-five per cent.

cheaper than could be done by the Harbor Commissioners, and of course much more expeditiously. I would suggest the purchase or building of no less than five new dredges, with tugs, scows, &c., complete, which would cost about \$250,000, which could complete the twenty-two feet channel in two seasons, four seasons for the twenty-four feet channel, while seasons would be required to complete the twenty-four feet and 400 feet width.

In the Resolution of the Board, instructing me on this question, I am required to give the relative cost of the different channels, without any further question as to the necessity for same. During the time in which I have been connected with the Harbor of Montreal, I have invariably found that all collisions have occurred in some crooked portion of the channel. I have endeavored in the foregoing Report to point out the places where such exist, and the means recommended for their removal; and I therefore think that the present width is all that is required, and would strongly urge upon the Commissioners not to attempt to increase the width. The present width is great in comparison with artificial works of the same nature; as, for instance, the canals are only one-third of this width, while the Clyde improvements, which are works of a similar nature, are in some places barely 400 feet wide, with a much larger traffic; what, therefore, is more required than width is depth, as, the greater the depth, the less the chances of collision, on account of vessels steering better.

The question of providing of the plant, from its great cost, forms the first item of the expenses, and a considerable one. The dredges formerly used by the Trust in these improvements are the best that could be selected. Of course, as you are aware, the Trust have now no dredges available for this purpose; they possess two elevator dredges, one fast and one slow, they are called respectively "fast" and "slow," not so much to designate their speed as their capacity for different kinds of work. The fast dredges are preferable for the river, and the slow ones for the harbor; but from the increased depth required in the harbor, which improvement must progress simultaneously with the lake and river, it must be evident to the Commissioners that an entirely new stock of vessels will be required for the latter. There are various ways in which they can be procured. The agents for the sale of the dredges employed in the construction of the Suez Canal have written us, offering to sell the vessels employed on that undertaking; the Messrs. Simmons, of Renfrew, have sent us circulars, offering to supply us with any number of vessels; and thirdly, we have the local market, all anxious to do business with us; and, taking the whole into consideration, there is no doubt that they could be as well built in Canada, and the work could be better supervised; that they would be required for only seven or eight years, consequently they could be built of wood which would be a great deal cheaper than iron. The last dredge built for the Trust has had all the improvements possible, both as regards the depth of capacity (being capable of working in thirty-five feet of water) and other facilities. Another important matter, second only to the vessels themselves, are the tenders for them. Formerly it was the custom on our works to have the tenders large side-wheel boats (double-engined), with crews of fourteen or fifteen men; since then, however, small tugs have come into fashion, both here and elsewhere, and for light towing had superseded the large boats to a great extent, while their great economy, both as regards crew and fuel, renders them much better adapted for our purpose.

The superintendence of such a work as the above is next in importance to the means of accomplishing it. Messrs. McNeil, Child, and Gzowski, in their Report on this very subject, dated the 31st October, 1850, recommended that the works should be placed under the superintendence of a competent Civil Engineer, who would visit the works from time to time, and also of an Assistant, who would be constantly resident on the works. I agree with those gentlemen as to the superintendence of a Civil Engineer, who would visit the works from time to time, but I would prefer a mechanical Engineer, who would have charge and be resident on the works, as the whole of the duties of a resident superintendent would be of a mechanical nature, while the duties of the Engineer-in-Chief would be comparatively trifling, considering the knowledge now possessed by every one on the river, such as derived as aforesaid from the very valuable surveys made

by the Admiralty, under Commander Orlebar, as well as those made by Mr. Page, for the Public Works Department, the surveys which have been made from time to time by your own Engineer, and finally, the knowledge possessed by the pilots, who are daily passing up and down, render the whole route as familiar as a public highway.

In conclusion, the result of my survey and examination has been that I consider the present width of 300 feet as ample, but that the depth requires to be increased, and would recommend that an additional two feet be undertaken at once; and on the completion of same, the expense of a second two feet could be assumed.

I have the honor to be, Sir,
Your most obedient servant,

(Signed) A. G. NISH,
Engineer, Harbor Commissioners.

HARBOR COMMISSIONERS' OFFICE,
MONTREAL, 1st February, 1872.

H. H. WHITNEY, Esq.,
Secretary Harbor Commissioners of Montreal.

SIR,—I beg to lay before you, for the information of the Harbor Commissioners a statement of the works carried out under my superintendence for the past season, under the respective headings of "Repairs of Harbor" "New Works near Windmill Point," "Raising of Russell Pier," "Elgin and Metcalfe Basins," "Extension of Commissioners' Wharf," "Repairs of upper end of Military Basin," "Harbor Dredging," "Dredging at Repentigny, Contrecoeur," and suggestions for future improvements.

Repairs of Harbor.

On the opening of navigation last spring, on the usual departure of the ice, the wharves were left comparatively unhurt, with the exception of the upper end of the Military Basin, alluded to elsewhere, but there was an immense quantity of the ice left on some of the wharves and piers, which had to be removed by hand, and of course at considerable expense. The expenses of this portion of the Department are gradually increasing from year to year as the harbor extends, the principal item being the cleaning of the wharves on account of the necessity of keeping a staff of horses to carry away the accumulation of material on the different piers, our deposit being nearly a mile from the centre of the harbor. Next season I propose bringing before the Board the necessity of having a scow constructed similar to our present dumping scows, having a space reserved for her in some central position of the harbor, when after being filled, she could be towed into the current and dumped, and by such means the wharves would be kept much cleaner and at a considerably less expense.

The only large repair which will require to be undergone on the opening of the navigation will be the Albert pier, from the great amount of traffic across this pier, as the whole of such from the Island wharf passes over it, the planking over several portions of it has been cut through, and will be required to be renewed as soon as possible, and on account of the difficulty of procuring red tamarac at that early part of the season, I would recommend that it be relaid at once with 6-inch pine and that the same be ordered to be cut at once so as to be ready on the opening of navigation.

In my Report for the last season, I brought under the attention of the Commissioners, the necessity of raising a portion of the Island wharf, and the upper end was selected, about 240 feet in length, the contract was awarded to Messrs. Bowie Bros. and the work executed by them. The whole cost for this improvement was \$2,329.76 which includes also the cost of about fifty feet in width of macadamizing at the rear of this wharf, and in view of the great utility of having this portion of the harbor raised, I would recommend

the continuation of same, and would suggest the raising of the outside face of this wharf next season, and as the length is about the same, the cost would be about \$2,500.

The total cost of the repairs this season not including the raising as above has been \$8,716.97.

New Works near "Windmill Point."

As you are aware, there has been very little work done here this season. In my Report of last season, I brought under the notice of the Commissioners, the benefit that would be derived to the trade, if the basin formed here could be utilized, the Board finally adopted the scheme, and the work ordered to be proceeded with, when the Government with a view of making a second outlet to the Lachine Canal, caused these improvements to be suspended; this would have given a great relief to the small vessels employed in the local trade, which is now suffering greatly, and in consequence of the action of the Government they must be provided for elsewhere, I caused this summer some temporary trestle work to be made to accommodate the lumber barges at this wharf so that they could discharge at this wharf; this was of the greatest convenience to these people, but as the cost of the same is great, I would not recommend that it be renewed again, at least at our expense.

There has not been any material deposited at this work this season, but as aforesaid on account of the proposed improvements contemplated by the Government, I would not propose to deposit any more material until what action the Government purpose taking is known. The whole money spent here this season has been \$3,040, and including trestle work.

Commissioners' Wharf.

Since the completion of the 1,400 feet of this wharf last year, nothing has been done here except the depositing of dredged material with a view of its future extension at some not distant day. The whole amount expended here this season has been only \$410, which was for the expenses of the derrick in discharging the dredged material.

During last fall, the Commissioners gave out a large contract also to the Messrs. Bowie for the extension of this wharf for a further 1,300 feet, and a depth of twenty-four feet. The latter depth was decided on in anticipation of the channel between Quebec and Montreal being dredged to that depth, so that if the harbor could not be put down to that depth on the completion of the channel, at least some portion of the harbor would be available.

By reference to the plan it will be seen, that this 1,300 feet has been divided into two basins. This has been rendered necessary by the great and rapid current which exists here, and which would have been much felt if the wharf had been carried down straight, as no vessel supposing her to be unloaded could have been loaded with a barge and elevator alongside, but on the completion of these two basins, the vessels will lie in comparative still water.

Elgin and Metcalfe Basins.

The contract for this wharf was completed last fall, but from the soft state of the back-filling at the close of the navigation, it was impossible to macadamize it. During the winter, a contract for broken stone necessary to cover it was awarded to the Messrs. Bowie, and on the opening of the navigation, no time was lost in spreading it on the same before the spring work commenced. The total amount of the cost of this year for this stone was \$1,766 and the balance of \$381 was for the spreading of the same, forming a total of \$2,148 41.

Russell Pier.

For several years, the condition of above pier has been very bad, during the construction of the Elgin and Metcalfe Basins, on account of the increased width from the Revetment Wall. The hole in the Russell pier was closed up and the wharf raised up about eighteen inches, from the dilapidated state of this pier, it was necessary that large repairs should be made here which were adopted by the Board. A contract was awarded to the

Messrs. Bowie whereby the whole of the work was to be cut down to the level of low water, but as the work progressed, the timber composing the pier, although placed there nearly thirty years ago, was found so sound, that it was determined not to disturb it which occasioned a saving of about \$1,400 to the Trust. This pier has been raised about eighteen inches or up to the improved levels, and will now be out of the spring floods, the top has been covered with the best 4-inch red tamarac, and the cost has been \$8,973.18.

Military Basin Repairs.

Ever since the construction of Victoria Pier, the wharves inside of the Military Basin, have suffered more or less every year, before the wharf was completed,—when only 400 feet in length sunk, the water was diverted inwards and caused a damage to the contractor of at least \$3,000. The following year, a portion of the approach to the said pier, as it was only in seven and eight feet of water, gave way; the next season, another of the cribs on the outside pier gave way a second time, and remains the same at present, and last winter the whole of the lower side of the approach to the Victoria pier was upset, on account of the height of water in the spring. It was impossible to say the amount of damage or what it required, but on the 10th May I brought it under the notice of the Board when a contract was awarded to the Messrs. Bowie, and the whole sunk in twenty-four feet depth of water, as well as making the approach about one hundred feet in width. The total cost of this has been \$8,043.60, of which the contractor received \$6,702.19, while the balance was for the expenses of the derrick in depositing the backfilling.

Harbor Dredging.

The dredging in the harbor has been prosecuted with all vigour possible this season, and the dredges show as good a return of work done as usual. Dredge No. 1 commenced work at the shoal abreast of the Commissioners wharf on the 14th May, where she worked the whole of the season with scarcely any interruption, a period of 140 working days, removing during that time 18,000 cubic yards, as well as about 200 tons of boulders of from one to ten tons in weight, and at which as may reasonably be expected a great deal of time was consumed, occasioned by the great depth of water and the strong current which renders the gripping and drilling very tedious and expensive. The total cost of this vessel this season, including Tender has been \$11,066, which would make the average cost of this work per yard about sixty cents without including the boulders. I would propose that this vessel should continue at this shoal until its complete removal, I would place her here on the opening of the navigation, for as long as there is the slightest obstruction here this 1,400 feet of wharfage will always be regarded with suspicion by ship-owners.

Dredge No. 3.

On the 18th April this vessel was taken down to Repentigny to excavate a channel for the Messrs. Cushing, the total distance required to be excavated was about 3,000 feet in length. It was at first proposed to work to make same about thirty feet in width, but it was found impracticable, as the beam of the vessel was equal to this. It was made eventually about forty feet in width. We completed this channel on the 9th June, a period of about forty days, but several of these were lost, on account of the delay incidental to a new machine.

On the completion of the work here, we received a communication from the Government in reference to dredging a channel at Contrecoeur, but before the negotiations were completed twelve days were lost, as it was useless to bring the vessel up to Montreal pending these. On the receipt of instructions on the 21st June, we moved her down to Contrecoeur, and placed her in position where she worked up to the 10th July, when on account of the water having fallen to only three feet where we were working we were obliged to discontinue, and after receiving the necessary instructions I brought her up to Montreal, and placed her to dredge a shoal at the lower end of the Commissioners'

wharf, where she worked up to the close of the navigation. This vessel removed during the season 10,000 yards at Repentigny, 3,500 at Contrecoeur, and 17,000 in the harbor, or a total of 30,500 yards at a cost of \$12,079.60 including tender.

Dredge No. 2.

Commenced work at the outside of the Windmill Point wharf on the 15th May where she worked up to the 15th June. She was then moved down to the Elgin Basin where she worked up to the 20th July, having cleaned out this basin, and the mouth of sewer thoroughly. She was then removed back to the Windmill Point wharf where she worked up to the 22nd August, when she was moved to the Princes Basin to clean out same, where she worked up to the 28th, when she again moved up to the Windmill Point wharf where she worked up to the 2nd October, when she moved down to the Military Basin, where she worked up to the 9th October, when she went up to the Alban's steamship Basin, when she returned to the Military Basin, where she worked from the 16th to the 21st October, when she moved down to the Commissioner's Wharf, where she worked up to the 6th November, when she was lent to the Corporation to remove some obstructions at the mouth of the tunnel now being constructed at Colborne Avenue, where she worked up to the 17th November, thence down to clean out the mouth of the Fullam Street sewer, and then she returned to the Commissioners' wharf where she worked up to the 28th November, when she was moved into winter quarters in the canal.

This vessel has worked this season 180 days, during which time she has removed 51,452 cubic yards at the different places above mentioned, at a cost of \$11,682, which would make an average of about 22 cents per yard (tender included). She removed from Windmill Point Wharf 24,995 yards, Elgin Basin 10,799, Prince's Basin 1,290, Military Basin 5,109, Steamship Basin 1,189, Commissioners' Wharf 5,570, Colborne Avenue drain 1,825, and Fulham street 675, forming a total of 51,452 yards.

From the satisfactory nature of the working of this vessel, the Commissioners were induced to have a second spoon-dredge built, and the contract was given out last fall, and she will be ready for work on the opening of the navigation. The contract for the hull was awarded to Mr. A. Cantin, for \$5,316, the machinery for the same to Messrs. W. P. Bartley & Co., for \$5,075. A new derrick is also under contract of which Mr. M. A. Lefebvre has the hull for \$1,650, and Messrs. W. P. Bartley & Co., the machinery for \$1,975, while the three scows are being constructed for same by the above Mr. Lefebvre for \$1,185 each.

Suggestions for future Improvements.

Before going into the above question, it will be necessary to repeat what is now under contract, and will be made available next season. Last fall a contract was entered into with the Messrs. Bowie for the Market Basin contract, which comprises the extension of the Jacques Cartier Pier, about 150 feet, and when completed it will be 300 feet in length, and eighty-five feet in width, while the face on the Market Basin will be re-faced to the full depth of the water, and the width from the Revetment Wall increased by about thirty feet, which has been rendered necessary from the increased business which will reasonably be anticipated from these improvements, while the whole of the present basin will be dredged down to twenty-four feet in depth. This improvement will give accommodation for eight sea-going vessels all discharging berths, while the centre of the basin is very large, and can accommodate a great many loading with grain, etc. This improvement will cost about \$50,000; and is expected to be completed for the use of the fall fleet next summer.

A second contract was awarded Messrs. Bowie, for the extension of the present Commissioners Wharf from its present terminus till its connection with the Monarque Street Wharf, a distance of about 1,300 feet. From the sketch accompanying, it will be seen that it is proposed to make two basins inland which will be protected from the strong current. These basins will be 300 feet in length by 100 feet in depth, which will

further leave a distance of ninety feet to the edge of the hill, which will be ample for the discharging of cargo from vessels, a roadway, and the passage of the railway, while the outside of this wharf, and the basins will be put down to a depth of twenty-four feet.

A third contract was awarded to the Messrs. Bowie, which was the improvement at the Windmill Point. This was intended to inclose the water space inside so as to make same available for the local trade. It was proposed to be in ten feet depth of water, with a portion of twelve feet. This would have given us about 2,400 feet of wharfage for the local trade which is being crowded wherever they can about the steamship, etc.

For several years past, the accommodation for this trade has been gradually curtailed, the whole of the space from the Island Wharf down to the lower end of the harbor, was on account of the depth of water necessarily detailed for them, but since the Prince's and Merchant's Wharves, the Richilieu, the Victoria Piers, and now the Market Basins, have been put into deep water, it renders it imperatively necessary, that something be done, and that at once, and on a somewhat extensive scale, and in justification of such, I annex a tabular statement of the number of vessels, and their tonnage for the last ten years :—

	Vessels.	Tonnage.
1861	5,247	530,224
1862	4,875	523,991
1863	4,697	534,740
1864	4,509	439,057
1865	4,771	601,071
1866	5,083	613,679
1867	5,248	744,477
1868	5,822	746,927
1869	5,866	721,324
1870	6,345	819,476
1871	6,878	824,787

From the above it will be seen that the increase of vessels and tonnage has been gradual and gratifying. Had it not been that the space occupied by these vessels formerly has been encroached upon, there would have been ample accommodation. I have been preparing a scheme for their use, and would suggest the following :—

The total distance from the lower end of the Monarque Street Wharf to the Longueuil Ferry Wharf is 2,800 feet. From the peculiar position of this distance, lying opposite the strongest of the St. Mary's Current, it is utterly impossible to embark in any extensive undertakings here. Apart from the strong current, the danger to be apprehended is from any encroachment on the bed of the river, either by breast wharves or piers. Mr. Forsyth in his report on the extension of the harbour for 1861, recommends a series of piers, to be constructed that would extend out into the river at right angles to the shore. I have never ceased to urge upon the Commissioners not to attempt to encroach upon the bed of the river, as any obstruction renders the ice easier obstructed in the Spring, while the risk of damage from the diverting of the current is well illustrated in the case of the Victoria Pier.

A further objection to the extension of wharves in twenty-four feet depth of water in this direction is the impossibility of handling a vessel with such a draft of water and in the face of such a current. I would therefore propose to the Commissioners, that the accommodation for the local craft be extended by the construction of a wharf or breast wharves, from Molson's to the Longueuil Ferry Wharf, a distance of 2,800 feet, which would be a great relief to the other portions of the Harbour. Objections may be raised to this on account of the distance from the centre of the city, but the public must be accustomed to the fact sooner or later, that they cannot all be accommodated under the shadow of the Custom House, but must go either East or West, and I have selected this part of the Harbour as it can be done cheaper and quicker than elsewhere, and further the matter has been pressed upon us by the action of the New City Gas Company who have

erected extensive establishments here and require wharf accommodation, I would therefore recommend that a contract say for 1,000 feet be given out this winter, but beginning at the lower end of the work, so as to accommodate the Gas Company, as they will require this to land their coal for next season, as aforesaid the whole distance is about 2,800 feet, and the cost for same would be about \$100,000 which could be divided over a couple of seasons.

The concluding portion of the resolution on the Lake and River Survey, directs me to report on the cost of adapting the Harbour for the increased size of vessels which may be expected to visit the port when the proposed improvement of the channel is completed.

Of course the Commissioners are aware that the whole of the works that have been constructed in the Harbour for the last fifteen years have all been in reference to a twenty feet depth of water and the cribs constructed to that depth, while the older structures have been placed in eight or ten feet for the local trade, but it does not follow that in view of the proposed depth of the channel to twenty-four feet that all the vessels trading here are all to be of that draft. It must be remembered that the majority of the vessels will still be below twenty feet and that accommodation must be reserved for them. The material of which the channel entering the Harbour, and which forms no portion of Lake and River improvements is of the material most difficult to dredge, the whole surface of the bed of the channel being paved with huge boulders, the cost of which to remove is at least \$1 50 per cubic yard. It is only at one portion of the year that the Harbor is unable to accommodate the deep draft vessels, and in view of such I would recommend that for the increased size of the vessels on account of increased draft of water in the proposed improved channel, that the present Harbour above Molson's Wharf be reserved for vessels of that draft (twenty feet) and that a wharf should be constructed from the Ferry Wharf down to the Hochelaga Wharf in twenty-four feet of water, and any large vessels that could not come higher up on account of the draft of water would remain here, and when not occupied by such would be of use and occupied by ships trading in Lumber.

Another reason for the Commissioners seriously thinking of this latter extension is the prospect of the early construction of the North Shore and Northern Colonization Railways, both of which must necessarily have their terminus here, as well as the connection with the Grand Trunk Railway.

The connection of the latter with the Harbour of Montreal, is one of the most important events to the trade of Canada, and the Harbour of Montreal in particular; it was made on the 22nd of July last, when a locomotive and two platform cars came down. The cars of the Grand Trunk removed from the wharves from the 24th July to the 15th December, about 32,000 tons of goods, while the ordinary carters during the same period, had more to do than they could perform, and in the absence of the rails, it is a question how those extra goods could have been removed before being overtaken by the close of navigation. The rails since then have been extended as far as the Richelieu Pier, but it is intended to continue them down next Spring as far as the ground is graded on Molson's Wharf, and also put in a number of sidings, so that the same complaints as were made last year of the wharves being crowded will not exist, and further if the Commissioners decide on connecting the Molson's Wharf, the Ferry Wharf, and the Hochelaga Wharf, the railways can have a common terminus, and that the above when constructed I consider sufficient for the next twenty years, if we may judge by the past, and also by the following statement, which shows the number of arrivals and their tonnage for the last eleven years:—

Statement of the arrivals and their tonnage for the last eleven years:—

	Vessels.	Tonnage.
1861	574	261,793
1862	571	265,243
1863	504	209,224
1864	378	161,901
1865	358	152,943

	Vessels.	Tonnage.
1866	516	205,775
1867	464	199,053
1868	478	198,759
1869	557	259,863
1870	680	316,846
1871	664	353,621

From the above it will be seen that the Commissioners must proceed with caution in any schemes for Harbor extension, as with the exception of the last two years, the business of the Port has comparatively been at a stand-still.

Submitting the whole for their consideration.

I have the honour to be, Sir,

Your most obedient Servant,

(Signed,)

A. G. NISH,

Engineer Harbor Commissioners.

MONTREAL, 27th January, 1872.

H. H. WHITNEY, Esq.,

Secretary, Harbor Commissioners of Montreal.

SIR,—I have the honor of submitting the following as my Annual Report for 1871, with accompanying comparative statement, shewing sundry matters connected with the trade of the Port for the past five years, also a list of the names of merchants engaged in the trade of the Port, with the number of vessels and tonnage consigned to them :—

On the 4th January, the river was frozen over and people crossed on foot from Longueuil and St. Helens Islands. On the 6th, the weather became mild, the ice shoved in the centre of the river and the water fell about two feet, leaving the channel open as far as Hochelaga. On the 8th, at 8 a.m., the thermometer marked 8° below zero, ice formed rapidly and on the 10th, teams crossed from Longueuil. On the 11th a road was made from St. Lambert, and teams crossed the same day, the water gradually kept rising until the 1st February, when it was at its highest point, (31 feet on the Lock sill of the Lachine Canal) from that date it began to fall until the 22nd February, when there was twenty eight feet on the lock sill. It then gradually began to rise again. On the 15th March, there was thirty two feet on the sill, a slight shove of the ice then took place, near the Victoria Bridge. On the 17th it shoved again, and on the 31st, the last team crossed to St. Lambert, and to Longueuil on the 2nd April.

On the 3rd April, the ice kept moving downwards, leaving the channel open as far as Hochelaga, the water then gradually fell. On the 7th, the tops of the wharves were visible, the ice still kept moving downwards. On the 10th, several vessels arrived in port on Boucherville where they wintered, also steamers "Berthier," and "William," from Sorel.

On the 15th, the lighthouses were erected on the Island Wharf, and on the 22nd, the first ship from sea (ship "Lake Superior,") arrived in port, the earliest on record by nine hours.

On the 1st May, the water was two feet below the tops of the wharves and did not rise over them again during the navigable season.

On the 21st of May, a slight shock of an earthquake was felt, at 1-30 a.m.

On the 1st June, there was twenty feet water on the Lock sill, from that date it gradually fell until the 11th November, when it was at its lowest point $16\frac{1}{2}$ feet, on the Lock sill, and eleven inches below the usual summer level.

On the 13th November, the first ice made its appearance in the Basins, at that date there were forty one sea going vessels, and 203 river craft in port; all diligence was then used to get the sea going vessels away, with as little delay as possible. The last one left port on the 29th November, but only succeeded in getting as far as Sorel with several others where they winter. The ice then began to form rapidly and the water to rise.

On the 1st December, the river was full of ice and the navigation completely closed. One Lower Port Schooner and twenty nine river craft were frozen in at the wharves they were lying at. On the 4th Decembr, the weather became milder, and the channel opened from the Victoria Pier to Boucherville, eight of the barges then left the Victoria Pier, for Boucherville, but did not succeed in getting there, owing to the large quantities of ice that were in the river, consequently they were scattered between Longueuil and Long Point, where they now lie frozen in. On the 9th December, the water was level with the wharves, lumber and wood merchants were then compelled to remove their goods from the wharves to the top of the Revetment Wall, and on to the Jacques Cartier Square for safety. On the 11th, the channel was opened to Hochelaga, the ice then shoved, carrying with it two more of the Barges from the Victoria Pier to Hochelaga Bay, where they now lie frozen in. There is still in the harbour one Lower Port schooner and nineteen river craft, which will be in danger when the ice breaks up in the Spring, but that will depend altogether upon the manner in which the ice moves at the opening of navigation.

On the 15th December, teams crossed from Longueuil, and from St. Lambert, on the 22nd; so you will perceive that in 1871 the river was twice frozen over and teams crossed, viz :—on the 10th January, and on the 22nd December.

The trade of the port is rapidly increasing, and the vessels trading to the port are annually increasing in tonnage and draft of water. For the accommodation of these vessels, and the growing wants of the trade, a much further extension of harbor accommodation will be required.

Between the 18th October, and the 7th November, eighty two sea going vessels arrived in port, many of them of large tonnage and heavy draft of water, a large number of which were detained from one to eight days before a discharging berth could be granted them, which is a serious matter at that late date, and no doubt greatly injures the reputation of the port.

The ship "Gleniffer," has made four voyages from Glasgow to this port, this year, and the ship "City of Quebec," three voyages from London. These vessels are both owned by the Messrs. Allan, and are the first sailing vessels that have ever accomplished so much. They are both fine ships, and built of iron. Thirteen other vessels made three voyages each from Liverpool, and Glasgow.

When the dredging is completed near the Commissioners Wharf, it will be admirably adapted for vessels engaged in the Lumber and Rail Road Iron business, but on account of several vessels grounding in approaching it last season, consequently causing great expense and delay, many ship masters preferred waiting a few days for a berth elsewhere than go to that point.

The Victoria Pier was chiefly occupied last season by lumber merchants, hereafter I would recommend the removal of them to the Commissioners' wharf, and keep the Victoria Pier in reserve for vessels with general cargoes, but before this pier can be used to advantage it requires a thorough dredging all around it. On the inside the bottom is very irregular, varying from nineteen feet to fifteen feet, and on the outside from twenty feet to seventeen feet, besides there is a bank about eighty feet south of the pier, and about 300 feet westward from the lower end, with only sixteen feet water upon it. This bank has been there ever since the wharf has been built (eleven years ago), and has always been a great obstruction and annoyance. Pilots frequently refuse to take vessels of heavy draft to that part of the pier on account of this bank, and only attempt it when the water is high in the spring.

I would strongly recommend the removal of these obstructions as early as possible, so as vessels of the largest class would have a clear and uninterrupted passage to and from the channel.

All the Basins occupied by sea going vessels require a thorough cleaning and levelling, the bottoms being very uneven, varying from twenty feet to fifteen feet, also the lower side of Windmill Point Wharf, and around the Island Wharf.

The Harbor Commissioners' Bye-laws were passed and sanctioned in 1859. No doubt but they were then very suitable for the business then transacted in the harbor, and they mostly all still meet the cases as they come up, excepting article twenty eight providing for the time, and quantities landed and received per day, which in my humble opinion should be amended.

If importers and others would remove their goods from the wharves as fast as landed, or nearly so, the want of accommodation would not be so much felt, for then when a vessel was loaded and left the port, the wharf would be clear and another vessel could be placed in the berth. Last season on many occasions goods landed from ships were lying on the wharves for six or eight days after the ship that discharged them had gone to sea, consequently the berth for that length of time could not be used to advantage.

Another great drawback which curtails our limited harbor accommodation still more, is the five days grace granted to importers after the arrival of a ship in port before they can be compelled to receive their goods. This indulgence granted to importers in cities situated on the sea coast, such as New York, Boston, St. John N. B., Halifax, Liverpool, Glasgow and many others where vessels arrive unexpectedly, I can well understand, but when vessels for Montreal are generally reported from Father Point, Riviere du Loup or Quebec, from two to five days before they arrive in port, why such indulgence is expected I cannot understand.

All the regular traders that make three voyages to this Port, and many other transient vessels, discharge their cargoes upon a general order, these vessels all require a large space of top wharfage to land their cargoes upon, and if the goods were removed in reasonable time, that is, by the time the ship is ready for sea, it would facilitate business, and greatly relieve the often crowded state of the wharves.

The Grand Trunk Rail-Road Co., commenced laying their track on the wharves in the latter part of June, and extended it as far as the Richelieu Pier. The first cars made their appearance on the morning of the 22nd July, and left after the close of navigation, and business finished on the 7th December.

From the upper part of Queen's Basin to the lower end of King's Basin, the space between the Revetment Wall and Basins is rather limited for a Rail-Road Track, and for the large business that is chiefly done by carters in that part of the harbor, particularly when the cars stand on the track and load between these two points; but from the lower end of King's Basin, eastward to the lower end of Commissioners Wharf, there is ample space for a track providing the piling of wood and lumber is discontinued.

Submitting the foregoing for the consideration and information of the Harbor Commissioners.

I have the honor to be, Sir,

Your obedient and humble servant,

(Signed,)

A. M. RUDOLF,

Harbor Master.

PORT OF MONTREAL.

Number of Vessels and Tonnage consigned to the following Merchants in 1871.

	Steam- ships.	Tonnage.	Sailing Vessels.	Tonnage.	Total No. of Vessels.	Tonnage.
H. & A. Allan	68	98,514	39	33,400	107	131,914
David Shaw	33	29,462	35	22,725	68	52,187
Thompson & Murray			26	22,263	26	22,263
Duval & Anderson			29	15,076	29	15,076
John Hope			21	12,810	21	12,810
George Henback	22	11,754			22	11,754
J. G. Sidey	3	2,396	15	5,551	18	7,947
Wm. M. Freer			15	7,727	15	7,727
James Lord & Co.	2	337	64	6,307	66	6,844
Boyd & Arnton	1	1,010	10	5,627	11	6,637
P. G. Charlebois			58	4,994	58	4,994
Reford & Dillon			19	4,841	19	4,841
Gillespie, Moffat & Co.	1	798	10	3,819	11	4,617
David Torrance & Co.			5	4,329	5	4,329
H. Chapman & Co.			7	4,151	7	4,151
W. R. Ross & Co.			7	3,935	7	3,935
Munderloh & Co.			9	3,842	9	3,842
Rimmer, Gunn & Co.			5	3,784	5	3,784
J. & R. McLea			5	1,699	5	1,699
John Redpath & Co.			4	1,679	4	1,679
Buchanan & Co.			2	1,128	2	1,128
	130	144,471	385	169,687	515	314,158

The balance (81 vessels, 37,563 tons), was divided among the others:—

S.S. "Sarmatian" 2 voyages to Quebec.

S.S. "Prussian" 1 voyage to Quebec.

Both vessels loaded for Montreal.

(Signed)

A. M. RUDOLF.

Harbor master.

PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the dates of the Opening and Closing of Navigation, Arrivals of the First Vessels from Sea, and the last Vessel for Sea, Tonnage, etc., of Sea-going Vessels, for the past Five Years.

	Opening of Navigation.	Close of Navigation.	First Vessel from Sea.	Last Vessel from Sea.	No. of Steamers.	Tonnage.	Vessels from Lower Ports.	Tonnage.	Vessels to Lower Ports.	Tonnage.	Total No. of Vessels.	Tonnage.	Greatest Number in Port at One Time.
1867	April 22....	December 6	May 4....	November 20	106	87,199	190	29,561	159	22,813	464	199,053	59—October 24.
1868	" 17....	" 9	" 4....	" 27	105	101,566	178	22,413	177	23,034	478	198,759	51—June 21.
1869	" 25....	" 6	April 30....	" 24	117	117,965	222	37,648	188	27,177	557	259,863	61—Nov. 4.
1870	" 18....	" 18	" 22....	" 27	144	133,912	257	50,437	249	33,191	680	316,846	62—June 20.
1871	" 8....	" 1	" 22....	" 29	142	146,927	233	45,266	211	34,134	664	331,721	89—October 22.

COMPARATIVE STATEMENT showing the Number and Tonnage of River Craft, including Steamers, Schooners, Batteaux, etc., in Port for the Past Five Years.

	No. of Vessels.	Tonnage.	Greatest Number in Port at one Time.
1867	5,248	744,477	244—October 31.
1868	5,822	736,927	297—June 23.
1869	5,866	721,324	259—November 5.
1870	6,345	819,476	255—October 6.
1871	6,878	824,787	231—October 6.

Harbor Office,
Montreal, 27th January, 1872.

(Signed)

A. M. RUDOLF,
Harbor Master.

APPENDIX No. 28.

REPORT OF ACTING AGENT OF DEPARTMENT AT VICTORIA, BRITISH COLUMBIA.

LANDS AND WORKS DEPARTMENT,
VICTORIA, BRITISH COLUMBIA,

January 13th, 1872.

SIR,—I have the honor to acknowledge the receipt of your letter dated 13th ultimo, requesting me to prepare and forward a report of all services connected with this department for publication in the Annual Report of the Department, a copy of which said report I have duly received.

I transmit herewith, a statement of the three Lights including the Light-ship in charge of the Department of Marine and Fisheries in this Province.* The Telegraph line of British Columbia is now the property of the Dominion. I append a statement showing in detail what has been its original cost, length, rate of charges, rate of pay of operators, which is very correct with the exception of the salaries of one or two operators, which have been somewhat modified, but of which no returns have been received by me as yet. The Western Union Telegraph Company, (of America), built this line in the first instance at their own cost, but finding that the portion of the line through this Province did not yield them sufficient profit, even with the Government subsidy added, they leased it to the Colonial Provincial Government, by Indenture dated 11th February, 1871, in perpetuity, upon condition that the said Government would keep in good repair, and working order, the submerged portion of the cable, between Vancouvers Island and the main land, with a provision however enabling the Government of British Columbia to terminate the agreement by giving one months notice of their intention to do so, to the Western Union Telegraph Company. The line from Victoria to Cariboo via Swinomish in Washington Territory, together with the branch line, and connecting cables from Matsqui to Burrards Inlet, via New Westminster, is therefore now the property of the Dominion Government.

We have now on hand sufficient oil for the use of the lighthouses for about two years, having lately imported 1,000 gallons from England. I observe from the Annual Report that this article is much cheaper in Canada than it is in England, and it would be advisable to obtain a sample from there, for trial in our lighthouses here, so that if found suitable a great saving may be effected in the cost of the lighthouses, and home manufacture encouraged. There is no oil produced in this Province other than that from Dog-fish and Whales.

Oil imported from England costs there	86 cents per gallon.
Insurance and other charges.....	4 " "
Primage.....	4 " "

Total cost..... 94 cents per gallon.

*A list of these lights is shown with the other lighthouses in charge of the Department of Marine and Fisheries.

The casks were sold by me at a profit allowing for the first cost and freight, at about fifty cents each. Total consumption of oil at Race Rocks, about 200 gallons per annum, and at Frazer River, about 300 gallons per annum. The light at Fisgard burns coal oil at present. At the last named station the keeper takes Meteorological observations. I append a statement of rainfall, &c., for the past year.

The lightning conductor at Race Rocks has been taken down, because it was very heavy and used to grind the glass insulators to powder. It would be advisable to furnish another of lighter material, say of copper wire, instead of that formerly in use here, which was solid copper rod of three-quarter inch diameter.

It is highly desirable that some efficient inspection of steamers in this Province, with power to enforce any regulations that may be made as to boats, tackle, &c., should be provided. The Inspector of boilers has hitherto been attached to this Department (L. & W.) and received a fee of \$20 for each inspection, which fee has been paid into the Treasury. The Canadian Act on this subject cannot I believe be made applicable to this Province without special legislation by the Dominion Parliament. There is no examination for mechanical Engineers, though it is much needed. Any person calling himself an Engineer, may run the engine of a steamer, without possessing the requisite knowledge or experience. The Steamer "Sir James Douglas," is still engaged in carrying the mails along the east coast of Vancouver's Island, together with passengers, freight, &c. She is also occasionally employed in taking coal to the lighthouses, but is not so extensively employed in the lighthouse service, as she might be with advantage to the Department, because of the interruption to the mail service involved in so employing her. She is not insured. The cost of insuring her in San Francisco, would be at least ten per centum on her value, which cannot be put down at less than \$20,000. If she is to be employed for the future in her present service I would suggest for the consideration of the Honorable the Minister of Marine and Fisheries, the desirability of sending out a small steam tender, for doing the lighthouse service, removing and replacing buoys in Victoria, Frazer River, Nanaimo. (No steam vessel can be hired here for any purpose at a cost of less than from \$100 to \$125 per diem.) Such a vessel would in my opinion repay her cost in a few years. It costs the Department \$25 per month to send the provisions to the Race Rocks Light-house, and about \$6 to send the same to Fraser River Light-ship, besides the cost of coaling all the lighthouses, which when not done by the "Sir James Douglas," cannot be put at less than \$12 per month. The tender should draw not more than three or four feet of water, and be capable of carrying about ten tons of coal, oil or other stores. She would require an engineer only by way of crew with occasionally a man or two to discharge her cargo. I transmit herewith an estimate of receipts and disbursements of the steamer "Sir James Douglas," also an estimate of the cost of the lighthouses, light-ship, buoys and beacons for the various harbors on this coast.

I have the honor to be, Sir,

Your most obedient servant,

(Signed) R. W. PEARSE,
Surveyor General British Columbia.

WILLIAM SMITH. Esq.,
Deputy of the Minister of Marine and Fisheries.

STATEMENT of Line of Telegraph in British Columbia.

1st.—What lines belong to the Dominion Government.

To the Dominion Government belongs the Telegraph Line between Swinomish, Washington Territory, and Barkerville in British Columbia, with the branch line and connecting cables from Matsqui to Burrard Inlet via New Westminster, B.C., together with the right of way over the Western Union Telegraph Company's line from Swinomish to Victoria. This is secured to the Government by a lease terminable upon the part of the Government, and requiring from it the performance of certain conditions, i.e., the maintenance and operation of the line above mentioned and the payment of the cost of repairs to the cables connecting Vancouvers Island, with the mainland.

Extent.	Land line.....	569 miles.
	Cables (2).....	1½ mile.
Original cost.	Original cost.....	\$170,000.

Present state. In good working order requiring no other than the usual repairs from different stations thoroughly insulated with glasses and wood brackets. Instruments and Batteries very good. Wire No. 9, galvanized.

Cost of annual maintenance. The cost of maintenance of line from 1st January, to 30th June, 1871, including superintendent's salary and travelling expenses, and expenses of repairs of cable, salaries of Operators &c., was \$5,287⁵³/₁₀₀, equal to annual amount of \$10,575⁰⁶/₁₀₀. For the same period the revenue of the line was \$2,391³⁹/₁₀₀.

Present revenue.

Barkerville, the most important office, and the one relied upon to increase the business of the whole line, was opened on the 15th July, 1871, and its subsequent receipts to the 25th August, \$258²⁵/₁₀₀ are not included in the above. It is fair to conclude that the revenue for the first six months of the year, will be increased by one half for the succeeding six months. The additional expense for the six months ending 31st December, 1871, will be under \$600.

TARIFF TABLE, British Columbia Telegraph Line, 1871.

	Victoria.	Lehona.	Matsqui.	New Westminster.	Burrard Inlet.	Chiluk Weyak.	Hope.	Yale.	Lytton.	Spencers Bridge.	Clinton.	83 Mile House.	Soda Creek.	Quesnel.
Sehorne.....	50	..	..	..	..	..	..	..	..	..	..	..	..	..
Matsqui.....	50	50	..	..	..	..	..	..	..	..	..	..	..	..
New Westminster.....	50	50	50	..	..	..	..	..	..	..	..	..	..	..
Burrard Inlet.....	75	50	50	50	..	..	..	..	..	..	..	..	..	..
Chiluk Weyak.....	50	50	50	50	50	..	..	..	..	..	..	..	..	..
Hope.....	75	50	50	50	75	50	..	..	..	..	..	..	..	..
Yale.....	1 00	75	50	50	1 00	50	50	..	..	..	..	..	..	..
Lytton.....	1 00	75	50	50	1 00	50	50	50	..	..	..	..	..	..
Spencers Bridge.....	1 00	1 00	75	75	1 00	75	75	75	50	..	..	..	..	..
Clinton.....	1 25	1 00	75	75	1 25	75	75	75	50	50	..	..	..	..
83 Mile House.....	1 25	1 00	75	75	1 25	75	75	75	75	75	50	..	..	..
Soda Creek.....	1 50	1 50	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	..	..
Quesnel.....	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 50	1 00	1 00	1 00	75	..
Barkerville..	2 00	2 00	2 00	1 50	1 50	1 50	1 50	1 50	1 50	1 25	1 25	1 00	1 00	75

A LIST of Telegraph Operators in British Columbia, shewing their ages, rate of pay, and date of appointment.

Where stationed.	Names.	Age Years.	Pay per Month.	Date appointed.	Remarks.
			\$ cts.		
Victoria	F. H. Lamb, Supt.	29	100 00	June 1, 1870.	
Sehone	W. Jarman	39	65 00	Sept. 1, 1870.	Acts as Operator and Repairer..
Matsqui	J. Maclure	40	90 00	Aug. 1, 1870.	do do
New Westminster	G. B. Murray	33	30 00	Sept. 1, 1870.	do do
Burrard Inlet	C. M. Chambers	31	Nil.	June 1, 1870.	do do
Chiluk Weynk	J. McCutcheon	29	40 00	Sept. 1, 1870.	do do
Hope	J. G. Wirth	50	30 00	Sept. 1, 1870.	do do
Yale	J. Nicholls	17	75 00	Feb. 1, 1871.	do do
Lytton	T. R. Buie	34	Nil.	Sept. 1, 1870.	do do
Spencers Bridge	J. Murray	35	Nil.	Apr. 1, 1871.	do do
Clinton	J. L. S. Hughes	44	25 00	Oct. 1, 1870.	do do
83 Mile House	Murdo Ross	31	40 00	Oct. 1, 1870.	do do
Soda Creek	H. Yeates	39	80 00	Oct. 1, 1870.	do do
Quesnel	A. Barlow	35	30 00	May 1, 1871.	do do
Barkerville	J. B. Leighton	20	80 00	June 1, 1871.	do do

Operator is paid by Moody & Co., in pursuance of an agreement made by Barrard Inlet. them with the W. U. Telegraph Co., when line was first built.

Operator is allowed to telegraph on his own business, free of charge. Lytton.

Operator takes the office for his own amusement. Spencers Bridge.

MEMO : The Government subsidy to the Western Union Telegraph Company, amounts to \$4,500 per annum.

(Signed) R. W. PEARSE.

ABSTRACT of Rain Fall for each month during the year 1871, with prevailing winds taken at Fisgard Lighthouse, Esquimalt Harbor.

January	5.99	North.
February	2.08	S.E. to West.
March	2.47	West.
April .....	.98	South to West.
May .....	.57	South to S.S.E. and West.
June .....	.24	South to West.
July .....	.19	S.S.E. to West.
August .....	.15	East to S.S.E. and West.
September	1.73	S.S.E. to West.
October	2.47	S.S.W. to West.
November	3.36	North and East to West.
December	3.24	West and North.

APPENDIX No. 29.

STATEMENT of Duties and Fees collected during the year ended 30th June, 1871,
forming the "Steamboat Inspection Fund," established by Act, 20 Vic., c. 34.

ONTARIO.										Dues & Fees, year ended 30th June, 1871.
										\$ cts.
Amherstburg	...	...	...	...	...	...	...	...	...	39 30
Belleville	...	...	...	...	...	...	...	...	...	20 00
Brockville	...	...	...	...	...	...	...	...	...	18 70
Chatham	...	...	...	...	...	...	...	...	...	134 20
Cobourg	...	...	...	...	...	...	...	...	...	58 20
Colborne	...	...	...	...	...	...	...	...	...	17 50
Cornwall	...	...	...	...	...	...	...	...	...	13 40
Dundas	...	...	...	...	...	...	...	...	...	20 10
Goderich	...	...	...	...	...	...	...	...	...	57 80
Hamilton	...	...	...	...	...	...	...	...	...	231 20
Hope	...	...	...	...	...	...	...	...	...	175 41
Kingston	...	...	...	...	...	...	...	...	...	955 60
Morrisburg	...	...	...	...	...	...	...	...	...	8 00
Napanee	...	...	...	...	...	...	...	...	...	9 20
Ottawa	...	...	...	...	...	...	...	...	...	365 60
Owen Sound	...	...	...	...	...	...	...	...	...	79 50
Picton	...	...	...	...	...	...	...	...	...	84 80
Prescott	...	...	...	...	...	...	...	...	...	19 60
Rowan	...	...	...	...	...	...	...	...	...	26 20
St. Catherine's	...	...	...	...	...	...	...	...	...	392 65
Sarnia	...	...	...	...	...	...	...	...	...	65 70
Stanley	...	...	...	...	...	...	...	...	...	85 60
Toronto	...	...	...	...	...	...	...	...	...	1,459 76
Windsor	...	...	...	...	...	...	...	...	...	345 10
<i>Total</i>										4,683 12

QUEBEC.										
Dundee	...	...	...	...	...	...	...	...	...	2 50
Montreal	...	...	...	...	...	...	...	...	...	2,630 00
Quebec	...	...	...	...	...	...	...	...	...	1,225 70
Stamstead	...	...	...	...	...	...	...	...	...	14 50
Three Rivers	...	...	...	...	...	...	...	...	...	56 80
<i>Total</i>										3,939 50

NEW BRUNSWICK.										
Chatham	...	...	...	...	...	...	...	...	...	25 70
Fredericton	...	...	...	...	...	...	...	...	...	100 80
Shediac	...	...	...	...	...	...	...	...	...	101 60
S. John	...	...	...	...	...	...	...	...	...	968 00
Woodstock	...	...	...	...	...	...	...	...	...	14 00
<i>Total</i>										1,210 10

STATEMENT of Duties and Fees collected during the year ended 30th June, 1871,
forming the "Steamboat Inspection Fund," &c.—*Continued.*

NOVA SCOTIA.							Dues & Fees, year ended 30th June, 1871.	
							\$	cts.
Annapolis ..	...	...	...	...	...	...	6	80
Halifax ..	...	...	...	...	...	...	103	20
Pictou ...	...	...	...	...	...	...	420	71
Port Hawkesbury ..	...	...	...	...	...	...	7	10
Yarmouth ...	...	...	...	...	...	...	24	40
<i>Total</i>							562	21

RECAPITULATION.								
Ontario ...	...	...	...	...	...	...	4,683	12
Quebec ...	...	...	...	...	...	...	3,929	50
New Brunswick ..	...	...	...	...	...	...	1,210	10
Nova Scotia ...	...	...	...	...	...	...	562	21
							\$10,384	93
Less Conversion							14	97
							\$10,369	96

WM. SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,

Accountant.

APPENDIX No. 30.

STATEMENT of Receipts on Account of Sick Mariners Fund, for the entire Dominion, for the Fiscal Year ended 30th June, 1871.

PROVINCE OF QUEBEC.

Name of Port.	Quarter ended 30th September, 1870.	Quarter ended 31st December, 1870.	Quarter ended 31st March, 1871.	Quarter ended 30th June, 1871.	Total.
Gaspé.....	62 84	28 76		41 38	132 98
Magdalen Islands.....	0 98			22 94	23 92
Montreal.....	984 24	699 70		575 40	2,259 34
New Carlisle ..	68 54	26 88		23 04	118 46
Phillipsburg.....			1 76	3 34	5 10
Quebec.....	5,013 56	1,594 50	116 86	4,628 30	11,353 22
Rimouski.....	57 26	22 42		12 88	132 56
St. Johns.....	511 28	507 14		266 94	1,285 36
Stanstead.....				5 56	5 56
	6,738 70	2,879 40	118 62	5,579 78	15,316 50

PROVINCE OF NEW BRUNSWICK.

Bathurst.....	62 80	7 18		38 96	108 94
Bay Verte.....	13 74			18 56	32 30
Campo Bello.....	6 76	24 74	4 94	26 94	63 38
Caraquette.....	1 98	0 96			2 94
Chatham.....	343 20	58 48		3 20	721 68
Dalhousie.....	98 88	36 44		87 40	222 72
Dorchester.....	39 06	3 36			43 32
Fredericton.....	7 48				7 48
Hillsboro.....	55 42	5 48	12 20	19 16	92 26
Moncton.....	16 06			0 90	16 96
Newcastle.....	198 76	39 56		212 64	450 96
Richibucto.....	156 12	42 56		234 00	432 68
Sackville.....	31 58	4 82		7 58	43 78
Shediac.....	78 18	19 14		34 02	131 34
Snippegan.....	3 04	6 04		7 48	16 56
St. Andrew's.....	58 86	19 12	4 70	9 10	91 78
St. George.....	14 86	17 44	12 10	39 78	84 18
St. John.....	1,636 80	1,114 40	470 22	1,786 06	5,007 48
St. Stephens.....	43 50	30 38	15 34	18 86	108 08
West Isles.....	1 56	12 22	5 72		19 50
	2,869 34	1,442 32	325 22	2,861 44	7,698 32

STATEMENT of Receipts on Account of Sick Mariners Fund.—Continued.

PROVINCE OF NOVA SCOTIA.

Name of Port.	Quarter ended 30th September, 1870.	Quarter ended 31st December, 1870.	Quarter ended 31st March, 1871.	Quarter ended 30th June, 1871.	Total.
Amherst	113 50	30 24			143 80
Annapolis	30 02		23 90	16 36	70 28
Antigonish	9 50	3 18	6 04		78 72
Arischat	70 62	16 38		51 36	138 36
Baddeck	3 94				3 94
Baddeck				3 06	3 06
Barrington	33 78	4 62	8 74	12 90	60 04
Bridgetown	2 00	0 78			2 78
Cornwallis	11 13	16 25	2 26	12 34	41 98
Digby	54 94	18 91	27 50	31 66	133 01
Halifax	708 62	315 72	479 20	785 18	2,288 72
Liverpool	87 49	67 21	63 08	35 75	243 53
Lockeport	9 54	10 94	3 22	7 82	31 52
Londonderry	13 00				13 00
Lunenburg	43 60	43 64	6 70	38 24	132 18
North Sidney	223 88	90 48		34 98	349 34
Parishborough	39 68	12 83	1 26	13 66	67 43
Pictou	640 54	220 70		156 73	1,017 97
Port Hawkesbury	20 26			5 36	25 62
„ Hood	0 97			10 21	11 18
„ Medway	28 26	4 66	17 24	26 47	76 63
„ Mulgrave	12 24	22 66	13 88	6 48	55 26
Sydney	339 48	14 74	58 53	225 58	638 33
Weymouth	28 22	8 44			36 66
Windsor	252 58	129 49		121 49	503 56
Yarmouth	68 24	67 23	42 42	39 30	217 24
Cow Bay	437 20	54 21		33 69	525 10
	3,285 29	1,143 41	753 97	1,668 62	6,851 29

RECAPITULATION.

Province Quebec	6,738 70	2,879 40	118 62	5,579 78	15,316 50
„ New Brunswick	2,869 34	1,442 32	525 22	2,861 44	7,698 32
„ Nova Scotia	3,285 29	1,143 41	753 97	1,668 62	6,851 29
	12,893 33	5,465 13	1,397 81	10,109 84	29,866 11
Less conversion Nova Scotia Currency					182 70
					\$29,683 41

WM. SMITH,

Deputy of the Minister of Marine and Fisheries.

JOHN TILTON,
Accountant.

APPENDIX

LIST OF LIGHTS OF THE DOMINION OF CANADA, UNDER THE

ALL the Lights below Quebec, on the River St. Lawrence, including Point des Monts, and lighted on the 1st April, of each year.

The Lights in the Gulf of St. Lawrence, Straits of Belle Isle, Northumberland Straits, on the Bird Rocks which is kept burning till the 31st December, and the light The Lights in the Bay of Fundy, and on the Southern and Eastern Coasts of Nova The Lights above Quebec, and on the Lakes, are shown during the season of navigation. All bearings are magnetic, and are given from seaward.

ABBREVIATIONS:—F, fixed or steady; FL, flashing; F and FL, fixed light, with a white or red flash in D., dioptric, or by

LABRA

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; FL; F & FL, Rev; Int; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Belle Isle.....	Straits of Belle Isle, extreme S. point of island	51 53 0	55 12 15	One.....	F	.....	28
Amour Point.....	S.E. side of Forteau Bay.	51 27 35	56 50 55	One.....	F	.....	18

NEWFOUND

Cape Norman....	Straits of Belle Isle.....	51 38 0	55 53 40	One.....	Rev	Every 2 minutes	20
Point Rich.....	Straits of Belle Isle.....	50 41 50	57 27 40	One.....	Fl	Every 15 seconds	18
Cape Ray.....	On W. side of Cape.....	47 37 00	59 18 0	One.....	Rev & Fl	Rev. every 2 ½ m. Fl. every 10 sec.	20

ST. LAWRENCE

St. Paul Island...	On rock off N.E. point of the island.....	47 13 50	60 8 20	One.....	F	.....	20
St. Paul Island...	S.W. point of island....	47 11 20	60 9 36	One.....	Rev	Every minute...	20
Bird Rocks.....	Magdalen Islands.....	47 50 40	61 8 20	One.....	F	.....	21
Amherst Island...	S. point, Amherst Island, Magdalen Islands.....	47 13 0	61 58 0	One.....	Rev	Red 30 seconds, White 30 sec.	20
Paspebiac.....	On the Spit.....	48 0 54	65 14 20	One.....	F	.....	13
Carleton Point...	Bay Chaleur.....	.....	.....	.....	.....	.....	.....

No. 31.**CHARGE OF THE DEPARTMENT OF MARINE AND FISHERIES.**

Cape Chatte, Seven Islands, and Egg Island, will be extinguished on the 10th December, and Gut of Canso, will be extinguished on 20th December, with the exception of the light on the S.W. point of St. Paul's Island, which is shown all the year round. Scotia, are exhibited all the year round.

tion.

addition, preceded and followed by a short eclipse; Rev., revolving; C., catoptric, or by metallic reflectors refracting lenses.

DOR.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Circular tower, clapboarded, white	470	62	1858	D. 1st order	Visible from about N.W. by N., round by South to East. A gun is fired every hour during fog and snow storms. Depot of provisions for shipwrecked mariners. Var. in 1869, 39° 10' W.
Circular tower, white.....	155	109	1858	D. 2nd order....	A gun fired here every hour during fog and snow storms.

LAND.

Hexagonal white tower	138	40	1871	C	Visible from all points of approach seaward.
Hexagonal tower, white ...	130	40	1871	C	It is visible from all points of approach seaward.
Hexagonal tower, white	41	1871	C		At a long distance flashes not observed.

GULF AND RIVER.

Octagonal, wood, white...	140	40	1839	D. 3rd order	Obscured between N. by E. $\frac{1}{2}$ E. and E.N.E.
Octagonal, wood, white...	140	40	1831	D. 3rd order	Bell sounded during fog, and a gun fired every 4 hours, commencing at 4 a.m. Visible on all bearings except between S.S.E. and West.
Hexagonal tower, white ...	140	50	1870	D. 2nd order....	Dwelling house also white, 200 feet from tower.
Hexagonal tower, white .....	.....	.....	1871	C	Situatened near extremity of spit. In course of construction.
Square wood tower, white..	55	54	1870	C	

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	P., Fl., F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Cape Despair	Sandy Beach Point. Light vessel moored off extreme of Spit	48 50 45	64 24 30	One	F		
Gaspé Harbor	O'Hara Point, Wharf Basin On Cape	48 51 57	64 12 00	One	F		7 16
Cape Rozier	East end of Anticosti	49 6 30	61 42 30	One	F		13
Anticosti Island.	S.W. point of Anticosti	49 23 45	63 35 46	One	Rev	Every minute...	15
	Extreme W. point of Anticosti	49 52 30	64 31 40	One	F		15
	$\frac{3}{4}$ miles W. from S. point of Anticosti	49 4 30	62 17 30	One	Fl	Flash every 20 sec	14
Cape Magdalen ...	On the Cape	49 15 40	65 19 30	One	Rev	Red and white every 4 min. {	Red 15 White 20
Seven Islands	Carousal Island	50 5 40	66 22 44	One	F		20
Egg Island	On the Island, 600 feet from South end.	49 38 00	67 10 00	One	Rev	Every $1\frac{1}{2}$ minute	15
Cape Chatte	N.W. Point of Cape	49 5 50	66 45 50	One	Fl	Interval of 30 sec. between each flash	18
Point de Monts ...	About $1\frac{1}{4}$ mile N.E. of Point	49 19 35	67 21 53	One	F		15
Father Point, Rimouski	On Point	48 31 25	68 27 40	One	F		10
Bicquette Island ..	Near centre of Island ..	48 25 18	68 53 20	One	Rev	Every 2 minutes	17
Red Island Reef ..	Light vessel N.E. from Red Island, in 10 fathoms of water	48 6 30	69 30 20	One	F		12

of the Department of Marine and Fisheries.—*Continued.*AND RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
					In course of construction.
Painted red, with "Light Vessel" on her sides	20	29 feet from deck.		C	Red light.
Circular tower, clapboarded, white	136	112	1858	C	Red light.
Circular tower, faced, clapboarded, and white	110	90	1835	C	A gun is fired every hour during fog and snow storms. Var. in 1869, 26° 16' W. The lighthouse must always be kept open to the Southward of Comorant Point. Visible between the bearings S.W. by W. to East. Depot of provisions here for shipwrecked mariners.
Circular tower, faced, clapboarded, and white	100	75	1831	C	Visible between bearings of N.N.W. round by South to S.E. by E.
Circular tower, clapboarded, white	112	109	1858	D. 2nd order.	A gun fired every hour during fogs and snow storms. Depot of provisions or shipwrecked mariners.
Hexagonal tower, white	75	54	1871	C	A fog whistle sounded in snow storms, and in thick or foggy weather for ten seconds in every minute, thus making an interval of 50 sec. between each blast.
Hexagonal tower, white	147	54	1871	C	An interval of two minutes between each flash.
Square tower, surmounting keeper's dwelling, wood, white	195	42	1870	C	
Octagonal tower, surmounting keeper's dwelling	70	35	1871	C	
A low square tower, with dwelling house combined, white	110	37	1871	C	Visible from all points of approach seaward.
Circular tower, clapboarded, white	100	75	1830	C	Depot of provisions for shipwrecked mariners. Var. in 1860, 25° 40' W. A gun will be fired every hour during fog and snow storms.
Square tower, white	43		1859	C	Pilots stationed here.
Circular, clapboarded, white	112	65	1844	C	A gun fired every half hour during fog and snow storms.
Vessel painted red, with words "Red Island Light Ship" on each of her sides		34 ft. from deck.	1871	C	The vessel lies moored in 10 fathoms of water, in a N.E. direction from Red Island, a little open to the N. of Hare Island, with the red buoy lying about half a mile in a W.S.W. direction. A steam fog whistle has been placed on the above-named light ship, and during thick and foggy weather and snow storms will be sounded for 10 seconds in every minute, thus making an interval of 50 seconds between each blast.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE GULF

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Red Islet.....	On centre of islet	48 4 20	69 32 56	One	F .....	.....	12
Lark Islet	Entrance to Saguenay .....	.....	.....	.....	.....	.....	.....
Green Island	On North point of island	48 3 17	69 25 10	One	F .....	.....	13
Brandy Pots.....	42 fathoms from S.E. end of the islet	47 52 30	69 40 50	One	F .....	.....	10
Long Pilgrims	20 fathoms West of centre of island, and 54 fathoms South from water's edge	47 43 15	69 44 20	One	F .....	.....	12
Grand Isle, Kamouraska.....	120 fathoms from N.E. end of island, 80 fathoms from water's edge	47 38 20	69 51 40	One	F .....	.....	18
South Traverse	Light vessel, N.E. part of St. Roque Shoals	47 22 10	70 14 50	Two. Main light 4 feet higher than the other...	F .....	.....	9
South Traverse	N.W. edge of St. Roque Shoals	47 19 50	70 16 0	Two. Main light 8 feet higher than the other...	F .....	.....	6
Point Prairie	Coudres Island .....	.....	.....	.....	.....	.....	.....
Stone Pillar	50 fathoms from S. point of islet	47 12 25	70 21 26	One	Rev	Every 1½ minute.	13

ST. LAWRENCE

Crane Island	1½ miles from W. point of island	47 3 0	70 34 30	One	F .....	.....	10
Belle Chasse	E. end of island	46 56 0	70 46 0	One	F .....	.....	.....
Point St. Lawrence	Island of Orleans	46 51 50	71 0 40	One	F .....	.....	8
Montee du Lac	Cape Rouge	47 7 40	70 42 30	One	F .....	.....	10
St. Antoine	S. Shore	46 39 40	71 36 10	One	F .....	.....	10
St. Croix	On shore near high water mark, and a ¼ of a mile N. of church	46 37 45	71 44 10	One	F .....	.....	6
Port Neuf	On N. shore, ¾ of a mile off the river	46 41 48	71 52 10	Two. S.W. & N.E., nearly 180 yards apart	F .....	.....	5

of the Department of Marine and Fisheries.—*Continued.*AND RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Circular, grey stones	75	51	1848	C	In course of construction.
Octagonal, clapboarded, white	60	40	1809	C	A gun fired every hour during fog and snow storms.
Brick, drab color	78	39	1862	D. 4th order	
Brick, drab color	180	39	1862	D. 4th order	
Wood	166	39	1862	C	Variation in 1869, 19° 0' W.
Two masts, painted red			1836	C	The ship's bells kept tolling during fogs and snow storms. When the light ship is out of place the ball at the mainmast head is taken down during the day, and she exhibits one light instead of two during the night, until again moored in her proper place.
.....			1871	C	If the vessel should be out of place, the light on the foremast alone will be exhibited, and during the day the ball on the fore mast head will be taken down. A bell will be tolled during thick weather, fogs, and snow storms.
Stone, conical, white	68	38	1843	C	In course of construction.

RIVER.

Wood	44	37	1862	C	Variation in 1870, 17° 50' W
Wood	70	30	1862	C	
Wood, white	38		1869	C	
Square tower, painted white	175	30	1870	C	
Wood, white	96		1858	C	
Wood, white	30	20	1842	C	A small light to assist in keeping in channel for some distance up and down the river.
Both, stone and white, the lower lantern on roof of house	{ 200 120 }	{ }	1842	C	These lights in one lead up Richelieu Channel to the light on Richelieu Island.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Platon Point.....	On S. side, $1\frac{1}{2}$ miles below Richelieu Island.....	° ' " 46 39 13 N. light	° ' " 71 53 3	Two, S. 72° W. 169 yards apart.....	F	.....	12
Richelieu	Centre of Island.....	46 38 30	71 54 51	One	F	.....	6
Langlais Point....	On S. shore, $\frac{1}{2}$ a mile below Great Chene River.	46 35 5	71 59 35	One	F	.....	5
Cape Charles	On Cape	46 33 39	72 4 15	Two, N. 67° W., 80 yards apart.....	F	.....	4
Grondine	N. shore	46 35 49	72 4 12	Two, S. 66° W., 1,350 yards apart.....	F	.....	5
St. Pierre des Bequets.....	S. shore, summit of St. Pierre Point.....	64 30 28	72 12 30	One	F	.....	each 5
Batiscan	N. shore, $1\frac{1}{2}$ miles below Batiscan Church	46 30 16 S. light	72 14 52	Two, S. 73° W., 222 yards apart.....	F	.....	3
Champlain	N. shore, near Champlain Church	46 26 34	72 20 32	One	F	.....	4
Cape Madaleine.	Lower light, N. shore, 3 miles below cape.....	46 23 46 S. light	72 27 18	Two, S. 60° W., 200 yards apart.....	F	.....	4
	Upper light, N. shore, 2 miles below cape.....	46 23 16 W. light	72 28 38	Two, S. 85° W., 235 yards apart.....	F	.....	6
St. Francis Port ..	S. shore, high light on a pier.....	46 16 20 W. light	72 37 15	Two, S. 76° W., 3,240 yards apart.....	F	.....	3
Point du Lac	N. shore	46 16 50	72 40 22	One	F	.....	12
St. Peter's Lake.	East	46 15 56	72 42 18	One	F	.....	6
	Centre	46 11 39	72 53 20	One	F	.....	6
	Western	46 9 39	72 56 50	One	F	.....	6
	Isle au Raisins	46 6 14	72 57 50	One	F	.....	6
	S. part of Island.....	46 6 0	72 58 0	One	F	.....	.....

of the Department of Marine and Fisheries.—*Continued.*RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, octagonal, white ...	{ 152 130	24 7	1816 1824	} C	These lights lead up the Richelieu. Variation in 1868, 15° W.
Octagonal, stone	27	.....	1816		
Wood	35	8	1844	C	This light and the light on Platon Point are very nearly in the same line of bearing, namely N. 73° E.
Wood	110	20	1856	C	To show off Battures des Grondines, and to avoid Battures Cordin, and as a steering point for Richelieu.
Octagonal, wood, white....	50 & 25	30	1857	C	Lead to and from Cape à la Roche and Cape Charles, and to answer as a steer- ing point through Richelieu.
Octagonal, wood, white....	85	12	1844	C	To lead off Cape à la Roche to Levrard. To indicate the widest berth off Cape à la Roche. Variation in 1870, 14° 10' W
Octagonal, wood, white....	{ 39 20	{ 31 11	1844	} C	To lead through Levrard and clear Batture St. Ann on South, and Pouillier on North Steering point for lower point of Bay of Champlain.
Octagonal, wood, white....	30	10	1844		
Octagonal, wood, white....	{ 53 33	{ 13 10	1843	C	To clear Batture Bigot. Variation in 1869, 14° W.
Octagonal, wood, white....	{ 55 35	{ 30 10	1843	C	To clear Pouillier Provenché.
Wood, octagonal, white, high and low.....	{ 31 12	{ 21 4	1849	C	The lights in one with the eastern light vessel on lake leads up through the dredged channel. S. 70° W. High light on a pier, and removed in winter.
Octagonal, wood, white....	71	24	1843	C	Shows the turn of channel at Point du Lac.
Red	15	8	.....	C	Removed at the approach of winter on account of ice. On S. side of Petite Traverse of Rivière du Loup.
Red	15	8	1816	C	Removed at the approach of winter on account of ice. To indicate the turn of the channel, and leads to No. 2.
Red	15	8	1828	C	In connection with Isle à la Pierre, and bearing in line with No. 1, and to avoid Battures St. François and à la Carpe. Variation in 1869, 13½° W.
Red	30	20	1843	} C	To lead from the entrance of the Batture of Lake St. Peter to No. 1 light vessel up and down.
Red .....	.....	.....	1863		

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude, W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Stone or Isle à la Pierre	On E. part of island	46 5 54	72 59 40	One	F	.....	6
La Valtrie	S. side of island	45 52 55	73 16 0	S. light			
				Two, S. 38° W., 320 yards apart	F	.....	7
Traverse	2½ miles above Contrecoeur	45 49 52	73 17 0	N. light			
				Two, S. 28° W., 1,500 yards apart	F	.....	.....
Isles aux Prunes	Opposite Vercheres	45 46 50	73 22 30	One	F	.....	.....
Repentigny	¾ of a mile below Repentigny	45 45 2	73 26 8	N. light			
				Two, S. 22° W., 170 yards apart	F	.....	4
Isle à la Bague	On islet	45 44 14	73 26 15	One	F	.....	4
St. Therese	On island	45 41 22	73 27 40	N. light			
				Two, S. 50° W., 220 yards apart	F	.....	4
Point aux Trembles	N. shore	45 38 26	73 29 20	E. light			
				Two, S. 46° W., 600 yards apart	F	.....	.....
Montreal	On island wharf	45 30 22	73 33 14	Two, S. 41° W., 73 yards apart	F	.....	4 each
Lachine	On pier at entrance of canal, N. shore	45 27 0	73 41 0	One	F	.....	6
Lake St. Louis	Light vessel, 4-5ths of a mile above Lachine	45 26 30	73 42 10	One	F	.....	6
	Light vessel, 2½ miles above Lachine	45 25 40	73 44 15	One	F	.....	6
River Ottawa :—							
Claire Point	Light vessel S. side of channel, 63 chains above Dewal from Light No. 3 on St. Lawrence, near Claire Point	45 24 30	73 45 20	One ..	F	.....	6
	On shoal N. side of channel, about 1½ miles below Point Claire, 120 chains westerly from light ship near Point Claire	45 26 00	73 48 10	One	F	.....	7
Wade Shoal		45 25 00	75 37 00	One	F	.....	8
Point L'Original ..	On the point			One	F	.....	6
McTavish Point ..	On the pier			One	F	.....	6

of the Department of Marine and Fisheries.—*Continued.*RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus,	Remarks.
Red	30	.....	.....	C	Indicate entrance to channel and lead to No. 1.
Red	{ 21 13 }	{ 17 9 }	1831	C	Leads to channel called Flat Islands.
Wood, white, square .....	.....	.....	1858	C	To lead into Lavaltrie Channel and Isle Bouchard, and indicates the new channel to be kept in line till Lavaltrie Lights are brought to bear.
Octagonal, wood, white .....	.....	.....	1866	C	To clear the island.
Wood, white	{ 30 14 }	{ 26 14 }	1843	C	To lead through Isle à la Bague Channel, and to avoid Pouillier on North and shoal on South.
Octagonal, wood, white	24	1	1831	C	To indicate the island being extremely low land. Removed in winter on account of the ice.
Square, wood, white .....	.....	.....	.....	C	Leads to entrance through Vercheres Channel up and down the river. Variation in 1869, 12½° W.
High and low, octagonal, wood, white	{ 53 25 }	.....	1846	C	To lead through the channel between Point au Trembles and Varennes, up to Longue Point.
Wood, octagonal	{ 38 29 }	{ 31 21 }	1830	C	Red lights. Indicate the deepest channel to and from the harbor. Variation 1870, 11° 45' W.
Square, wood, white	23	17	1849	C	Variation in 1870, 11° 25' W.
Circular, iron, red	26	.....	1849	C	Tower on vessel white, lantern red.
Red	20	.....	.....	C	Tower on vessel white, lantern red.
Iron, red	21	17	.....	C	Tower on vessel white, lantern red.
Wood	29	25	.....	C	
Lantern on framework	35	25	1870	C	
Hexagonal, white	45	30	1871	C	
.....	35	30	1871	C	Beacon light.

LIST of Lights of the Dominion of Canada, under the charge

ST. LAWRENCE

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; F & Fl; Rev; Int; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Green Shoal	On pier S. side of channel, 7 miles below Ottawa City	" " "	" " "				
Chateauguay	Light vessel $4\frac{1}{2}$ miles above machine	45 29 30	75 31 20	One	F	.....	9
Beauharnois	Lower entrance of canal, S. shore	45 24 00	73 49 18	One	F	.....	6
Grosse Point	Upper entrance of Beauharnois Canal	45 19 40	73 54 30	Two N. 61° E., 414 yards apart	F	.....	10
		45 15 35	74 9 25	Two	F	.....	8
Off Grosse Point ..	On piers in river	45 15 30	74 9 30	Two	F	.....	3 or 4

ST. FRANCIS

Coteau du Lac	On pier landing	45 15 30	74 13 10	One	F	.....	3
McGees Point	N. shore	45 12 25	74 19 10	One	F	.....	10
Cherry Island	Southside of North channel	45 9 10	74 22 30	One ..	F	.....	10
Cherry	On a pier in the river	45 8 20	74 25 40	One	F	.....	8
Crib	N. side of channel, on a pier 4 miles S.W. from Lancaster village	45 6 40	74 30 30	One	F	.....	8
Cornwall Canal ...		45 1 0	74 55 25	One	F	.....

BETWEEN ST. FRANCIS

Coles Shoal	On pier 5 miles W. of Brockville, $\frac{3}{4}$ of a mile from N. shore	44 34 10	75 45 40	One	F	.....	6
Grenadier Island ..	S.W. point of island, N. side of channel, 2 miles below Rockport	44 24 30	75 54 10	One	F	.....	10
Lyndock Island ...	N.W. point of island, S. side of channel, 5 miles W. of Rockport	44 22 30	76 0 10	One	F	.....	7
Gananoque Narrows	N.E. end of Little Slave Island, S. side of channel, 5 miles below Gananoque	44 20 50	76 4 10	One	F	.....	7
Jack Straw Shoal ..	On a pier N. side of channel, 3 miles below Gananoque	44 21 0	76 6 30	One	F	.....	6
Spectacle Shoal ...	On a pier N. side of channel, 2 miles W. of Gananoque	44 20 15	76 10 40	One	F	.....	9
Red Horse Rock ..	On pier S.E. side of channel, half mile W. of Jack Straw Shoal	44 19 30	76 11 20	One	F	.....

of the Department of Marine and Fisheries.—*Continued.*RIVER.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Wood, white.....	36	17	.....	C.....	
Red.....	20	.....	1849	C.....	Tower white, lantern red.
Wood, square frames.....	.....	.....	1850	C.....	In one lead to Chateauguay Light. Variation in 1869, 11° 15' W. To be kept in one when leaving the canal, till the upper lights come in one.
Square, wood, one red and one white.....	20	20 {	1845	} C.....	
Square, wood, one red and one white.....	.....	.....	1850	} C.....	
.....	.....	.....	1850	C.....	

LAKE.

On a pole.....	24	.....	.....	C.....	Red light.
Square, wood, white.....	30	24	.....	C.....	Midway between Coteau and Cherry Island.
Square, wood, white.....	40	30	1847	C.....	Opposite the light there is a beacon North of the channel.
Square, wood, white.....	.....	.....	1849	C.....	
Square, wood, white.....	20	20	1844	C.....	Variation in 1869, 9½° W. In charge of the Superintendent of Public Works.
.....	.....	.....	1865	C.....	

AND ONTARIO LAKES.

White, square, wood.....	33	31	1856	C.....	These small lights are for the purpose of marking out the channel through the Thousand Islands, between Brockville and Kingston. Variation in 1870, 7° 15' W.
White, square, wood.....	55	37	1856	C.....	
White, square, wood.....	40	26	1856	C.....	
White, square, wood.....	44	37	1856	C.....	
White, square, wood.....	31	29	1856	C.....	
White, square, wood.....	28	26	1856	C.....	
White, square, wood.....	28	26	1856	C.....	

LIST of Lights of the Dominion of Canada, under the charge
BETWEEN ST. FRANCIS AND

Name of Light.	Place.	Latitude, N.	Longitude, W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Burnt Island	S.E. point of island, N. side of channel, $\frac{3}{4}$ of a mile from Spectacle Shoal	44 19 5	76 11 40	One	F	.....	10
Wolfe Island	On Quebec or East point..	44 14 40	76 16 20	One	F	.....	6

LAKE

Snake Island	On pier on bar, N. side of channel, 5 miles W. of Kingston	44 11 30	76 37 40	One	F	.....	6
Gage or Simcoe	S.W. point of Simcoe Island, 9 miles W. of Kingston	44 9 20	76 38 40	One	F	.....	15
Pigeon Island	Four miles from head of Wolfe Island	44 4 10	76 38 10	One	Rev	One minute 10 seconds	15
Outer Drake or False Ducks	East point of Island	43 57 0	76 49 0	One	F	.....	22
Point Pleasant	Entrance to Bay of Quinté	44 6 30	76 55 30	One	F	.....	10½
Peter Point	On point	43 51 0	77 13 40	One	Rev	Every minute & 40 seconds	21
Salmon or Wicked Point	On the point	43 52 0	77 19 45	One	F	.....	...
Telegraph Island	Bay of Quinté	44 10 20	77 9 45	One	F	.....	12
Scotch Bonnet or Egg Island	On small island, 1 mile S.W. of Nicholson's Island	43 54 00	77 38 0	One	F	.....	12
Presqu' Isle {	E. point	43 59 30	77 45 30	One	F	.....	18
	On a hill in shore	44 00 20	77 46 00	Two, W.S.W. and E.N.E. nearly	F	.....	3 or 4
Cobourg	Pier head	43 57 10	78 14 0	One	F	.....	8
Peter Rock or Gull Island	W. by S., 4 miles from Cobourg	43 56 10	78 17 0	One	F	.....	10
Port Hope	Pier head, E. side	43 56 15	78 20 0	One	F	.....	4
Darlington	Pier head	43 52 30	78 43 20	One	F	.....	4
Oshawa Port	Pier head	43 52 00	78 52 30	One	F	.....	...
Whitby Harbor	W. pier	43 51 00	79 1 30	One	F	.....	5
Pickering or Liverpool	E. pier head	43 48 45	79 7 20	One	F	.....	...
Toronto	Gibraltar Point, S.W. side of point, $1\frac{3}{4}$ miles S. of Toronto	43 37 00	79 28 30	One	F	.....	18
	Queen's Wharf, W. part, the other on arm of pier	43 38 20	79 28 45	Two	F	.....	6

of the Department of Marine and Fisheries.—*Continued.*ONTARIO LAKES.—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of illuminating Apparatus.	Remarks.
White, square, wood	64	26	1856	C	{ These small lights are for the purpose of marking out the channel through the Thousand Islands, between Brockville and Kingston. Varia- tions in 1870, 7° 15' W.
White, square, wood .....	.....	.....	1856	C	

ONTARIO.

Stone, square	35	35	1858	C	Red light.
Round, stone, white	45	40	1833	C	
White	46	41	1870	C	
White	68	62	1828	C	
Octagon .....	.....	52	1866	C	
Round, stone	62	60	1833	C	Variation in 1869, 6° 0' W.
Square building surmount- ing keeper's dwelling, and painted white	40	.....	1871	C	Red light.
Square, tower on dwelling white	46	41	1870	C	
Stone, white	51	54	1856	C	
Octagon, stone, white	67	63	1840	C	
.....	.....	.....	1851	C	
Square, wood, white	20	16	1844	.....	Harbor light not under Marine De- partment.
Octagon, stone	45	48	1840	.....	On a rock off the point. Red facing South, white facing East and West Harbor light not under Marine Department.
On a stone house .....	.....	.....	.....	.....	Variation in 1860, 3° 30' W. Harbor light not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Square, wood	12	8	1844	.....	Not under Marine Department.
.....	.....	.....	1863	.....	Not under Marine Department.
Hexagonal, stone	66	62	1820	.....	{ Red light is on the arm of the pier, to be passed closely on port hand. Varia- tion in 1868, 2° 50' W. Harbor light not under Marine Department.
Wood, square, red	22	16	1838	.....

LIST of Lights of the Dominion of Canada, under the charge
LAKE ONTARIO

Name of Light.	Place.	Latitude, N.	Longitude, W.	Number of Lights and relative positions.	F.; Fl.; R. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Credit Port.....	On pier	43 33 30	79 40 10	One	F .....	.....	.....
Oakville	Pier head	43 26 45	79 45 20	One	F .....	.....	12
Burlington Bay...	S. pier of entrance.....	43 18 00	79 53 30	Two.....	F .....	.....	15 } 4 }
Dalhousie Harbor.	E. pier head.....	43 13 40	79 20 30	One	Rev .....	.....	10
Fox Island	Lake Simcoe	44 19 30	79 30 0	One	F .....	.....	12

LAKE

Colborne Port and Range Light...	W. pier head.....	42 53 0	79 19 30	Two	F .....	.....	12
Mohawk Island...	On an island between Colborne and Maitland Ports, 1 mile S.W. of mainland.....	42 50 10	79 37 00	One	Rev	Every 3 minutes.	10
Maitland Port...	W. pier.....	42 51 40	79 39 50	One	F .....	.....	10
Dover Port.....	W. pier.....	42 47 30	80 16 30	One	F .....	.....	8
Long Point or North Fordland.	E. extremity	42 33 00	80 9 10	One	F .....	.....	25
Big Otter Creek, or Burwell Port...	333 yards in shore.....	42 39 00	80 54 30	One	F .....	.....	12
Catfish Creek, or Bruce Port.....	.....	42 39 20	81 5 40	One	F .....	.....	.....
Stanley Port.....	Extreme of W. pier.....	42 40 00	81 18 0	One	F .....	.....	4
Pelee Island.....	N.E. point	41 60 20	82 45 30	One	F .....	.....	9
Pelee Spit	On caisson, 2½ miles S. from extreme end of point from N. shore....	41 52 20	82 38 0	One	F .....	.....	20
Middle Island .....	.....	.....	.....	.....	.....	.....	.....
Amherstburg	Bois Blanc Island, S. point	42 6 0	83 13 30	One	F .....	.....	18

ST. CLAIR

Thames River	Mouth of river, S. shore..	42 18 40	82 36 0	Two, S. 26° E., & N. 26° W., 450 yards apart.....	F	12 } 6 }
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of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
.....	.....	.....	1863	.....	Not under charge of Marine Department.
Octagon, wood.....	42	36	1836	C.....	
High light, stone building, small light, wood, white..	{ 60 18	{ 54 14	{ 1838 1845	{ C.....	Entrance to Welland Canal.
Wood, white.....	53	44	1852	C.....	
Brown, square tower.....	43	39	1870	C.....	

ERIE.

Wood, white.....	{ 58 14	{ 54 10	1852	C.....	Entrance to Welland Canal.
Round, stone, white.....	64	60	1848	C.....	Variation in 1870, 2° 40' W.
Hexagon, wood, white.....	.....	.....	1848	C.....	Grand River entrance
Hexagon, wood, white....	20	20	1846	C.....	.....
Octagon, wood.....	65	60	1843	C.....	Variation in 1870, 1° 40' W.
Octagon, wood.....	96	46	1840	C.....	.....
On a pole.....	.....	.....	.....	.....	Light not under Marine Department.
Lantern.....	20	20	1844	C.....	W. by N. clears Pelee Shoal. Variation in 1870, 0° 45' E.
Round, stone.....	45	40	1833	C.....	
Octagon, wood, white.....	76	61	1861	C.....	In course of construction.
.....	
Round, stone.....	56	40	1837	C.....	.....

LAKE.

Square, wood, stone, round tower.....	{ 34 15	{ 30 15	{ 1847 1845	{	The two lights in one lead over bar.
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of the Department of Marine and Fisheries.—Continued.

LAKE.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
<div> <div></div> <div>Square tower, white.....</div> </div>	150	20	1847	C.....	Variation in 1870, 0° 50' W. Light on bank only in charge of Marine Department.
Round, white.....	87	87	1859	D. 2nd Ord.....	
Round, white.....	86	83	1859	D. 2nd Ord.....	

BAY.

Round, white.....	90	85	1859	D. 2nd Ord.....	Variation in 1870, 0° 50' W.
Round, white.....	130	85	1859	D. 3rd Ord.....	
Round, white.....	86	85	1859	D. 2nd Ord.....	Red light. Not under Marine Department.
On frame work.....	24	.....	1858	C.....
White, square.....	40	28	1870	C.....	At N. side of channel leading into Killarney Harbor.
White, round.....	61	60	1859	D. 4th Ord.....	
Square tower on keeper's dwelling, white.....	56	40	1870	C.....	
White, square.....	195	42	1870	C.....	
On wood work.....	.....	60	1870	C.....
Wood, square, white.....	{ 80 20 }	{ 20 12 }	1866	C.....	
Wood, square, white.....	30	20	1866	C.....	
Wood, square, white.....	{ 24 22 }	.....	1866	C.....
Wood, square, white.....	.....	35	1866	C.....
Square tower, wood, white.....	45	20	1867	C.....	

SUPERIOR.

Square tower, wood, white.....	.....	.....	1866	C.....	Position by Bayfield's Chart.
.....	.....	.....	.....	.....	In course of construction.
.....	.....	.....	.....	.....	In course of construction.
.....	.....	.....	.....	.....	In course of construction.

LIST of Lights of the Dominion of Canada, under the charge

NEW BRU

GULF OF ST.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Dalhousie	S. side of entrance of harbor	48 3 45 06	20 50	One	F		13
Bathurst	On Alton Point	47 39 10 65	36 40	Two	F		10
Caraquet	Caraquet Island, Bay des Chaleurs	47 49 40 64	54 00	One	F		14
Shippegan	Birch Point	48 1 00 64	29 25	One	F		12
Miscou Island	On S. point of island	47 9 50 65	3 40	One	F		12
Alnwick	N.W. point of island	47 8 16 65	3 30	Two	F		10
Portage Island	Miramichi Bay	47 7 40 65	15 10	Two	F		10
Fox Island	Miramichi Bay	47 5 30 65	23 10	Two, bearing S.W. & N.E. from each other	F		10
Oak Point	Miramichi Bay	47 4 50 64	54 40	Two	F		10
Grant's Beach	On the point	47 4 32 64	47 30	One	F		14
Preston Beach	On the head	46 39 46 64	42 30	One	F		14
Escuminac Point	On the point	46 15 20 64	31 50	Two	F		10
Richibucto	Du Chêne Wharf	46 14 20 64	31 0	One	F		6
Cassies Point	On Cape Jourimain	46 10 00 63	49 30	One	F		15

NOVA

GULF OF ST.

Pugwash	Pugwash Harbor	45 52 30	63 40 20	One	F		8
Amiet Island	Centre of island, Northumberland Strait	45 50 15 63	10 10	One	F		10
Caribou Island	N.E. part	45 46 00 62	42 20	One	Rev	Every minute	10
Pictou Harbor	S. point of entrance	45 41 25 62	39 26	Two, vertical, upper white, lower red, 25 feet apart	F		11
Pictou Island	S.E. point	45 49 10 62	30 29	One	F		12
Cape St. George	On N. side of Cape	45 52 35 61	54 40	One	Rev	Every 1/2 minute	25
Pomquet, St. George Bay	N.E. end of island	45 39 40 61	44 30	One	F		9

of the Department of Marine and Fisheries.—Continued.

NSWICK.

LAWRENCE.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, wood, white	49	33	1870	C	Seen from all points of approach.
Beacon lights, hexagonal, white	{ 31½ 27 }		1871	C	The lights are for the purpose of guiding vessels into the harbor, by keeping them in range. Inner light is highest, and shows red. Outer light white.
Square tower on keeper's dwelling, white	52	48	1870	C	In course of construction.
Wood, octagon, white	79	74	1856	C	Red light.
White	46	42	1859	C	In course of construction.
Wood, white	50			C	Two beacon lights.
Wood, white	{ 40 60 }		1869	C	Two beacon lights.
White	{ 120 140 }		1869	C	Two beacon lights.
White	{ 55 66 }		1869	C	Two beacon lights.
Wood, white	70	58	1841	D. 3rd Ord	Variation in 1869, 13° 20' W.
Square tower, white	70	50	1864	D. 4th Ord	In course of construction.
White	{ 48 56 }		1869	C	
On a pole	15		1860	C	Not under control of Marine Department.
White, octagonal	72	45	1870	C	Visible from S.E. round by N. to W.

SCOTIA.

LAWRENCE.

Square, white.	48	44	1871	C	Shows red seaward and white towards the harbor.
Square, wood, white	44	26	1866	C	Visible round horizon.
Square, white	33	26	1868	C	
Octagon, wood, striped red and white vertically	65	53	1834	C	Lighted when the navigation is free from ice. A small red light is seen below lantern; kept W.S.W. clears the E. reefs off Pictou Island. Variation in 1870, 22° 40' W.
Square, white	52		1853	C	
Square, white	350	39	1861	C	
Square, white	50	23	1868	C	Red light, visible from West round North to S.uth.

LIST of Lights of the Dominion of Canada, under the charge
NOVA SCOTIA
CAPE BRETON.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl; R; Fl; Rev; Int; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Port Hood.....	S. entrance of Harbor.....	46 0 0	61 31 40	One.....	F.....	.....	10
Sea Wolf or Margaree Island.....	Summit or middle of island.....	46 21 30	61 15 33	One.....	F.....	.....	21
Cheticamp.....	Near S. end of island.....	46 36 30	61 3 10	One.....	Rev.....	.....	.....
Ingonish.....	Ingonish Island.....	46 41 20	60 20 00	One.....	F.....	.....	15
Bird Island.....	Ciboux Island, $\frac{1}{2}$ of a mile from N. end.....	46 23 10	60 22 30	One.....	Rev.....	Every minute.....	14
St. Ann's Harbor.....	On N. point of beach.....	47 17 30	60 32 15	.....	F.....	.....	8
Black Rock Point.....	S. side of entrance to Bras d'Or.....	46 18 30	60 23 30	One.....	F.....	.....	.....
Low Point.....	Flat point E. side of Spanish Bay.....	46 16 30	60 7 30	One.....	F.....	.....	14
Flint Island.....	On island.....	46 11 59	45 50	One.....	Rev.....	Every 15 seconds.....	12
Scattari Island.....	N.E. point on Trap Rock.....	46 2 13	59 40 18	One.....	Rev.....	Visible a minute, eclipsed half a minute.....	15
Main-a-Dieu.....	On the South side of West Point of Scattari Island.....	46 0 30	59 47 30	.....	F.....	.....	9
Louisburg Harbor.....	N. side of entrance, 60 fathoms in shore of point.....	45 54 34	59 57 15	One.....	F.....	.....	16
Green Island.....	Summit of island.....	45 28 51	60 53 40	One.....	F.....	.....	14
Sydney Harbor.....	.....	.....	.....	.....	.....	.....	.....
Canso Cape.....	N. part of Cranberry Island.....	45 19 50	60 55 29	Two, in one tower, vertically, 12 yards apart.....	F.....	.....	upper 15 lower 9
Canso Harbor.....	.....	.....	.....	.....	.....	.....	.....
Arichat Harbor.....	Marache Point, South entrance Madame Island.....	45 29 26	61 1 52	One.....	F.....	.....	8

of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

ISLAND.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square tower, white.....	54	.....	1854	C	Red light on N. side, whitelight on S. side.
Square tower, white.....	298	.....	1854	C	To vessels in dangerous proximity to the island, the light may become obscured by the abrupt cliffs on the sides of the island.
.....	203	35	.....	.....	In course of construction.
.....	237	40	1871	D. 5th order....	.....
.....	77	33	1863	C	Alternate white and red flashes.
White.....	24	30	1871	C	The light exhibited to find entrance through on a dark night.
White, square	45	23	1868	C .....	.....
Octagon, red and white vertical.....	70	51	1832	C	Variation in 1869, 25° 45' W.
Octagonal, white.....	65	43	1856	C	Visible round compass.
Octagonal, white.....	90	70	1839	Catoptric lights with parabolic reflectors and argand burners	The light should never be brought to bear to eastward of N.N.E., or to southward of S.S.W., nor approached nearer than 1½ miles. A boat is here to render assistance.
Square, wood, white	90	40	1871	C	Red light.
White, with a black ver- tical stripe.....	85	35	1842	Catoptric lights with parabolic reflectors and argand burners	On keeper's dwelling. Variation in 1869, 26° W.
Wood, square, white	70	31	1865	do ..	Red light, centre of keeper's dwelling, visible round horizon.
.....	.....	.....	.....	.....	In course of construction.
} Wood, octagon, striped red and white horizontally. {	{ 75 } { 40 }	60	1815	Catoptric lights with parabolic reflectors and argand burners	A steam fog whistle about 100 yards South of the lighthouse; in thick weather it will be sounded eight seconds in each minute.
.....	.....	.....	.....	.....	In course of construction.
Wood, square, white	34	.....	1851	Catoptric lights with parabolic reflectors and argand burners	.....

LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Arichat Harbor...	On Jerseyman Island...						
Guysboro' Harbor.	W. side of entrance, near Peart Point, Chedabucto Bay	45 22 47	61 29 11	One	F		8
Sand Point	S. entrance, Eddy or Sand Point	45 31 30	41 14 40	Two, horizontal, 8 yards apart.	F		8
Point Tupper.....	Ship harbor	45 36 40	61 22 0	One	F		7
North Canso	N. entrance, W. side, 120 yards in shore	45 41 42	61 29 10	One	F		18
White Head Island	S.W. extremity	45 11 58	61 8 15	One	Rev	Every 20 seconds	11
Country Harbor ..	On Green Island						
Liscomb.....							
Beaver Island.....	S.E. part of E. Beaver or William Island	44 48 10	62 20 30	One	Rev	Every 2 minutes	12
Egg Island	Centre of island	44 39 51	62 51 32	One	Rev	Every minute	14
Devils Island.....	Devil Island, S.W. part	44 34 48	63 27 15	One	F		8
Meagher's Beach..	Sherbrook Tower, Meagher's Beach, E. side of entrance	44 36 6	63 31 55	One	F		12
Chedabucto Head							
Sambro'	Middle of island	44 26 11	63 33 30	One	F		20 or 21
Peggy's Point.....	E. side of entrance to St. Margaret's Bay	44 25 30	63 55 0	One	F		
Malbone Bay							

of the Department of Marine and Fisheries.—Continued.

—Continued.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
.....	.....	.....	.....	.....	In course of construction.
Wood, square, white	30	20	1846	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, 23° 10' W.
Wood, square, white, with a black diamond	25 each.	.....	1831	do	Lights in windows at each end of building.
Square, white	44	24	1870	do	Red light. In consequence of the intervention of the land on the S. side, can only be seen 3 miles in that direction.
Wood, square, white	110	35	1842	do	There is a good anchorage under the light with the wind off shore. Lantern on keeper's dwelling.
White, pyramidal, octagonal lantern	55	35	1854	do	Light not totally obscured during the eclipses; 10 seconds duration flash, and 10 seconds eclipse.
.....	.....	.....	.....	.....	In course of construction. Will be a red light.
.....	.....	.....	.....	.....	In course of construction.
White, with two black balls seaward, S.S.W.	70	35	1846	Catoptric lights with parabolic reflectors and argand burners	On house.
Wood, octagonal, black and white vertical stripes on seaward side	80	45	1865	do	Alternate white and red faces, visible round horizon.
Octagonal, dull red with white belt	45	.....	1852	do	Dull red to seaward. Pilots are stationed here.
White, circular roof, red...	58	48	1813	do	When Sambro' Light bears W.S.W., this light should not be brought to the westward of N., which clears the Thrum Cap Shoal. Variation in 1869, 20° 10' W.
.....	.....	.....	.....	.....	In course of construction.
Octagon, white	115	60	1758	Catoptric lights with parabolic reflectors and argand burners	Guns will be fired during thick or foggy weather from the signal station on Sambro' as follows:—Guns from ships will be answered by the discharge of two 24-pounders in quick succession, and the same reply will be made from the island to the sound of a steamer's whistle. A steam fog whistle will be placed here during the summer.
White, square	65	26	1868	do	Red light, lantern on dwelling.
.....	.....	.....	.....	.....	In course of construction.

LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Chester Mahone Bay	East Ironbound Island. Little to Eastward of centre of island	44 26 10	64 4 50	One	F .....	.....	16
Cross Island	Cross Island, E. point Lunenburg Bay	44 18 43	64 9 57	Two, vertical 15 yards apart	upper Fl lower F	{ Evr'y minute }	upper 14 lower 6
Lunenburg or Battery Point .....	.....	44 21 41	64 17 36	One	F .....	.....	12
Moser's Island	On island, West side of entrance to Le Have River	44 14 15	64 18 50	One	F .....	.....	.....
West Ironbound Island, S. side ..	Near Cape Le Have, mouth Le Have River	44 13 43	64 16 19	One	Rev	Every 30 seconds	13
Medway Port	Medway Head, W. side	44 6 10	64 32 14	One	F .....	.....	10
Liverpool	Coffin Island, S. point, Liverpool Bay	44 1 58	64 37 34	One	Rev	Every 2 minutes	16
Fort Point	Fort Point, Liverpool Bay, S. entrance	44 2 30	64 42 20	One	F .....	.....	7
Little Hope	Nearly on centre of island	43 48 31	64 47 15	One	Rev	Every minute ..	12
Port Hebert .....	.....	.....	.....	.....	.....	.....	.....
Ragged Island Harbor	Gull Rock.	43 39 14	65 5 50	One	F .....	.....	10
Shelburne Harbor ..	Cape Roseway, near S.E. entrance of Macnutt Island	43 37 17	65 15 45	Two, vertical 21 yards apart ..	F .....	.....	upper 18 lower 10
Negro Island .....	.....	.....	.....	.....	.....	.....	.....
Barrington	Baccaro Point, W. side entrance	43 26 54	65 28 12	One	F .....	.....	10
Carters Island .....	.....	.....	.....	.....	.....	.....	.....
Sable Cape	On Cape	43 23 19	65 37 11	One	Rev	Bright 15 seconds dark 25 seconds	12

of the Department of Marine and Fisheries.—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of build- ing from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Oblong, white, wood, lan- tern and tower on keeper's dwelling.....	150	46	1871	D.....	Seen from all points of approach. The lantern alone is visible; building hid- den by trees.
} Red, octagonal base.....	{ 100 65 }	{ 53 }	1832	Catoptric lights with parabolic reflectors and argand burners	Pilots resort here, and vessels might take refuge in case of necessity. Upper bright, 45 seconds; dark, 15 seconds. Variation in 1869, 19½° W.
Square, white.....	50	24	1864	do ..	On top of dwelling house, which is white.
Square, white.....	55	26	1868	do ..	Red light.
Square, tower, white	72	29	1855	do ..	Near the edge of a cliff, 40 feet high.
Square, white with black square seaward	44	23	1851	do ..	Like a dwelling house.
Octagon base, horizontal stripes red and white, eight in number.....	65	50	1812	do ..	Light, 30 seconds; dark, 90 seconds. Variation in 1869, 18½° W.
Square, white.....	30	17	1855	do ..	Red light, left on port side when enter- ing the harbor.
Square, white.....	40	26	1865	do ..	Red light, centre of keeper's dwelling, visible round horizon.
.....	.....	.....	.....	.....	In course of construction.
Square, white.....	56	31	1853	Catoptric lights with parabolic reflectors and argand burners	.....
} Octagonal, vertical stripes black and white.....	{ 120 65 }	{ 77 }	{ 1788, rep'r'd 1858 }	do ..	Variation in 1869, 17¾° W.
.....	.....	.....	.....	.....	In course of construction.
Square, white, with black ball seaward	49	35	1850	Catoptric lights with parabolic reflectors and argand burners	Red light.
.....	.....	.....	.....	.....	In course of construction.
White, octagon	53	50	1861	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, 17° 10' W.

LIST of Lights of the Dominion of Canada, under the charge
NOVA SCOTIA.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Pubnico Harbor ..	Beach point, E. side of entrance, 60 fathoms from low water mark ..	43 35 43	65 46 54	One	F .....	.....	8
Tusket River	Big Fish Island, S.W. point	43 42 10	65 37 15	Two, horizontal, 8 yards apart	F .....	.....	12

BAY OF

Seal Island	S. point, $\frac{1}{2}$ of a mile inland	43 23 34	66 0 52	One	F .....	.....	18
Yarmouth or Cape Ferchu	E. Cape, S. point	43 47 28	66 9 21	One	Rev	Every minute & 45 seconds	18
Cape St. Mary	E. side of bay	44 5 20	66 12 40	One	Rev	Every 30 seconds, red and white alternately .....	.....
Sisiboo	S. side of entrance of river	44 26 30	66 1 15	One	F .....	.....	8
Brier Island	N.W. Point	44 14 57	66 23 30	One	F .....	.....	13
Westport	Peters Island, S. entrance to Grand Passage	44 15 30	66 20 20	Two, horizontal, 24 feet apart	F .....	.....	10
Boar's Head	Boar's Head, 50 feet from edge of cliff	44 24 16	66 13 0	One	Rev	Alternated red and white, flashes every minute .....	.....
Digby or Annapolis	Prim Point, S. point of entrance	44 41 34	65 47 20	One	F .....	.....	13
Marshall Cove or Port Williams ..	S. shore, Bay of Fundy ..	44 56 52	65 16 0	Two, vertical, 20 feet apart	F .....	.....	10
Margaretsville	S. shore, Bay of Fundy ..	45 2 57	65 4 0	Two	F .....	.....	8
Black Rock,	S. shore	45 10 10	64 46 0	One	F .....	.....	12

of the Department of Marine and Fisheries.—Continued.

—Continued.

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, white.....	28	20	1854	Catoptric lights with parabolic reflectors and argand burners	Open westward of St. John's Island, bearing N.E. by N. clears the ledge; making harbor from any other direction, the light must be brought to the Northward of E.N.E. before it can be steered for to avoid shoal spot off St. Ann's Point.
Wood, white, square.....			1864	do	Visible seaward; in windows each end of a dwelling house.

FUNDY.

Octagon, white.....	98	60	1830	Dioptric 2nd ord.	The Blond Rock lies S. by W. $3\frac{1}{2}$ miles from lighthouse; variation in 1869, $16^{\circ} 48'$ W. Fog whistle near lighthouse.
Octagon, vertical stripes, red and white.....	117	50	1839	Catoptric lights with parabolic reflectors and argand burners	Light $1\frac{1}{2}$ minute, dark $\frac{1}{2}$ minute. Fog whistle on W. side, sounded in fogs or snow storms 10 sec. in every minute.
Octagonal, white.....	103	43	1868	do	Alternate red and white.
White, wood, pyramidal...	36	33	1870	do	
Octagon, white.....	92	55	1809	do	Variation in 1869, $17^{\circ} 45'$ W. A steam fog whistle will probably be placed on Brier Island in the spring.
Square, white.....	40 each	15	1830		Visible from the northward between the bearings of S. by W. and S.S.W., and from the southward between the bearings of N.E. by E. and N.N.W. $\frac{1}{2}$ W.
Square, white.....			1864		On the top of a dwelling-house, which is white.
Square, vertical, red and white stripes.....	76	22	1817	do	Variation in 1869, $18^{\circ} 50'$ W. Fog whistle on Prim Point; in snow storms and in thick or foggy weather, sounded 8 seconds in each minute, making an interval of 52 seconds between each blast.
Square, white.....	{ 60 } { 57 }	22	1859	do	Lantern on top of dwelling; lower light in bow window, visible from W.S.W. round N. to E.N.E.
Square, white and black, horizontal.....	{ 30 } { 27 }	22	1839	do	Red light, visible from W.S.W. round North to E.N.E.
Square, white.....	45	35	1848	do	Light on top of dwelling, visible from all points of approach.

LIST of Lights of the Dominion of Canada, under the charge

NOVA SCOTIA.

BAY OF FUNDY.

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Horton.....	On bluff, W. side of Avon River.....	45 6 15	64 13 30	One.....	F.....	.....	20
Burnt Coat Head.....	Basin of Minas, S. shore.....	45 18 40	63 48 30	One.....	F.....	.....	13
Spencer's Point.....	Spencer Point, N. shore, Cobequid Bay.....	45 23 30	63 37 0	One.....	F.....	.....	6
Partridge Island or Parrisboro'.....	W. side of river.....	45 23	0 64 19 0	One.....	F.....	.....	9
Apple River.....	Cape Capstan or Hetty Point N. entrance.....	45 28 20	64 51 30	One.....	F.....	.....	12

NEW BRU

BAY OF FUNDY.

Grindstone.....	W. part of island.....	45 43 13	64 37 25	One.....	F.....	.....	12
Enragé.....	Pitch of cape.....	45 35 34	64 46 55	One.....	F.....	.....	15
Quaco.....	Small rock off head.....	45 19 20	65 31 55	One.....	Rev.....	Every 20 seconds	15
St. John Harbor.....	Partridge Island.....	45 14 20	66 3 20	One.....	F.....	.....	20
Lepreau.....	Beacon Tower.....	45 15 10	66 3 40	One.....	F.....	.....	10
	On point.....	45 3 40	66 27 39	Two, vertical, 9 yards apart.	F.....	.....	15
S. W. Wolf Island.	On S. E. point of the S. W. island.....	44 56 30	66 44 10	One.....	Rev.....	1 1/2 min. between each flash...	17 } to } 20 }
Whitehead Bliss Harbor.....							
Campobello Island	N. point of Head Harbor.....	44 57 40	66 54 10	One.....	F.....	.....	15
Port St. Andrew..	N. point of entrance.....	45 4 10	67 2 50	One.....	F.....	.....	10

of the Department of Marine and Fisheries.—*Continued.*—*Continued.*—*Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Square, white.....	92	20	1851	Catoptric lights with parabolic reflectors and argand burners	Variation in 1869, $20\frac{1}{2}^{\circ}$ W. Light in window.
Square, white.....	75	35	1859	do ..	On keeper's dwelling; visible from all points of approach.
Window in a building	35	20	1863	do ..	
Square, white.....	37	32	1852	do ..	Lantern on keeper's dwelling.
Oblong, with tower, white.	64	45	1870	do ..	Rebuilt about 160 feet S.S.E. from old one.

NSWICK.

—*Continued.*

Wood, octagonal, white....	60	.....	1854	Catoptric lights with parabolic reflectors and perforated sun burners.....	Visible from N.E. by E. round by North to E. by S., or 315° . Cape Enragé Light-house, S.W. by W. $\frac{1}{4}$ W. about ten miles. Variation in 1869, $20^{\circ} 30'$ W.
White, square	120	23	1840	D. 4th ord.....	Visible between the bearings of N.W. round by South to N.E.
Octagon, horizontal bands, red and white.....	58	46	1835	C.....	
Octagon, vertical stripes, red and white.....	119	40	1791	C.....	In foggy weather a steam whistle is sounded every minute for ten seconds. A bell buoy is established near E. side of Partridge Island Reef.
Octagon, vertical stripes, white and red.....	35	15	1828	D. 4th ord.....	Variation in 1869, $19\frac{1}{2}^{\circ}$ W.
Octagon, striped horizontally red and white.....	$\left\{ \begin{array}{l} 81 \\ 53 \end{array} \right\}$	31	1831	Catoptric lights with parabolic reflectors and perforated sun burners.....	Visible between the bearings of W.N.W. and E. by N. from the South. Variation in 1869, $18^{\circ} 50'$ W. Fog whistle during fog and snow storms.
Lantern surmounts keeper's dwelling which is a square wooden structure, painted white.....	111	35	1871	C.....	Visible from all points of approach.
.....					In course of construction.
Octagon, white with red cross	64	34	1829	do ..	Variation in 1869, $18\frac{1}{4}^{\circ}$ W.
Octagon, white	42	22	1833	do ..	Visible between the bearings of N.W. by N. and S.E. by S. Variation in 1869, $16\frac{1}{2}^{\circ}$ W.

LIST of Lights of the Dominion of Canada, under the charge

NEW BRUNSWICK

BAY OF FUNDY.—

Name of Light.	Place.	Latitude N.	Longitude W.	Number of Lights and relative positions.	F.; Fl.; F. & Fl.; Rev.; Int.; Alt.	Interval of revolution or flash.	Miles seen in clear weather.
Grand Manan Island, N.E. part	Swallow's Tail.....	44 45 52	66 44 4	One.....	F	.....	17
Machias Island, two lights.....	On the island.....	44 30 7	67 6 13	Two, W. by N. $\frac{1}{2}$ N., and E. by S. $\frac{1}{2}$ S., 56 $\frac{1}{2}$ yards apart.....	F	.....	15
Gannet Rock.....	On the rock.....	44 30 38	66 47 0	One.....	F & Fl	A flash for $4\frac{1}{2}$ sec. every minute.	12

RIVER ST. JOHN,

Green Head.....	.....	45 18	0 66 7 30	One.....	F	.....	10
Sand Point.....	.....	45 22	0 66 12 0	One.....	F	.....	10
Oak Point.....	.....	45 32	0 66 6 0	One.....	F	.....	10
No Man's Friend.....	.....	45 47	0 66 7 30	One.....	F	.....	10
Oromocto Shoal.....	.....	45 53	0 66 27 0	One.....	F	.....	10
Wilmet's Bluff.....	.....	45 56	0 66 30 0	One.....	F	.....	10
Cox's Point.....	Grand Lake.....	46 2	0 66 1 0	One.....	F	.....	10

PROVINCE OF

Race Rocks.....	On Race Rocks in Straits of De Fuca.....	48 17 45	123 32 00	One.....	Fl	Every 10 seconds	18
Figard.....	On a rock at the entrance to Esquimalt harbor....	48 26 00	123 27 15	One.....	F	.....	12
Fraser River Light Vessel.....	On South Sand Head, at entrance to Fraser River	49 3 50	123 16 40	One.....	F	.....	9

of the Department of Marine and Fisheries.—*Continued.*—*Continued.**Continued.*

Color or peculiarity of Lighthouse.	Height in feet of centre of lantern above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character and Order of Illuminating Apparatus.	Remarks.
Octagon, wood, white.....	148	50	1860	Catoptric.....	Visible between the bearings of S.W. round South to N.W. Variation in 1869, 17 $\frac{1}{2}$ ° W.
White.....	58 E, 54 W.	36 each	1832	One light catoptric, the other dioptric of 2nd order.....	A gun is fired every four hours during a fog. Vessels standing to the northward should haul off the moment the lights are in one to avoid the Merridges.
Octagon, striped vertically black & white alternately	66	41	1831	D. 4th ord.....	A gun is fired to answer signals during a fog. Dangerous rocks extend four miles eastward of the lighthouse:— Fixed light..... 45 seconds, Eclipse..... 5 $\frac{1}{2}$ „ Flash..... 4 $\frac{1}{2}$ „ Eclipse..... 5 $\frac{1}{2}$ „ 60

NEW BRUNSWICK.

White.....	105	.....	1869	Catoptric.....	
White.....	50	.....	1869	do.....	
White.....	50	.....	1869	do.....	
White.....	55	.....	1869	do.....	
White.....	54	.....	1869	do.....	
White.....	104	.....	1869	do.....	
White.....	20	.....	1869	do.....	

BRITISH COLUMBIA.

Circular stone tower, painted with alternate black & white horizontal bands	118	105	1861	D. 2nd ord.....	Variation, 22° 05' East. A fog bell is rung in thick or foggy weather.
Tower white, built of brick, and a red brick dwelling house.....	.....	.....	1861	D. 4th ord.....	Shows red in the harbor. Var. 22° 05' E.
Red hull, with ball at the light mast head.....	70	.....	1866	C.....	Variation, 22° 30' East.

APPENDIX

STATEMENT of Wrecks and Casualties of Sea-going Vessels, from 1st January,
of Marine

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from, and where bound to.
Afton	Brig	St. John, N.B.	164	Sackville to Barbadoes
Arthur White	Barque	Cork	734	Cork to Quebec
Alice T.	Schooner	St. John, N.B.	125	Wolf Point to Boston
Arno	"	"	91	St. Andrews to Boston
Ambro	"	"	100	St. John to St. Thomas
Alice Franklyn	Brig	Yarmouth, N.S.	314	Yarmouth to Monte Video
Anu	Schooner	Guysborough, N.S.	142	Porto Rico to Halifax
Aphrodite	Barque	St. John, N.B.	740	Barrow to Quebec
Alexander	Brigantine	Halifax	93	"
Aurora	"	Poole	629	Southampton to Quebec
Agile	Schooner	Liverpool, N.S.	28	Lying at Wharf
Albatros	Brigantine	Yarmouth, N.S.	74	Bridgewater to Argyle
Atalanta	Schooner	Liverpool, N.S.	86	From Harbor Grace, Newfoundland
Astra	"	St. John, N.B.	125	"
Anna Maria	"	Parrsboro, N.S.	100	Halifax to Sydney
A. T. Randolph	Brigantine	St. John, N.B.	155	Rhode Island to Sydney
Amity	Barque	"	535	Going outside Richibucto Bar to complete loading
Amelia	"	Quebec	548	Quebec to Newcastle
Achilles	Schooner	Parrsboro, N.S.	17	Five Islands to Windsor
Alice Long	"	Arichat, C.B.	66	Boone Bay to Halifax
Argyle	"	Yarmouth	80	"
Arbutus	"	Newfoundland	66	St. Pierre to Nova Scotia
Agnes Campbell	Barque	Weymouth, N.S.	689	Antwerp to Philadelphia
Ardmillan	Ship	Glasgow	987	Montreal to Liverpool
Alma	Barque	Prince Edward Island	348	"
Angelique	Ship	St. John, N.B.	935	Lewis to Antwerp
Black Brothers	Barque	Yarmouth, N.S.	651	Sunderland to Philadelphia
British Lion	Ship	Windsor, N.S.	1,279	Antwerp to Montreal
Beacon Light	"	St. John, N.B.	916	Greenock to Aden
Brilliant Star	Schooner	Port Medway	39	At anchor
Banquet	"	Halifax	30	Pictou to Port Hood
Barrington	"	"	"	"
Billow	"	Arichat, C.B.	122	Caledonia to Boston
Black Duck	Brigantine	Quebec	127	Quebec to Bermuda
Breamish	Barque	Halifax, N.S.	431	Little Glace Bay to Halifax
B. F. Chandler	Schooner	Parrsboro, N.S.	72	Windsor to New York
Charles Albert	Brigantine	Liverpool, N.S.	200	Antigua to Liverpool
C. Bernier	Schooner	Quebec	116	Montreal to Newfoundland
Callie Allie	Brigantine	St. John, N.B.	105	Rosario to Liverpool
Catherine John	Schooner	"	130	St. John to Matanzas
Candour	"	Liverpool, N.S.	116	Liverpool to Barbadoes
Courier	Ship	British	"	London to St. John, N.B.
Caroline	Schooner	Halifax, N.S.	41	"
Cornwallis	Barque	Windsor, N.S.	611	Hartlepool to Philadelphia
Charner	Ship	Glasgow	1,024	Quebec to Greenock
Clutha	"	South Shields	1,065	Greenock to Quebec
Chryseis	Barque	Sunderland	477	Montreal to Glasgow
Catherine	Schooner	Yarmouth, N.S.	61	Boston to Halifax
Columbia	"	"	53	St. John to Yarmouth

No. 32.

1871, to 1st January, 1872, as compiled from Returns received by the Department and Fisheries.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
Jan. 9.	Gull Rock, Machias Seal I'd.	Stranded	Want of seamanship	None	Partial, \$3,000.
May 9.	Red Island, St. Lawrence . .	Collision	Error in judgment. . . .	"	" \$200.
Mar. 10.	West Quoddy, Me	"	Not known	"	"
Mar. 8.	Wood Island, Grand Manan.	Stranded	"	"	"
" 8.	Arrived in distress and condemned	"	Stress of weather	"	Total. . . .
May	Monte Video	Stranded	"	"	"
April 12.	Entrance Halifax harbor	"	Not known	"	" \$26,000.
June	Cape St. Michael, St. Lawrence	"	"	"	Partial. . . .
July	Richibucto, N.B.	"	"	"	"
Oct. 3.	Harbor of Quebec	Collision	Stress of weather	"	" \$200.
Sept. 4.	Port Medway, N.S.	Stranded	Broke from her moorings	"	Total, \$1,000.
Nov.	Cape Sable, N.S.	"	Not known	"	Partial, \$5,200.
Oct. 12.	Vogler's Cove, Newfoundland	"	Stress of weather	"	Total, \$3,300.
"	Block Island	"	"	"	Partial. . . .
"	St. Peters, C.B.	"	"	"	"
Oct. 13.	Cape Ray, Newfoundland	Loss of spars	"	"	"
Nov. 7.	Richibucto Bar, N.B.	Stranded	Want of buoys	"	"
" 29.	St. Thomas, St. Lawrence	Cut by ice	Stress of weather	"	"
" 30.	Basin of Mines, Bay of Fundy	Stranded	"	Two	Total, \$450.
Dec. 20.	Bay St. George, N.S.	"	"	None	Partial, \$3,000.
"	"	"	"	"	Total. . . .
Dec. 5.	Smoky Head	Collision	Not known	"	"
"	At sea	"	"	"	"
Nov. 29.	St. Ignace, St. Lawrence	Stranded	By the ice	"	Partial. . . .
" 25.	Pillars, St. Lawrence	"	"	"	Total, \$30,000.
"	At sea ; never heard of	"	"	"	"
Jan. 21.	Winter quarter shoals	Stranded	Error in judgment. . . .	None	Total, \$20,000.
April 7.	Beechyhead, Coast of England	Collision	Want of lights	"	" \$30,000.
"	At sea	Abandoned	Stress of weather	"	"
Oct. 12.	Port Medway, N.S.	Stranded	"	"	Partial, \$7,000.
" 12.	Port Hood, C.B.	"	"	"	" \$1,000.
"	Maria Bay	"	"	"	"
Oct. 12.	Arichat harbor, C.B.	"	"	"	Total, \$3,400.
Nov. 1.	Sable Island	"	Not heaving lead	"	"
Dec. 14.	Devil's Island, N.S.	"	Stress of weather	Two	"
" 19.	Off Apple Head, B.F.	Foundered	"	None	" \$4,000.
Mar. 13.	Near Gull Rock, B.F.	Stranded	Fog	None	Total, \$8,000.
May 9.	Near Red Island, St. Lawrence	Collision	Error of judgment. . . .	"	Partial, \$800.
Jan. 10.	At sea	Foundered	Stress of weather	"	Total. . . .
" 24.	"	Abandoned	"	"	"
April 3.	"	"	"	"	" \$5,000.
"	St. Mary's Bay, N.S.	Stranded	"	"	Partial. . . .
"	Port Medway, N.S.	Fire	"	"	"
January	Goodwin Sands, North Sea	Stranded	"	"	Total. . . .
Aug. 13.	Harbor of Quebec	"	Error of judgment. . . .	"	Partial, \$8,000.
Sept. 28.	Anticosti, St. Lawrence	"	Unknown currents	"	Total. . . .
Nov. 29.	Traverse	Capsized	By the ice	"	" \$190,000.
Dec. 6.	Yarmouth Sound, N.S.	Stranded	Not known	Five	" \$3,000.
"	At sea	Never heard of	"	All Four	" \$9,000.

STATEMENT of Wrecks and Casualties of Sea-going Vessels

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from, and where bound to.
Daring	Schooner	Halifax, N.S.	80	Cow Bay to Rockland.
Delta	Barque	Barrington	134	Not known
Emeline	Schooner	Charlotte Town	53	Bay of Islands to Grand River
Eliza	"	Arichat	100	Cow Bay to Boston
Elizabeth	"	St. John, N.B.		
Ellen H.	"	"	192	
Exampler	Brigantine	Glasgow	240	
Elizabeth McNeil	"	American	461	Boston to Sydney
Eclipse	"	Yarmouth, N.S.	102	Turks Island to Yarmouth
Ella Vail	"	Liverpool	203	Boston to Liverpool
Emma Little	Schooner	Margaretsville	25	Margaretsville to Mocton
Emelite	"	Magdalen Islands	27	Fishing voyage
Erato	"	Jersey	59	Jersey to Gaspé
Edmund	"	"		North Sydney to St. Pierre
Emigrant	Barque	Montreal	475	Quebec to Greenock
E. A. Soudpr.	"	Yarmouth, N.S.	429	St. John to Monte Video
Edward Everett	Brigantine	"	112	Yarmouth to Turks Island
Edwin	Schooner	Sydney, Cape Breton	58	Sydney to St. Pierre Miquelon
Fawn	Brig	Halifax	127	Demerara to Halifax
Forgenhall	Ship	Greenock	1,069	Quebec to Greenock
Frank	Brig	Shelburne, N.S.	147	Cienfuegos to Halifax
Fashion	Schooner	Digby, N.S.	54	Troon to Killeyhegs
Fanquai	Barque	Greenock	375	Greenock to Pictou
Ferdinand	"	Not known		Loading for Baltimore
Frigate Bird	Schooner	St. John, N.B.	132	St. John to Fall River
Gertrude	Ship	St. John, N.B.	1,097	Liverpool to Mobile
Gussie Trueman	Barque	"	464	Baltimore to Aspinwall
G. W. Morris	Brigantine	Parrsborough, N.S.	133	Aquilla to New York
Golden Fleece	Ship	Greenock	1,257	Bombay to Halifax
Glenallan	"	Glasgow	781	Glasgow to Quebec
Glad Tidings	Schooner	Magdalen Islands	30	Magdalen Islands to Spry Harbor, Newfoundland
Golden Era	"	Halifax	44	Lapoile to Georgetown
Gem	Brigantine	St. John, N.B.	196	Newfoundland to Sydney
George H. Oulton	Ship	"	847	New York to France
Gentile	Schooner	Yarmouth, N.S.	19	Sydney to Prince Edward Island
Hannah H.	Barque	St. John, N.B.	316	Jamaica to London
Hibernia	"	Dorchester	403	St. John to Limerick
Hatfield Bros.	Brig	Yarmouth	203	
Harriet	Barque	Quebec	398	Montreal to Cork
Henrietta	Schooner	Halifax	55	Sydney to Halifax
Iroquois	Steamer	Montreal	223	Lachine to Caughnawaga
Ida E.	Schooner	Sheet Harbor, N.S.	66	Halifax to Dalhousie
Ida Cutten	Barque	St. John, N.B.	173	St. John to Matanzas
Idolexue	"	"		Halifax to Baltimore
Indiana	"	Greenock	352	Liverpool to Quebec
Island Gem	Schooner	Yarmouth, N.S.	60	Fishing voyage
Jane Harriet	Schooner	Prince Edward Island	51	
Joseph Weir	Barque	Halifax, N.S.	542	Matanzas to New York
Jeanie Clark	Brigantine	St. John, N.B.	146	St. John to Havana

from 1st January, 1871, to 1st January, 1872, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
May	Bay of Ledges, N.S.	Stranded			Total.
" 20..	Tryon Shoals, P.E.I.	"			Partial.
Jan. 1		Foundered	Loss of rudder	Nine	Total, \$4,500.
April 16..	Bay of Fundy	"	Stress of weather	None	" \$650.
Feb. 10..	Fox Island	Stranded			
	Black Point	"			
July	Richibucto, N.B.	"	Unknown currents.	None	Total, \$20,000.
" 20..	Gammons Ledge, N.S.	"	Not known	"	" \$9,000.
Jan. 30..	S. W. Point, Long Island, N.S.	"	Stress of weather	"	" \$5,000.
Oct. 12..	Liverpool harbor, N.S.	"	"	One	Partial, \$350.
" 21..	Apple River, N.S.	"	"	None	Total, \$600.
Mar. 28..	Labrador Coast, St. Lawrence	Crushed by the ice	Not known	"	" \$5,000.
Oct. 12..	Bryon Island,	Stranded	"	"	"
	St. Pierre	"	Carried away by the ice.	"	" \$30,000.
Nov. 30..	Pillars, St. Lawrence	"	Not known	"	" \$9,000.
	At sea	Sprung a leak.	Stress of weather	"	" \$3,700.
	Turks Island, West Indies	Stranded	Not known	"	"
Dec. 7..	St. Pierre harbor	"			
Feb. 18..	Duncan's Reef, N.S.	Stranded	Stress of weather	One	Total, \$20,000.
May 25..	N. W. reef of Bic, St. Lawrence	"	Error in judgment.	None	Partial, \$4,000.
Jan. 20..	Off Matanzas	Collision	Not known	"	Total.
February	Island of Arran	Stranded			
Nov. 25..	Red Head	"	Not known	All	Partial.
	Halifax, N.S.	Fire	"	None	"
Nov. 15..	Off Massachusetts	Stranded	"	"	"
Feb. 11..	Pine of Reefs	Stranded	Not known	None	Total.
Mar. 2..	Near St. John	"	"	"	"
June 23..	Prickly Pear Island	"	Stress of weather	"	"
	Halifax	Fire			
Aug. 2..	Trinity Bay, St. Lawrence	Stranded	Error in compasses	None	Total, \$48,000.
Nov. 26..	West side of Port Hood harbor, C.B.	"	Dragging anchors.	"	Partial, \$2,400.
" 9..	Port Hood Island, C.B.	"	Stress of weather	"	" \$950.
" 22..	Scatterie Island, N.S.	"	"	"	Total, \$6,400.
	Lost at sea	"		All	"
Oct. 18..	Black Rock Point, C.B.	Stranded	Incompetency	None	"
April 13..	Near Jamaica	Stranded	Not known	None	Partial.
Dec. 23..	At sea	Abandoned	Stress of weather	"	Total, \$19,364.
		Stranded	"	"	"
Dec. 1..	St. John, Newfoundland	Sprung a leak.	"	"	Partial.
July 20..	White Island	Collision	Ran into	"	Total.
Mar. 29..	At the wharf	Fire	Not known	None	Total, \$1,400.
September	Off Dalhousie, N.B.	Stranded	"	"	Partial.
Mar. 12..	At sea	Abandoned	Stress of weather	"	Total.
		Stranded			
Sept. 8..	Beaumont Shoal, St. Lawrence	"	Error of judgment.	None	Partial, \$4,000.
Oct. 14..	Rocky Harbor	"	Dragging of anchors	"	" \$1,500.
January..	Sheet harbor, N.S.	Stranded	Not known	None	Partial.
April 21..	New Jersey, U.S.	"	"	"	"
May 23..	Abaco	"	"	"	Total.

STATEMENT of Wrecks and Casualties of Sea-going Vessels,

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from and where bound to.
J. L. Wainwright	Schooner	Shelburne, N.S.		
Josephine	"	Quebec	111	Labrador to Quebec
J. E. Smith	"	Liverpool, N.S.	45	Halifax to Labrador
John Williams	"	Halifax, N.S.	34	St. Ann to Ingonish
James Fraser	Brigantine	"		Boston to St. Pierre Miquelon
Jabez	"	Bermuda	65	Prince Edward Island to Bermuda
J. Jeffrey	"	Liverpool, N.S.	205	Barbadoes to St. John
John Duffus	"	Arichat, C.B.	224	Quebec to Cork
James Landell	"	Nova Scotia	177	Joggins to St. John
J. L. Pye	"	St. John, N.B.	357	Wilmington to London
John Bright	Barque	Yarmouth, N.S.	505	
Josephine	Brigantine	New Brunswick	236	St. John to Portland
Kate Smith	Barque	Yarmouth, N.S.	409	Spain to New York
Kooria Moorla	Ship	Greenock	1,070	New Brunswick to England
Louisa	Schooner	Sydney, C.B.	114	Sydney to St. Pierre
Lizzie Billings	Brigantine	St. John, N.B.		
Landore	Barque	North Shields	713	Genoa to Quebec
Lord Lyons	Ship	Newcastle	956	
Linda	Steamer	"		Portland to Yarmouth
Lion	"	St. John, N.B.	42	Richibucto to Buctouche
Lady Havelock	Ship	Liverpool	855	Liverpool to Quebec
Liffy	Schooner	Minudie	20	St. John to Halifax
Louisa Cook	Barque	Yarmouth, N.S.	280	Inverness to Philadelphia
Maria Ferguson	Brig	Parrsboro, N.S.	286	Mobile to Liverpool
Mary Emerson	Ship	Yarmouth, N.S.	694	Havana to Bremerhaven
Minnie Arnold	Schooner	"	87	Port Medway to St. Kitts
Myrtle	Barque	Greenock	781	Greenock to Quebec
Minerva	Ship	Glasgow	1,364	Liverpool to Quebec
Milton	"	London	1,253	Quebec to London
Maggie H.	Schooner	Miramichi	59	Quebec to Bathurst
Maria Busch	Brig	Germany	300	Germany to Halifax
M. R. G.	Schooner	St. John, N.B.	123	St. John to Boston
Mineola	Brigantine	St. Stephen, N.B.	233	St. John to Clonakilty
Magnolia	Ship	London	1,083	Bristol to Quebec
Mary Eliza	Barque	Quebec	888	Quebec to Marseilles
Mary	Schooner	Arichat	20	Prince Edward Island to Arichat
Mary Giban	Brigantine	Parrsboro, N.S.	170	Sydney to St. John
Maria Eleonore	Schooner	Gaspé		Fishing voyage
Mariner	"	St. John, N.B.	53	Not known
May	"	Prince Edward Island	66	Sydney to Prince Edward Island
Maria J. Moore	"	Halifax, N.S.		Port au Platte to
Nova Scotian	Schooner	New Carlisle	50	Boston to Quebec
Nelson	Ship	New Brunswick	942	Liverpool to Quebec
N. J. Miller	Schooner	St. John, N.B.	115	St. John to Havana
Nazarine	Brigantine	Maitland, N.S.	140	Halifax to New York
Nestorian	Steamer	Glasgow	1,676	Liverpool to Quebec
Nine Brothers	Schooner	St. John, Newfoundland	32	Halifax to Tatamagouche
Omega	Brigantine	Sydney, C.B.	326	Sagua to New York
Oscar the First	Ship	Kiagero	608	Dublin to Quebec
Orinoco	Schooner	Plymouth	51	Plymouth to fishing banks
Ocean Home	"	"		St. John, N.B., to Boston

17.520

from 1st January, 1871, to 1st January, 1872, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
January ..					
Oct. 16..	St. John, Newfoundland ..	Stranded ..	Stress of weather..	None ..	Total, \$15,000.
May 17..	30 miles E. of Bird Rocks, Gulf of St. Lawrence ..	" ..	" ..	" ..	" \$5,450.
Nov. 25..	Plaster Cove, Canso ..	" ..	Parting of chains..	" ..	" \$3,000.
Nov. 26..	Bras d'Or, Cape Breton ..	Fire ..	Explosion of lamp..	" ..	" ..
Nov. 26..	Chedebucto Bay, N.S. ..	Stranded ..	Not known ..	Nine 7 ..	" ..
Oct. 10..	Lat. 26° N., Long. 63° W. ..	" ..	Stress of weather..	None ..	" \$16,000.
Nov. 25..	Big Cape ..	" ..	" ..	" ..	" \$3,000.
Nov. 25..	Two Mile River, Bay of Fundy	" ..	" ..	" ..	Partial.
Dec. 28..	London ..	Fire ..	Accidental ..	" ..	Total, \$10,200.
Dec. 28..	Sand Island ..	Stranded ..	Not known ..	" ..	" ..
Jan. 25..	Little Egg harbor, N.S.	Stranded ..	Snow storm ..	Nine 23 ..	Total.
Jan. 25..	" ..	" ..	Stress of weather..	None 23 ..	Partial.
Feb. 10..	Clam harbor ..	Stranded ..	Stress of weather..	None ..	Total.
June 2..	Traverse, St. Lawrence ..	Collision ..	Parting of chain ..	None ..	Partial, \$360.
June 2..	Matane ..	Stranded ..	Error in judgment.	" ..	" ..
Aug. 28..	Yarmouth, N.S. ..	" ..	Stress of weather..	" ..	" ..
Sept. 14..	Richibucto Bar, N.E. ..	" ..	Buoy misplaced ..	" ..	Total.
Oct. 4..	Harbor of Quebec ..	Collision ..	Error of judgment.	" ..	Partial.
Nov. 14..	Courtney Bay, St. John, N.B.	Foundered ..	Stress of weather..	" ..	\$620.
Nov. 14..	" ..	" ..	" ..	Ten 23 ..	Total, \$10,000.
Jan. 12..	Tortugas, Florida ..	Stranded ..	Not known ..	None ..	Partial.
Feb. 22..	Old Dock ..	Fire ..	" ..	" ..	Total, \$266,000.
Feb. 15..	Abandoned ..	" ..	Stress of weather..	" ..	\$3,400.
May 23..	St. Rocque, St. Lawrence ..	Stranded ..	Error in judgment.	" ..	Partial, \$6,000.
July 15..	St. Paul's Island, Gulf of St. Lawrence ..	" ..	Fog ..	" ..	" ..
" 14..	Bic Harbor, St. Lawrence ..	Collision ..	Accidental ..	" ..	" \$1,300.
Aug. 18..	Quebec Harbor ..	Stranded ..	Stress of weather..	" ..	" \$2,052.
April ..	Shelburne, N.S. ..	" ..	Error in judgment.	" ..	" ..
April ..	Mount Desert, U.S. ..	" ..	" ..	" ..	" ..
Oct. 13..	Little Metis, St. Lawrence ..	Stranded ..	Stress of weather..	None ..	" \$6,000.
Dec. 5..	Matane, St. Lawrence ..	" ..	By the ice ..	" ..	Total, \$57,794.
Nov. 9..	Long Point Ledges ..	" ..	Thick weather ..	" ..	" \$380.
Nov. 9..	At sea ..	Not known ..	" ..	" ..	" ..
" 1..	Ragged Point ..	Stranded ..	Stress of weather..	None ..	Partial.
Dec. 23..	Clelln Island ..	Waterlogged ..	" ..	" ..	" ..
Oct. 18..	Black Rock Point ..	Stranded ..	Error in judgment.	" ..	" \$750.
Mar. 7..	At sea ..	Abandoned ..	Stress of weather..	" ..	Total.
June ..	S.W. Point, Halibut Island ..	Stranded ..	Fog ..	None ..	Partial, \$10,000.
Aug. 10..	Trinity Bay ..	" ..	Error in compasses	" ..	" ..
April ..	" ..	Waterlogged ..	" ..	" ..	" ..
Oct. 12..	Cape Sulle ..	Dismasted and capsized ..	Stress of weather..	" ..	" ..
Nov. 10..	Pillars, St. Lawrence ..	Collision ..	Error of judgment.	" ..	" \$800.
Nov. 10..	Tatamagouche, N.S. ..	Stranded ..	" ..	" ..	Total.
May 5..	Brigantine Beach ..	Stranded ..	Stress of weather..	" ..	Total, \$50,800.
June 23..	Sillery ..	Collision ..	Error in judgment.	" ..	Partial, \$80.
July 27..	Taylor's Cape ..	Sprung a leak ..	Stress of weather..	" ..	" \$2,600.
July 27..	Seal Rock, Me. ..	Stranded ..	" ..	" ..	Total, \$970.

STATEMENT of Wrecks and Casualties of Sea-going Vessels,

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from and where bound to.
Otago	Barque	Greenock	1,012	Greenock to Montreal
Ocean Bird	Schooner	Lahave, N.S.	58	Lahave to Boston
Prairie Bird	Schooner	St. John, N.B.	149	St. John to Boston
Peter Mitchell	"	Quebec	100	Fishing voyage
Princess of Wales	Ship	Bangoon	1,203	Quebec to Greenock
Pride of England	"	Greenock	1,356	"
Pembroke	Barque	Windsor, N.S.	336	Baltimore to Aspinwall
Pomona	Ship	Glasgow	1,195	Montreal to Glasgow
Prince George	"	St. Martin, N.B.	1,138	Bassien to Liverpool
Rosilla B.	Schooner	St. John, N.B.	107	Portland to St. John, N.B.
Rapid	Brigantine	Halifax	144	Quebec to Demerara
Russia	Barque	Sligo	349	Troon to Quebec
Roma	Brigantine	Charlottetown	138	Charlottetown to Bermuda
Rippler	Barque	British	600	Montreal to Cork
X				
St. Peter	Brigantine	Arichat, C.B.	164	St. John, N.B., to Sydney
Sarah Harris	"	Annapolis, N.S.	"	"
Star of the West	Barque	Newcastle, G.B.	1,296	Newcastle to Quebec
Samuel E. Sawyer	Schooner	Gloucester	74	Gloucester to Magdalen Islands
Southern Cross	Brigantine	St. John, N.B.	164	St. John to Cuba
Sparkling Sea	Schooner	Yarmouth, N.S.	39	Tusket to Sydney
S. V. Coonan	"	St. John, N.B.	72	Boston to Prince Edward Island
St. Kelvin	Ship	Dublin	1,258	Bremenhaven to Quebec
Startled Fawn	Brigantine	Liverpool, N.S.	114	"
Switch	Schooner	"	15	Liverpool to Newfoundland
Spray	"	Yarmouth, N.S.	22	Beaver River to Yarmouth, N.S.
Strathardale	Barque	Dundee	297	Denia to Quebec
Susquehannah	"	Newcastle	606	Quebec to Newcastle
Sydenham	"	Yarmouth, N.S.	669	Bremen to New York
Stella Maris	Schooner	"	55	Yarmouth to Chester
Sapphire	"	"	23	"
Sentinel	"	Halifax	"	Turk Island to Halifax
Smith Eldridge	"	Arichat, N.S.	73	Conception Bay to St. John, New foundland
X				
Tropic Bird	Barque	Yarmouth, N.S.	321	Trinidad to Boston
T. W. Chesley	Brigantine	Annapolis, N.S.	235	Little Glace Bay to New York
Thames	Steamer	London	1,057	London to Quebec
Tiger	"	Newcastle	"	"
Two Sisters	Schooner	Pictou	58	Grandique to Tatamagouche
Three Belles	Ship	Glasgow	594	Montreal to Glasgow
Teega	"	St. John, N.B.	1,296	Baltimore to Antwerp
Topsy	Schooner	Yarmouth, N.S.	40	Fishing voyage
Una	Brig	Swansea	216	St. John to Cow Bay
Uber	Schooner	Advocate, N.S.	103	Cape Hayti to Boston
Vincent J. Wallace	Schooner	Hawkesbury, N.S.	75	New York to Jackville
Valiant	"	Halifax, N.S.	122	Halifax to Jamaica
Vivid	"	Miramichi	"	In harbor

from 1st January, 1871, to 1st January, 1872, &c.—Continued.

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
Nov.	Sandy Bay	Stranded	Stress of weather	None	Partial.
" 1.	Cape Ann, U.S.	Fire	Bursting of lamp	"	Total.
Jan. 10.	Cape Elizabeth, Portland, Me.	Stranded	Accidental	None	Partial, \$2,500.
Oct. 13.	Port Hood, Cape Breton	Stranded	Error of judgment	"	" 81,500.
" 15.	Grand Metis, St. Lawrence	"	Stress of weather	"	Total, \$20,000.
Dec. 2.	Cacouna, St. Lawrence	"	By the ice	"	Partial.
" 19.	Battle Creek	"	Not known	"	"
Nov. 29.	Kamouraska, St. Lawrence	"	By the ice	"	Partial.
August ..	Diamond Cape	"	Not known	"	"
Feb. 9.	Great Duck Island, G.M.	Stranded	Stress of weather	None	Total, \$8,100.
July 28.	Beaumont Shoal, St. Lawrence	"	"	"	Partial, \$1,700.
Oct. 11.	Crane Island, St. Lawrence	"	Accidental	"	Total, \$13,000.
Nov. 9.	Port Hood, C.B.	"	Error in judgment	"	Partial, \$8,000.
" 26.	St. Paul's Island, Gulf of St. Lawrence	Abandoned	Shifting of cargo	"	Total.
Jan. 17.	Tilbury Head, C.B.	Stranded	Fog	None	Total, \$3,500.
May 7.	Scattarie, N.S.	Stranded	Thick weather	One	" \$6,800.
April 21.	Sandy Hook Shoal, Magdalen Islands	"	Error in judgment	None	Partial, \$6,000.
February ..	At sea	Abandoned	Stress of weather	"	Total.
May 23.	Emulous Shoal, N.S.	Foundered	"	"	" \$900.
Dec. 6.	St. Pierre	Stranded	Misstayed	"	"
July 29.	Harbor of Quebec	Collision	Error in judgment	"	Partial, \$100.
Oct. ..	Jordan River, N.S.	Stranded	Stress of weather	"	"
" 12.	Townsend Cove	"	"	"	Total, \$500.
" 15.	Cape St. Mary	"	"	"	" \$350.
Nov. 15.	St. Valier, St. Lawrence	"	Error on part of pilot	"	" \$18,000.
" 7.	St. Anne des Monts	"	Error in compasses	"	" \$9,000.
Dec. 16.	Jones Inlet	"	Stress of weather	"	" \$23,500.
April 15.	Joly Point	"	Carelessness	"	" \$1,500.
" ..	"	"	"	"	"
" ..	Jeddore, N.S.	"	Not known	"	"
Dec.	Red Cove, Newfoundland	"	"	"	Total.
April 19.	Colorado Reef	Stranded	Unknown current	None	Total, \$50,000.
June 29.	Little Hope, N.S.	"	"	"	"
July 14.	Bicquette, St. Lawrence	Collision	Accidental	"	Partial, \$1,200.
" 11.	"	"	"	"	"
Nov. 9.	Long Point	Stranded	Stress of weather	None	" \$1,063.
" 30.	Goose Island, St. Lawrence	"	By the ice	"	Total.
Dec. 9.	Brumabuttel	"	Cut by the ice	"	" \$100,000.
Nov. 6.	Griffin's Cove	"	Not known	"	Partial.
June 20.	Red Rock	Stranded	Fog	None	Total, \$10,000.
Oct. 11.	At sea	Lat. 38° 36', Long. 68°	Abandoned	"	"
Jan. 26.	At sea	Fire	Not known	None	Total.
April 5.	"	Abandoned	Stress of weather	"	" \$3,600.
June 28.	Miramichi, N.B.	Capsized	Fell over after discharging	"	Partial.

STATEMENT of Wrecks and Casualties of Sea-going Vessels,

Name of Vessel.	Rig.	Port of Registry.	Tonnage.	Port sailed from, and where bound to.
Venus	Barque	Annapolis, N.S.	477	Troon to Providence
Victoria Ursula	Brigantine	Arichat	205	Halifax to Cape Breton
Viola	Barque	Liverpool	595	Montreal to Liverpool
Volunteer	Schooner	Halifax, N.S.	30	.....
William Muir	Brigantine	Liverpool, N.S.	190	Port Rice to Baltimore
Wilbrod	Sloop	Quebec	72	In harbor
Wealth of Nations	Ship	St. John, N.B.	1,188	Gunape Island to Europe
Wanderer	Brig	Maryport, G.B.	282	Maryport to Quebec
Woodland	Barque	Hillsborough	442	.....
W. H. Moody	Ship	Yarmouth, N.S.	686	Liverpool to Philadelphia
W. H. Bignell	Brig	Parraboro, N.S.	280	Glasgow to Havana
Zoe	S. S.	Sydney, C.B.	513	New York to Brest
Zuleika	Barque	Leith	902	Greenock to Quebec

4862

from 1st January, 1871, to 1st January, 1872, &c.—*Continued.*

Date of Casualty.	Place where Casualty happened.	Nature of Casualty.	Cause of Casualty.	No. of Lives lost.	Amount of Loss and Remarks.
.....	At sea.....	Abandoned...	Sprung a leak.....	None.....	Total.
Nov. 25..	Margaree, C.B.....	Stranded.....	Stress of weather..	„.....	„ \$2,500.
„ 27..	St. Rocque, St. Lawrence ..	„.....	Ice.....	„.....	Partial.
Oct. 12..	Yarmouth, N.S.....	„.....	Not known.....	„.....	„
April 1..	Camituck Beach.....	Stranded.....	Stress of weather..	None.....	Total, \$26,000.
June 22..	Quebec Harbor.....	Fire.....	Accidental.....	„.....	„ \$1,080.
„ 13..	Origos.....	Stranded.....	Stress of weather..	„.....	„
July 29..	Quebec Harbor.....	Collision.....	Error in judgment.	„.....	Partial, \$512.
Aug. 15..	Pernambuco.....	Stranded.....	.....	„.....	Total.
Mar. 8..	Lat. 47° 47', Long. 24° 35'...	Abandoned...	Stress of weather..	„.....	„ \$50,000.
Dec. 18..	Lahave Banks.....	„.....	„.....	„.....	„ \$1,500.
Feb. 21..	Bell Rock.....	Stranded.....	Mistook position..	None.....	Total, \$120,000.
Oct. 7..	Quebec Harbor.....	Collision.....	Error in judgment.	„.....	Partial, \$250.

APPENDIX

STATEMENT of Wrecks and Casualties that have happened on the Lakes and

Name of Vessel.	Rig.	Tonnage.	Value.	Class.	Port of Hail.	Voyage she was on.
			\$			
Acorn	Schooner	90	1,000	C1	Port Hope	Saginaw to Kingston
Advance	"	84	3,000	A2	Colborne	Couescan to Oswego
Antelope	"	220	6,500	A2	Cobourg	"
Atlantic	"	131	1,500	C1	Port Hope	"
Ayr	"	394	9,000	B1	Dalhousie	Kingston to Bay City
Braden, J.	Barquentine	444	12,000	B1	Kingston	"
Beard, J. G.	Schooner	236	3,000	B2	Toronto	Oswego to Toronto
Bell	"	80	2,000	B1	Whitby	Frenchman's Bay
Cumberland	Schooner	600	55,000	A1	Collingwood	Chippewa to Collingwood
Campbell Fanny ..	Brigantine	450	16,000	A1	St. Catharines	Chicago to Sarnia
Cavalier	"	366	16,000	A1	Port Hope	Not known
Cook (Lafayette) ..	"	283	6,500	B2	Kingston	Cobourg to Cleveland
Caledonia	Schooner	132	5,000	A2	Toronto	Kingston to Toronto
Cascaden	"	138	3,000	B2	Southampton	Colfax Bay to Sarnia
Catherine	"	178	7,000	A2	Hamilton	Oswego to Belleville
Dromedary	Propeller	300	13,000	A1	Hamilton	Chicago to Montreal
Emery, W.	Schooner	211	9,000	A2	Port Burwell	"
Enterprise	"	118	6,000	A2	Cobourg	"
Everitt	"	170	7,000	B1	Belleville	"
Experiment	"	200	"	B2	Not known	Toronto to Oswego
Elgin, Wm.	"	"	"	"	"	"
Greenway	Steamer	50	2,000	B2	Montreal	Lying in Pictou
Goldhunter	Schooner	219	7,000	B1	Milford	Collin's Inlet to Windsor
Hercules	Steamer	566	18,000	B1	Kingston	In winter quarters at Garden I.
Highlander	"	402	10,000	B2	"	"
Horton, A.	Propeller	107	7,000	A1	Goderich	Kincardine to Sarnia
Huron	Steamer	"	13,000	B1	Montreal	Hamilton to Montreal
Homeward Bound ..	Schooner	115	4,000	B1	Port Burwell	Oswego to Newcastle
Huron	"	25	500	"	Saugeen	Saugeen to Goderich
Kate	Steamer	"	"	"	Quebec	Towing in Quebec Harbor
Kolfage, T. G.	Schooner	84	3,500	A2	Amherstberg	Amherstberg to Buffalo
Lewis, Sam.	Propeller	102	3,000	B1	Montreal	Owen Sound to Michaels Bay ..
Louisa	Schooner	338	12,000	A2	St. Catharines	Not known
Manitoba	Steamboat	69	5,000	B1	Chatham	Waiting for cargo
Magnet	Propeller	274	12,000	B1	Hamilton	Hamilton to Montreal
Marysburg	Schooner	190	10,000	A1	Pictou	"
McDonald, J.	"	130	4,000	A2	Wellington	Oswego to Wellington
Montana	"	350	"	"	Windsor	Chicago to Kingston
Norris, Jas.	Brigantine	374	14,000	A2	St. Catharines	"
New Dominion	Schooner	180	8,000	A1	Quebec	Hamilton to Oswego

No. 33.

Inland Waters of the Dominion, from 1st January, 1871, to 1st January, 1872.

Place where casualty happened.	Date of Accident.	Nature of Casualty.	Cause of Casualty.	No. of Lives Lost.	Amount of Damage or Loss.	
					Hull.	Cargo.
Off Wellington	May 16	Stranded	Not known	None	\$	\$
"	Oct. 14	"	"	"		
"	"	"	"	"		
Saginaw Bay	June 24	"	"	"	2,000	
Kingston	"	Collision	Not known	"	400	
Near Niagara	Nov. 10	Stranded	Stress of weather	"	3,600	
Frenchman's Bay	" 10	"	"	"		250
Lonely Island	"	Stranded	Fog	None		
Off Kincardine	Dec. 7	Waterlogged	Stress of weather	"	3,000	5,000
Oak Orchard	Nov. 6	Stranded	"	"	1,500	
S. Bay Point	Oct. 14	"	"	"	6,000	
Cape Hurd	"	"	"	"	3,000	
Main Duck Island	" 21	"	"	"	2,000	
Near Brockville	Sep. 20	Stranded	Fog	None	3,000	
"	"	Stranded	Stress of weather	"		
"	"	"	"	"		
Near Presqu' Isle	Nov. 23	"	Snow Storm	None	5,000	
Pictou Harbor	Oct. 17	Burnt	Carelessness	"	1,500	
Cabot's Head	Nov. 15	Stranded	Stress of weather	"	7,000	20,000
Garden Island	Dec. 19	Burnt	Not known	None	16,000	
"	" 19	"	"	"	8,000	
Kincardine Bar	Oct. 19	Stranded	Screw disabled	"	6,000	1,000
Beauharnois Canal	June 2	Burnt	Carelessness	"	12,000	
Newcastle	Oct. 14	Stranded	Stress of weather	"	2,000	
Off Saugeen	"	"	"	"	275	
Quebec	May 2	Run into	Not known	None		
Point Pelée	Sept. 10	Sunk	Dragging Anchor	"	1,100	100
Cape Crocker	Nov. 27	Stranded	Dark Weather	None	3,300	500
Niagara River	" 10	"	Stress of weather	"	500	
Lake St. Clair	Oct. 14	Stranded	Dragging Anchor	"	750	
Lachine Canal	Feb. 17	Run ag't pier	Not known	"	9,000	7,500
Point Pelée	Sept. 10	Stranded	Stress of weather	"	4,000	
Wellington Harbor	" 20	"	"	"	900	
Wellington	" 17	"	"	"	3,000	
Oswego	Nov. 10	Collision	Run into	"	2,000	

STATEMENT of Wrecks and Casualties that have

Name of Vessel.	Rig.	Tonnage.	Value.	Class.	Port of Hail.	Voyage she was on.
			\$			
O'Gorman, M.	Schooner	112	4,000	B1	Kingston	
Olivia	"	150	5,000	A2	Brighton	Bay of Quinté to Oswego
Phoebe Catherine	Schooner	143	4,500	B1	Pictou	Sarnia to Collingwood
Pioneer	"	190			Newcastle	Oswego to Oshawa
Pictou	Steamer	161	7,500	A1	"	Toronto to Trenton
Quinlan	Schooner	160	7,000	A2	Port Hope	
Reindeer	Steamer	63		B1	Quebec	Quebec to Montreal
Regina	Schooner	118	3,500	B1	St. Catherines	Goderich to Chicago
Restless	"	80	1,750	B1	Montreal	Owen Sound to Manitoulin
Rooney, H.	"	400	15,500	A2	Kingston	Toledo to Kingston
Rumball, Jenny	"	175	4,000	B1	Goderich	
Robinson, W. B.	"		3,500	A1	Port Franks	Sarnia to Port Frank
Shickma	Propeller	188	26,000	A1	Port Stanley	Wilson to Ogdensburg
Stevens, A.	Brigantine	417	5,000	B2	St. Catherines	
Sweepstakes	Schooner	209	9,500	A1	Wellington	Chicago to Kingston
Sealark	"	69			Baltimore	Cleveland to Detroit
Skylark	"	69				Cleveland to Port Stanley
Sea Horse	"	43			Manitoulin	Manitoulin to Collingwood
Tranchemontagne	Schooner	187	4,800	B1	Montreal	
Two Fannies	"					Chicago to Buffalo
Victoria	Schooner				Lindsay	
Valetta	Brigantine	357	12,000	A2	St. Catherines	Lying at Chicago
Windsor	Barge	50			Montreal	Detroit to Walkerville

3341

happened on the Lakes, &c.—*Continued.*

Place where casualty happened.	Date of Accident.	Nature of Casualty.	Cause of Casualty.	No. of Lives Lost.	Amount of Damage or Loss.	
					Hull.	Cargo.
					\$	\$
Lake Ontario	Oct. 21	Capsized	Stress of weather		2,000	
Manitoulin Island.....	Oct. 9	Stranded	Stress of weather		2,000	
Mainlight.....	June 12	Foundered.....	"			
Bay of Quinté.....	Nov. 23	Stranded	"		150	
.....						
Montreal Harbor.....	June 17	Fire.....	Not known		6,000	
Off Goderich.....	May 16	Stranded				
Manitoulin Island.....	July 5	"	Error of judgment.....		450	150
Fairport.....	Nov. 11	"	Stress of weather		7,000	
Lake Huron	Oct. 21	Stranded	Stress of weather		220	
Kingston	Nov. 23	Dismasted.....	Stress of weather		3,000	
Middle Island.....	Sept. 1	Stranded	Stress of weather		550	
Fisher Reef.....	July 22	"	"	Two ..	Total...	Total...
Port Stanley.....	Aug. 29	"	"			
Fitzwilliam Island	Oct. 17	"	"			
.....						
Kincardine Point	April 20	Stranded	Stress of weather		6,000	
.....						
Chicago River.....	Oct. 9	Burnt	Not known			
		"	Chicago Fire		12,000	
At Wharf		Burnt	Not known		20,000	

WM. SMITH,

Deputy of the Minister of Marine and Fisheries

APPENDIX No. 34.

CONTAINING COPY OF HER MAJESTY'S ORDER IN COUNCIL, GIVING EFFECT TO CERTIFICATES OF COMPETENCY ISSUED IN CANADA, AND COPY OF RULES AND REGULATIONS RELATING TO EXAMINATION OF CANDIDATES AND OF CERTIFICATES OF COMPETENCY AND SERVICE.

AT THE COURT AT BALMORAL, THE 19TH DAY OF AUGUST, 1871.

PRESENT,

The QUEEN'S Most Excellent Majesty in Council.

WHEREAS by "The Merchant Shipping (Colonial) Act, 1869," it is (among other things) enacted that where the Legislature of any British possession provides for the examination of, and grant of certificates of competency to, persons intending to act as masters, mates, or engineers on board British ships, and the Board of Trade reports to Her Majesty that they are satisfied that the examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom under the Acts relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts, and are liable to be forfeited for the like reasons and in the like manner, it shall be lawful for Her Majesty, by Order in Council:—

1. To declare that the said certificates shall be of the same force as if they had been granted under the said Acts:
2. To declare that all or any of the provisions of the said Acts which relate to certificates of competency granted under those Acts shall apply to the certificates referred to in the said Order:
3. To impose such conditions, and to make such regulations with respect to the said certificates, and to the use, issue, delivery, cancellation, and suspension thereof, as to Her Majesty may seem fit, and to impose penalties not exceeding fifty pounds for the breach of such conditions and regulations:

And that upon the publication in the London Gazette of any such Order in Council as last aforesaid, the provisions therein contained shall from a date to be mentioned for the purpose in such Order, take effect as if they had been contained in the Act; and that it shall be lawful for Her Majesty in Council to revoke any Order made under this section:

And whereas the Legislature of the British possession of Canada has provided for the examination of and grant by the Minister of Marine and Fisheries in the said possession of certificates of competency for sea-going ships to persons intending to act as masters or mates on board British sea-going ships, which certificates are hereinafter denominated Colonial Certificates of Competency, and the Board of Trade have reported to Her Majesty that they are satisfied that the said examinations are so conducted as to be equally efficient as the examinations for the same purpose in the United Kingdom, under the Acts relating to Merchant Shipping, and that the certificates are granted on such principles as to show the like qualifications and competency as those granted under the said Acts, and are liable to be forfeited, for the like reasons and in the like manner:

Now therefore, Her Majesty, in exercise of the power vested in Her by the said recited Act, by and with the advice of Her Privy Council, is pleased,

- (1.) To declare that the said Colonial Certificates of Competency granted by the Minister of Marine and Fisheries in the said possession of Canada shall be of the same force as if they had been granted under the said Acts, that is to

say, the said Colonial Certificates of Competency as Masters of such sea-going ships shall be of the same force as if they were Certificates of Competency as Masters of foreign going ships, granted under the said Acts, and the said Colonial Certificates of Competency as Mates of such sea-going ships shall be of the same force as if they were Certificates of Competency as First Mates of foreign-going ships granted under the said Acts.

- (2.) To declare that all the provisions of the said Acts which relate to Certificates of Competency for the foreign trade granted under those Acts, except the 139th section of "The Merchant Shipping Act, 1854," and so much of the 3rd paragraph of the 23rd section of "The Merchant Shipping Act Amendment Act, 1862," as requires at the conclusion of a case relating to the cancelling or suspending of a Certificate, such Certificate, if cancelled, or suspended, to be forwarded to the Board of Trade. And the whole of the fourth paragraph of the same section shall apply to such Colonial Certificates of Competency.
- (3.) To impose and make the conditions and regulations following, numbered 1 to 10 respectively with respect to the said Colonial Certificates of Competency, and to the use, issue, delivery, cancellation, and suspension thereof, and to impose for the breach of such conditions and regulations the penalties therein mentioned.

Form of Certificate.

1. Every such Colonial Certificate of Competency shall be on parchment, and as nearly as possible similar in shape and form to the corresponding Certificate of Competency for the foreign trade, granted by the Board of Trade under the Acts relating to Merchant Shipping.

Name of Possession to be inserted.

2. Every such Colonial Certificate of Competency shall have the name of the said possession of Canada inserted prominently on its face and back.

Certificates to be numbered consecutively.

3. Such Colonial Certificates of Competency shall be numbered in consecutive order.

Lists of Certificates granted, cancelled, &c., to be sent to Registrar-General of Seamen.

4. The Government of the said possession shall furnish the Registrar-General of Seamen in London from time to time with accurate lists of all such Colonial Certificates of Competency as may be granted as aforesaid by the said Minister of Marine and Fisheries, or as may for any cause whatsoever, be cancelled, suspended, renewed, or re-issued.

Three years Domicile or Service necessary.

5. Such Colonial Certificates of Competency shall be granted only to persons who have been domiciled in the said possession, or who have served in ships registered therein for a period of, or for periods amounting to, at least three years immediately preceding their application for such Colonial Certificates.

Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.

Certificates not to be granted when former are Cancelled.

6. Such Colonial Certificates of Competency shall not be granted to any person who may have had a Certificate, whether granted by the Board of Trade or by the Government of a British Possession, cancelled or suspended under the provisions of the said Acts, or

of any Act for the time being in force in any part of Her Majesty's Dominions unless the period of suspension has expired, or unless intimation has been received from the Board of Trade, or the Government by whom the cancelled or suspended Certificate was originally granted, to the effect that no objection to the grant of such Colonial Certificate is known to exist, or unless a new Certificate has been granted to him by such Board or Government, and in the last named event no such Colonial Certificate of Competency shall be for a higher grade than the Certificate so last granted as aforesaid. Colonial Certificates of Competency granted contrary to this regulation shall be regarded as improperly granted.

Certificates improperly granted may be cancelled without formal investigation.

7. Any such Colonial Certificate of Competency which appears from information subsequently acquired or otherwise, to have been improperly granted, whether in the above or in any other respect, may be cancelled by the Government of the said Possession or by the Board of Trade in the United Kingdom, without any formal investigation under "The Merchant Shipping Act, 1854," and the holder of such Certificate shall thereupon deliver it to the Board of Trade or the Government of the said Possession, or as they or either of them may direct, and in default thereof shall incur a penalty not exceeding fifty pounds, which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Cancellation, &c., of a Certificate shall involve Cancellation of all the other Certificates possessed by its owner.

8. Every decision with respect to the cancellation or suspension of a certificate pronounced by any Board, Court, or Tribunal under the provisions of the said Acts shall extend equally to all the Colonial Certificates at the time possessed by the person in respect of whom the decision is made, as well as to all Certificates granted to him under any of the Acts relating to Merchant Shipping, and whether such Certificates be specified in such decision or not.

Certificates believed to be fraudulent may be demanded.

9. Any officer of the Board of Trade or the Registrar-General of Seamen, or any of his officers, or a Superintendent of a Mercantile Marine Office, or a Consular Officer, or duly appointed shipping officer in a British Possession, may demand the delivery to him of any such Colonial Certificate of Competency which he has reason to believe has been improperly issued, or is forged, altered, cancelled, or suspended, or to which the person using it is not justly entitled, and may detain such Certificate for a reasonable period for the purpose of making inquiries respecting such issue, forgery, alteration, cancellation, suspension, or possession, and any person who without reasonable cause neglects or refuses to comply with such demand, shall incur a penalty not exceeding twenty pounds, which shall be recoverable in the same manner as penalties imposed by the Acts relating to Merchant Shipping are thereby made recoverable.

Suspended Certificates to be re-issued only by Colony by which originally granted.

10. Any such Colonial Certificate of Competency which has from any cause been cancelled or suspended whether by a Tribunal in Canada, or elsewhere, shall be renewed or re-issued only by the Government of Canada.

This Order shall take effect in the said Possession of Canada from and after the date hereof.

(Signed) EDMUND HARRISON.

NOTICE TO CANDIDATES FOR EXAMINATION AS MASTERS AND MATES, AND RULES AND REGULATIONS RELAT- ING THERETO.

The examinations will be held in the ports of Montreal, Quebec, St. John Place of exam-
and Halifax, at such times as may be decided upon by the Minister of ination.
Marine and Fisheries, of which due notice will be given.

Testimonials of character and of sobriety, experience, ability and good Testimonials
conduct on board ship, will be required of all applicants, and without produc- of character,
ing them no person will be examined. As such testimonials will have to be conduct, and
closely examined by the examiners for verification before any certificates can ability re-
be granted, it is desirable that candidates should lodge them as early as pos- quired.
sible. The testimonials of servitude of foreigners and British seamen serving
in foreign vessels, must be confirmed either by the Consul of the country to
which the ship in which the candidate served belonged, or by some other
official authority of that country, or by the testimony of some credible person
on the spot, having personal knowledge of the facts required to be established.
Upon application to the Board of Examiners, candidates will be supplied with
a form which they will be required to fill up and lodge with their testimonials
in the hands of the Examiners.

Where the Board of Examiners are in every respect satisfied with the testimonials of a candidate, service in the coasting trade may be allowed to
count as service, in order to qualify him for a certificate of competency for a How time in
"sea-going ship," as a mate, and two years' service as mate in the coasting coasting trade
trade may be allowed to count as service for a Master's Certificate, provided will count.
the candidate's name has been entered as Mate in the Coasting Articles, or
other proof satisfactory to the Examiners, and provided he has already passed
an examination.

RULES.

The qualifications required for the ranks undermentioned are as follow :

1. A *Mate* or *Only Mate* must be nineteen years of age, and have been four years at sea. (Service in a superior capacity is in all cases to be equivalent to service in an inferior one.) Qualifications
for certificates
of competency
as mate.
2. *In Navigation*.—He must write a legible hand and understand the first rules of arithmetic and the use of logarithms. He must be able to work a day's work complete, including the bearings and distance of the port he is bound to, by Mercator's method ; to correct the sun's declination for longitude, find his latitude by the meridian altitude of the sun, and by single altitude of the same body off the meridian. He must be able to observe and compute the variation of the compass from azimuths and amplitudes ; be able to compare chronometers and keep their rates ; and be able to find the longitude by them from an observation of the sun by the usual methods. He must be able to lay off the place of the ship on the chart, both by the bearings of known objects, and by latitude and longitude. He must be able to determine the error of a sextant, and to adjust it ; also to find the time of high water from the known time at full and change.
3. *In Seamanship*.—He must give satisfactory answers as to the rigging and stripping of ships and stowing of holds ; must understand the measurement of the log-line, glass, and lead-line ; be conversant with the rule of the road, as regards both steamers and sailing vessels, and lights and fog-signals carried by them, and will also be examined as to his acquaintance with "the Commercial Code of Signals for the use of all nations." In addition to which he will be required to know how to moor and unmoor and keep a clear anchor ;

to carry out an anchor, and to make the requisite entries in the ship's log. He will also be questioned as to his knowledge of the use and management of the mortar and rocket lines in the case of the stranding of a vessel, as explained in the official log-book. He will also be required to know how to shift large spars and sails; to manage a ship in stormy weather, to take in and make sail, to shift yards and masts, &c., and to get heavy weights, anchors, &c., in and out; to cast a ship on a lee-shore; and to secure the masts in the event of accident to the bowsprit.

Master.

4. A *Master* must be twenty-one years of age, and have been six years at sea, of which at least two years must have been as *Mate* or *Only Mate*.

5. In addition to the qualification for a *Mate* or *Only Mate*, he must be able to find the latitude by a star, &c. He will be asked questions as to the nature of the attraction of the ship's iron upon the compass, and as to the method of determining it. He will be examined in so much of the laws of the tides as is necessary to enable him to shape a course, and to compare his soundings with the depths marked on the charts. He will be examined as to his competency to construct jury rudders and rafts; and as to his resources for the preservation of the ship's crew in the event of wreck. He must possess a sufficient knowledge of what he is required to do by law as to entry and discharge, and the management of his crew, and as to penalties and entries to be made in the official log, and a knowledge of the measures for preventing and checking the outbreak of scurvy on board ship. He will be questioned as to his knowledge of invoices, charter-party, Lloyd's agent, and as to the nature of bottomry, and he must be acquainted with the leading lights of the channel he has been accustomed to navigate, or which he is going to use.

Service in fore and aft rigged vessels.

6. In cases where an applicant for a certificate as *Master* has only served on a fore-and-aft rigged vessel, and is ignorant of the management of a square-rigged vessel, he may obtain a certificate on which the words "Fore-and-aft rigged vessel" will be written. This certificate does not entitle him to command a square-rigged ship. This is not, however, to apply to *Mates*, who, being younger men, are expected for the future to learn their business completely.

Punctuality of candidate's attendance.

7. Candidates are required to appear at the examination room punctually at the time appointed.

Candidates injuring examination papers.

8. Candidates are prohibited from bringing into the examination room books or paper of any kind whatever. The slightest infringement of this regulation will subject the offender to all the penalties of a failure.

Candidates discovered copying, &c.

9. In the event of any candidate being detected in defacing, blotting, writing in, or otherwise injuring any book or books belonging to the Board, the papers of such candidates will be detained until the book or books so defaced be replaced by him. He will not, however, be at liberty to remove the damaged book, which will still remain the property of the Board.

10. In the event of any candidate being discovered copying from another, or affording any assistance or giving any information to another, or communicating in any way with another during the time of examination, he will subject himself to a failure and its consequences.

Time allowed to work out navigation papers.

11. No candidate will be allowed to work out his problems on a slate or on waste paper.

12. No candidate will be permitted to leave the room until he has given up the paper on which he is engaged.

13. Candidates will be allowed to work out the various problems by the method and tables they have been accustomed to use, and will be allowed six hours to perform the work. At the expiration of six hours they will, if they have not finished, be declared to have failed, unless the Board of Examiners see fit to lengthen the period in any special case. If, however, the period is

lengthened in any case the special circumstances of that case and the reasons for lengthening the period must be reported to the Minister of Marine and Fisheries by the Examiners at the time they send in the report.

14. The corrections by inspection, from tables given in many works on navigation, will not be allowed (see Tables IX, XI, and XXI, in Norie's Epitome, &c.) ; every correction must appear on the papers of the candidates. The first class are referred to page 519 of the Nautical Almanac, 1867, for further information on this subject. Corrections by inspection not allowed.

15. Candidates are expected to bring their answers to all problems within, or not to exceed, a margin of one mile of position from a correct result.

16. In finding the longitude by chronometer the logarithms used in finding the hour-angle should be taken out for seconds of arc.

In all other problems the logarithms to the nearest minute will be sufficiently correct for all grades, except Master, from whom a degree of precision will be required, both in the work and in the results, beyond what is demanded from the inferior grade.

17. In every case the examination for Master is to commence with the problems for Mate. Examination to commence with that of mates.

18. In all cases of failure the candidate must be re-examined *de novo*. If a candidate fails in *Seamanship* he will not be re-examined until after a lapse of six months, to give him time to gain experience. If he fails three times in *Navigation* he will not be re-examined until after a lapse of three months. Re-examination in case of failure.

19. The Examiners are to insert in the Report of Examinations (under heading Remarks) the words, "passed," (or "failed,") in Commercial Code of Signals, as the case may be. Examination as to knowledge of commercial code of signals.

NOTES.

Candidates will find it more convenient, both here and at sea, to correct the declination and other elements from the Nautical Almanac by the "hourly differences," which have been given in that work in order to facilitate such calculations, they will thereby render themselves independent of any proportional or logarithmic table for such purposes. Correcting declination, &c.

As the examinations of Masters and Mates are made compulsory, the qualifications have been kept as low as possible, but it is distinctly to be understood that the Minister of Marine and Fisheries may raise the standard from time to time, whenever, as will no doubt be the case, the general attainments of officers in the merchant service shall render it possible to do so without inconvenience; and officers are strongly urged to employ their leisure hours, when in port, in the acquirement of the knowledge necessary to enable them to pass their examinations; and masters will do well to permit apprentices and junior officers to attend schools of instruction and to afford them as much time for this purpose as possible. Standard of examination will be raised.

NOTICE.

EXAMINATION OF MASTERS AND MATES.

By Virtue of an Order in Council, bearing date the 26th June, 1871, the following amendments have been made to the Rules and Regulations for examination of Candidates for Certificates of Competency as Masters and Mates in Mercantile Marine, as approved by Order in Council of 27th February, 1871 :

1st. Rule 1st has been so amended as to require five years service at sea instead of four years, for a Mate or only Mate, of which one year must have

been as either second or only Mate, or as both ; service in a superior capacity being in all cases equivalent to service in an inferior capacity.

2nd. Candidates for Certificates of Masters and Mates must be examined in the use of the International Code of Signals, and failure in this branch will be treated as failure in Navigation.

By Order.

WM. SMITH,

Deputy of the Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 20th July, 1871.

CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF COMPETENCY AS MASTER.

L.S.

To—

WHEREAS it has been reported to me that you have been found duly qualified to fulfil the duties of Master of a sea-going ship in the Merchant Service, I do hereby in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vict., Cap. 17 grant you this Certificate of Competency.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa, this _____ day of _____ 187—

[Registered].

Minister of Marine and Fisheries.

Deputy of Minister of Marine and Fisheries.

(Mate's Certificate similar to above.)

CANADA.

NO. OF CERTIFICATE

Address of Bearer—

Date and Place of Birth—

Signature—

This Certificate is given upon an Examination passed at _____
on the _____ *day of* _____ *187—*

Every person who makes or procures to be made or assists in making any false Representation for the purpose of obtaining for himself or for any other Person a Certificate either of Competency or Service or who forges, assists in forging or procures to be forged or fraudulently alters, assists in fraudulently altering or procures to be fraudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of _____

CANADA.

By the Honorable the Minister of Marine and Fisheries for the Dominion of Canada.

CERTIFICATE OF SERVICE AS MASTER.

L.S.

To—

WHEREAS it has been reported to me that you have produced satisfactory evidence of your sobriety, experience, ability and general good conduct on board ship, and that you have fulfilled the duties of Master of a sea-going ship in the Merchant Service prior to the First day of January, 1870.

I do hereby in pursuance of the Canadian Act respecting Certificates to Masters and Mates of Ships, 33 Vic. Cap. 17, grant you this Certificate of Service.

Given under the Seal of the Minister of Marine and Fisheries of Canada at Ottawa, this— day of— 187—

[Registered].

*Minister of Marine and Fisheries.**Deputy of Minister of Marine and Fisheries.*

(Mate's Certificate similar to above.)

CANADA.

NO. OF CERTIFICATE

Address of Bearer—*Date and Place of Birth*—*Signature*—

This Certificate is given upon an Examination passed at—
on the— day of— 187—

Every person who makes or procures to be made or assists in making any false Representation for the purpose of obtaining for himself or for any other Person a Certificate either of Competency or Service, or who forges, assists in forging or procures to be forged or fraudulently alters, assists in fraudulently altering or procures to be fraudulently altered, any such Certificate or any Official Copy of any such Certificate, or who fraudulently makes use of any such Certificate or any Copy of any such Certificate which is forged, altered, cancelled, suspended, or to which he is not justly entitled, or who fraudulently lends his Certificate to or allows the same to be used by any other person, shall for each offence be deemed guilty of a Misdemeanor, and any Master or Mate who fails to deliver up a Certificate which has been cancelled or suspended is liable to a penalty not exceeding Two Hundred Dollars.

Issued at the PORT of—

APPENDICES

OF THE

FISHERIES BRANCH

OF THE

DEPARTMENT

OF

MARINE AND FISHERIES.

LIST OF FISHERY APPENDICES.

	PAGE.
A.—Statement of Office Work	1
B.—List of Fishery Officers for the Dominion of Canada	2
C.—Report of the Cruise of the Government Schooner <i>La Canadienne</i> for the season of 1871, with statistics of fisheries in the Gulf and Lower St. Lawrence Division	12
D.—Statistics of Fisheries, South Shore River St. Lawrence, from Quebec to Cape Chatte	48
E.—Statistics of Fisheries, North Shore River St. Lawrence, from Quebec to Point au Colombier...	51
F.—General Recapitulation of the Yield of Fisheries in the Province of Quebec.....	53
G.—Return of Fishing Vessels, &c., at the Magdalen Islands, in 1871.....	54
H.—Synopsis of Fishery Overseer's Reports in the Province of Quebec	66
I.—Report on the Fish-breeding Establishment at Newcastle, Ontario, for the season of 1871.....	76
K.—Report of a Deep-sea Dredging Expedition to the Gulf of St. Lawrence, by Mr. Whiteaves, F.G.S., &c.....	90
L.—Statistics of Fisheries in the Province of Ontario	102
M.—Synopsis of Fishery Overseers' Reports in the Province of Ontario.....	108
N.—Report of the Inspector of Fisheries in Nova Scotia and New Brunswick	115
O.—Statistics of Fisheries in the Province of New Brunswick	131
P.—Statistics of Fisheries in the Province of Nova Scotia.....	136

REPORTS OF OFFICERS IN COMMAND OF MARINE POLICE CRUISERS.

Q.—Captain P. A. Scott, Officer in command of the Steamer <i>Lady Head</i>	138
R.—" " Supplementary Report	144
S.—James A. Tory, Officer in command of the Schooner <i>Sweepstake</i>	146
T.—G. V. Story " " <i>Water Lily</i>	149
U.—D. M. Browne " " <i>New England</i>	153
X.—N. Javoie " " <i>La Canadienne</i>	157
Y.—L. H. Lachance " " <i>Stella Maris</i>	158
Z.—List of Foreign Fishing Vessels Boarded	164
AA.—" " Seized	174
BB.—Exploration of Salmon River, in the County of Ottawa, by Mr. Witcher	182
CC.—Mr. Witcher's Report on migration of Mackerel	186

APPENDIX A.

STATEMENT of work of the Fisheries Branch of the Marine and Fisheries Department performed during the period from 1st January, to 31st December, 1871.

	1870	1871
Letters received, acknowledged, examined, entered, indexed, or otherwise disposed of, covering 380 pages	3,302	2,521
Letters written, entered, indexed, and dispatched, covering 2,049 pages	2,467	1,880
Reports to Council, written, entered, indexed, and carried out	52	25
Orders in Council, received, registered, copied, and carried out	51	22
Quarterly Accounts, examined and checked	227	232
Special statements, and memoranda for Minister, covering 112 pages	69	42
Requisitions for cheques	533	540
Miscellaneous documents prepared and copied, covering 3,212 pages	2,914	3,212
Circulars written to Overseers and others	1,193	1,796
Licenses made out and delivered	637	523
	11,505	10,613

Certified,

W. F. WHITCHER,

Department of Marine and Fisheries,
Fisheries Branch,

Ottawa, 1871.

P. MITCHELL,
Minister of Marine and Fisheries.

APPENDIX B.

SCHEDULE of Fishery Officers in the Provinces of Ontario, Quebec, Nova Scotia, and New Brunswick, appointed under the Fisheries Act (1868), with Districts, Post Office Address, Salary, &c., &c., distinguishing those who, being Fishery Overseers are instructed to act *ex officio* as Magistrates, from those who act in the capacity of Fishery Wardens, and do not exercise magisterial powers.

PROVINCE OF ONTARIO.

Name.	District.	Address.	Overseer or Warden.	Salary.
Henry Hunt	Larue's Island	Rockport	Warden ..	\$ cts. 20 00
Jno. Wallace	Lindoe Island	Lansdown	" ..	40 00
J. A. Cameron	Cornwall to Coteau du Lac	Sumnerstown	Overseer ..	50 00
Jno. Mooney	Brockville to Cornwall	Prescott	" ..	150 00
Peter Kiel	Wolfe and Antherst Islands, and waters around down to Brockville	Wolfe Island	" ..	100 00
Jos. Pierson	Carrying Place to Point Peter	Consecon	" ..	50 00
Peter Huff, jr.	West Point to Point Peter	Pictou	" ..	50 00
Wm. A. Palen	Point Peter to Petticoat Point	Point Peter, (Cherry Valley)	" ..	100 00
Jno. G. Hicks	Petticoat Point to Black River	Point Traverse	" ..	100 00
Wm. Plews	Black River to Bongard's Wharf	Cape Veasy (Cressy)	" ..	100 00
Jas. K. Cameron	Cobourg to Brighton, with tributary streams and lakes, including Rice Lake	Cobourg	" ..	200 00
Chas. Wilkins	Waters of the Bay of Quinte fronting on Counties of Northumberland, Addington, Lennox, Hastings, and Frontenac, and from Carrying Place eastward to Point Pleasant	Belleville	" ..	1,200 00
Samuel Wilnot	Toronto to Presquid	Newcastle	(*) ..	300 00
Jno. W. Kerr	Whitby Harbor to Long Point	Hamilton	" ..	50 00
Henry Groves	From London to Gardner's Mill Dam on the Thames River	London	" ..	150 00
P. Marentette	Thames River to Rond'Eau	Sandwich	" ..	200 00
S. A. MacVicar	Goderich to Rond'Eau	Sarnia	" ..	100 00
Jno. Eastwood	Goderich to Cape Hurd	Southampton	" ..	100 00
Farquhar McRae	Sydenham River, and Lake St. Clair, from Baptiste Creek to Baby's Point	Wallaceburg	" ..	100 00
Geo. S. Miller	Cape Hurd to Penetanguishene	Owen Sound	" ..	100 00
Wm. Plummer	Penetanguishene to Thessalon River	Manitowaning	" ..	100 90
Jos. Wilson	Thessalon River to head of Lake Superior	Sault Ste. Marie	" ..	50 00
Alex. McKenzie	Lake Simcoe and Tributaries	Barrie	" ..	50 00
W. H. Shipman	Scugog, Sturgeon, and Balsam Lakes	Port Perry	" ..	100 00
Jas. Bird	Inland Waters Co., Peterboro'	North Doura	" ..	
Total				3,560 00

*Fishery Officer in charge of Government Fish-breeding Establishment at Wilnot's Creek.

PROVINCE OF QUEBEC.

Name.	District.	Address.	Overseer or Warden.	Salary.
				\$ cts.
Napoleon Lavoie	Officer in charge of <i>La Canadienne</i>	Gaspé Basin (in summer), L'Islet (in winter)	Overseer	1,200 00 300 00
Alfred Blais	Point Lévi to Matane	Rimouski	"	50 00
Jos. I. Letourneau	Cape Chatte to River Ste. Anne des Monts	Ste. Anne des Monts	"	50 00
P. Vibert, sen.	Point Peter to Percé	Percé	"	50 00
Jos. Eden	York, Dartmouth, and St. John Rivers Gaspé Basin and Bay, to Point Peter	Gaspé Basin	"	50 00
Jas. M. Remon	Percé to Point Maquereau	Fabos	"	50 00
Wm. Phelan	Point Maquereau to Paspebiac Point	Port Daniel	"	100 00
R. W. H. Dimock	Paspebiac Point to River Grand Cas- capedia	New Richmond	"	50 00
P. C. Beauchesne	Grand Cascapedia to Maguasha Point	Carleton	"	150 00
Jno. Mowat	Maguasha Point to River Matapedia, including same and Restigouche River from Mission Point upwards, including tributaries in Cos. of Bonaventure and Restigouche	Matapedia	"	150 00
P. Vibert, junr.	Esquimaux Point to Shelldrake River	Mingan (in summer), Percé (in winter)	"	50 00
E. Pelletier	Trinity Bay	Cap. St. Ignace	"	50 00
Ford. Saillant	Lakes St. John and Kenogami, and the Upper Saguenay River	Grand Bay	Warden	50 00
C. Demeule	River du Gouffre to Canard River, in- cluding inland lakes adjacent to Murray Bay, and St. Paul's Bay	Murray Bay	"	50 00
Geo. Riverin	Canard River to Bersimis River, includ- ing the Saguenay, and its branches from Eternity River downwards	Tadousac	Overseer	150 00
Felix Sylvestre	Wataheeshoo District	"	"	50 00
G. Mathurin	Natashquan District	"	"	50 00
Prudent Fournier	Anticosti Island	"	"	50 00
Fra. Thivierge	Moisie District	"	"	50 00
J. J. Fox	Magdalen Islands	"	Warden	50 00
J. Legouvé	St. Augustine Division	"	"	50 00
W. H. Whitely	Bonne Espérance Division	"	"	100 00
W. H. Austin	Lakes Memphremagog, Orford Pond, Sugar Loaf Pond, and Brown Lake, with tributaries	Bolton	Overseer	150 00
W. C. Willis	Waters in District of St. Francis	Sherbrooke	"	100 00
H. W. Austin	Districts of Montreal and Richelieu, together with Richelieu River and tributaries	Chambly	"	50 00
D. McFarlane	Chateauguay River and tributaries	Huntingdon	"	50 00
P. E. Luke	Missisquoi Bay in Lake Champlain and Pike River	Philipsburg	"	50 00
Danl. Rosa	Lakes Beauport, St. Charles, and ad- jacent lakes	Quebec	Warden	50 00
L. P. Huot	Lakes Philippe, Gagné, and adjacent lakes, and the Island of Orleans	Chateau Richer	"	100 00
W. L. Holland	Ottawa District	Ottawa	Overseer	3,450 00
		Total		

PROVINCE OF NOVA SCOTIA.

Name.	District.	Address.	Overseer or Warden.	Salary.
W. H. Rogers.....	Nova Scotia	Amherst	Fishery Officer..	800 00

Annapolis County.

W. T. Carty.....	Annapolis County	Annapolis	Overseer ..	120 00
Geo. Hardwick.....	Annapolis and Languille Rivers.....	do	Warden ..	25 00
John H. Hicks.....	Bridgetown River.....	Bridgetown ..	do ..	25 00
James Viditoe.....	Nictaux River	Nictaux River, Wilmot.	do ..	25 00
B. Le Cain.....	Lovett Brook	Annapolis	do ..	25 00

Antigonish County.

Richard Smith	Antigonish County	Antigonish	Overseer ..	125 00
Angus McDonald	From mouth of Harbor to foot of Marsh, from thence up Tracadie Stream to Lake, from Marsh up to Monastery Brook, including French Settlement Brook and Tarbits.....	Tracadie	Warden ..	30 00
Alex. Chisholm, junr.....	From mouth of Harbor to Forks, from thence on the Pomquet River to V. Chisholm's Mill, and from Forks on the Black River to Falls.....	Pomquet Forks, Antigo- nish.....	do ..	25 00
Albert Randall.....	From Shore to Lake	Bayfield, W.O.....	do ..	15 00
Colin Chisholm.....	From Antigonish Harbor to McWil- liams or St. Andrew's Bridge	Lower South River, Anti- gonish.....	do ..	25 00
Angus McDonald.....	From McWilliam's Bridge to Frazer's Bridge, including Big Brook	Upper South River, Anti- gonish.....	do ..	25 00
Jno. Cumming	From Frazer's Bridge to Country Line at the head of Lake	Upper South River, Anti- gonish.....	do ..	20 00
Jno. Dexter.....	From Antigonish Harbor (foot of Marsh) to Trotter's Millbrook, thence up said Brook to Trotter's Mills, including both branches of West River and Bailey's Brook	Antigonish.....	do ..	30 00
Jno. Smith.....	From Trotter's Mill Brook to W. Thompson's dam	West River, Antigonish.	do ..	25 00
Jas. McLean	From Thompson's dam to Addington Forks Bridge	West River, Addington Forks, Antigonish.....	do ..	25 00
Hugh Cameron.....	From Forks Bridge to Pinkeytown Bridge, including James River and Beaver River	Addington, W.O.....	do ..	25 00
Duncan Fraser	From Pinkeytown Bridge to Stewart's Mill	Ohio	do ..	20 00

Cape Breton County.

Francis Quinan	Cape Breton County	Sydney	Overseer ..	120 00
Anthony Spencer.....	Mira River, Black Brook	Mira Gut, W.O.....	Warden ..	25 00
Thos. Burke.....	Mira Bridge and Trout Brook	Mira, W.O., Bridgetown	do ..	25 00
John McEwen.....	Salmon River	Arichat.....	do ..	25 00
Thos. Moore.....	Balls and Leach's Creeks	North Sydney	do ..	20 00
Donald McDonald.....	Sydney River and Forks	Lingan	do ..	20 00
Alex. McLean.....	Millbrook	do	do ..	20 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
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Colchester County.

Wm. Blair.....	Colchester County, South Division.	Onslow.....	Warden ..	100 00
Richd. C. Archibald.	Salmon River.....	Truro.....	do ..	25 00
Samuel Frame.....	Shubenacadie River.....	Shubenacadie River.....	do ..	25 00
Robt. J. Pollock.....	Stewiacke River (lower portion).....	Lower Stewiacke.....	do ..	25 00
Geo. Fulton.....	Stewiacke River (lower portion).....	Stewiacke River, Brook- field.....	do ..	25 00
James Bonnyman.....		New Annan.....	Overseer ..	40 00
J. W. Davidson.....	Colchester County, North Division ..	Londonderry.....	do ..	100 00
Henderson Gass.....	Waugh's River.....	do ..	Warden ..	25 00
Robert Fletcher.....	De Bert River.....	do ..	do ..	25 00
Henry Urquhart.....	Folly River.....	do ..	do ..	25 00
Hfy. M. Fulton.....	Portapique River.....	Portapique, W.O.....	do ..	25 00
Jno. A. P. McLellan.	Economy River.....	Economy.....	do ..	25 00
Jas. B. Gilbert.....	Gay's River.....	Gay's River.....	do ..	20 00
Andrew Horne, jun..	Upper Shubenacadie.....	Shubenacadie.....	do ..	20 00

Cumberland County.

Thos. H. Patton	Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland.....	River Philip.....	Overseer ..	100 00
Oliver Fillmore.....	River Philip, Hanams Falls, upwards ..	do ..	Warden ..	25 00
David Stewart.....	" " " " downwards ..	do ..	do ..	25 00
Jeremiah Brownell..	Shinimicas River.....	Shinimicas, Goose River.....	do ..	25 00
Asa Fillmore.....	River Philip.....	River Philip.....	do ..	25 00
Geo. Dimock.....	Cumberland County, Western Division including all streams flowing into Bay of Fundy.....	Amherst.....	Overseer ..	100 00
David Corbett.....	Laplanche and Nappan Rivers.....	do ..	Warden ..	25 00
Moses Harrison.....	Maccan River.....	Maccan, W.O.....	do ..	25 00
John H. Barnes.....	River Hebert.....	do ..	do ..	25 00
Francis L. Jenks.....	Parrsboro' Head.....	Parrsborough.....	do ..	25 00
W. D. Rindress.....	Wallace River.....	Pugwash.....	do ..	30 00

Digby County.

James H. Morehouse	Digby County.....	Digby Neck Settlement.....	Overseer ..	120 00
Wm. Odell.....	Joggins River.....	Digby.....	Warden ..	25 00
Hasil R. Robicheau ..	Salmon River.....	Salmon River, W.O.....	do ..	25 00
Lochlin McKay.....	St. Mary's Bay.....	St. Mary's Bay, W.O.....	do ..	25 00
Robert Journey.....	Sissaboo River.....	Digby.....	do ..	25 00
John P. Thibodeau ..	Metaghan Rivers and Comeau's Brook	Metaghan River.....	do ..	25 00

Guysborough County.

Jas. A. Tory.....	Guysborough County.....	Guysborough.....	Overseer ..	150 00
Jas. Cook.....	Salmon River, from mouth of river to Graham's West Line.....	Salmon River, W.O.....	Warden ..	25 00
Wm. P. Carritt.....	From Graham's West Line to foot of Neil's Lake, including North Branch and Lake.....	do ..	do ..	20 00
Charles Kenny.....	From foot of Neil's Lake to Beaver Dam Lake, inclusive, and all the lakes which it pass through.....	Salmon River, West Branch, Guysborough.....	do ..	15 00
Donald Guan.....	From mouth of Scott's place to Coun- try Harbor Lake, including Gunn's Brook from main river to Hurley's Lake.....	Cross Roads.....	do ..	30 00

PROVINCE OF NOVA SCOTIA.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
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Guysborough County.—Continued.

William Pride.....	From mouth of river to Sinclair's Point, including stream from Wine Harbor to Lakes	Sherbrooke, St. Mary's..	Warden ..	30 00
Thos. McKeen	From Forks to Country line, including McKeen's Mill and Brook to Lake.	Melrose	do ..	30 00
Edward Jordan	From Forks to Indian-man's Brook ..	Glenelg	do ..	30 00
Robt. McKay	From head of tide to head of Intervale on the North Branch, and to Cameron's Mill on the Valley Branch....	Guysboro', Intervale, W.O.	do ..	15 00
Jas. It. Bruce	From mouth of Clam Harbor River to Upper Falls	Guysborough	do ..	10 00
Jas. Nickerson	From Beach to Falls, including North West Brook	New Harbor, W.O.	do ..	15 00

Halifax County.

Ezekiel Sibley.....	Halifax County, East Division, Dartmouth to Ecum Secum	Meagher's Grant, W.O., Musquodoboit	Overseer ..	100 00
Wm. Guild	From Ship Harbor to Chezzetcook, inclusive	Lunenburg	Warden ..	40 00
Wm. Hall	Sheet Harbor	Sheet Harbor	do ..	40 00
John Fitzgerald	Halifax Harbor to Margaret Bay, Portuguese Cove	Portuguese Cove	Overseer ..	100 00
Archbld. Kidston	From Peggy's Cove to Terrance Bay.	Spryfield	Warden ..	40 00
George Dauphiné.....	From Hubbert's to Peggy's Cove, Margaret Bay	Margaret Bay, Peggy's Cove, W.O.	do ..	40 00

Hants County.

Peter S. Burnham	Hants County, Western Division to extend from West County line to Walton	Windsor	Overseer ..	100 00
John W. Dinsmore	Shubenacadie R. from Stewiacke R. to Halifax County line	Shubenacadie	Warden ..	30 00
James Mosher	Rivers Meander and Horbert, from mouth to source	Brooklyn	do ..	30 00
Timothy B. O'Brien	East Division from Walton to Colchester line	Windsor	Overseer ..	100 00
Joseph Mosher	Kennetcook River, from its mouth to the head of tide	Newport	Warden ..	30 00
Jas. M. O'Brien	Walton and Kennetcook Rivers	Maitland	do ..	30 00

Inverness County.

Murdoch A. Ross	Inverness County, East Division	North-East Margaree	Overseer ..	100 00
Peter Coady	From mouth of Margaree River to South West Chapel	South-West Margaree, W.O.	Warden ..	25 00
Jno. Carmichael	Middle portion of Margaree River ..	Margaree, W.O.	do ..	25 00
Archibald McDougall	Upper waters and tributaries, Margaree River	Margaree River, Mabou.	do ..	25 00
Reuben Philips	Upper waters and tributaries, Margaree River	{ Margaree, North East }	do ..	25 00
John McRae			do ..	25 00
Wm. Grant	Inverness County, West Division	Mabou	Overseer ..	100 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
<i>Inverness County.—Continued.</i>				
Bernard Dwyer	Malou River	Malou	Warden	25 00
Angus McIntyre	River Dennis	River Denis, W.O.	do	25 00
Donald McDonald	do Inhabitants	River Inhabitants, W.O.	do	25 00
Angus Cameron	do do	do	do	25 00
<i>Kings County.</i>				
Benjamin E. Smith	Kings County	Kentville	Overseer	125 00
John E. Starr	Kings County, with special reference to the coast fisheries.	Wolfville	do	125 00
W. McIntyre	Annapolis River		Warden	30 00
H. C. Eagles	Gaspereau		do	20 00
Jno. Buchanan	do		do	20 00
<i>Lunenburg County.</i>				
Daniel Dimcock	Lunenburg Co. East div. Middle, Gold, Martin's and Mushamush Rivers.	Chester	Overseer	100 00
Ebenezer Frail	Eastern River	do	Warden	25 00
James Corkum	Middle River	do	do	25 00
Benjamin Keddy	Lower Gold River	do	do	25 00
David Vienot	Upper Gold River	Beech Hill, Chester	do	25 00
Jas. Langille	Martin's River	Chester	do	25 00
Henry S. Jost	Lunenburg Co. West Division	Lunenburg	Overseer	100 00
Chas. Pernette	From mouth of Lahave River to Wil- kie's Cove	do	Warden	25 00
James McKeen	Wilkie's Cove to Henry Koch's	Lahave River, W. O.	do	25 00
Jas. Mossman	From Henry Koch's to Knock's	Lunenburg	do	25 00
Edward Morgan	Knock's to source of Lahave River	Lahave River, New Ger- many, W. O.	do	25 00
W. Veinot	Mushamush River		do	25 00
Geo. A. Nesbit	Petite River		do	25 00
<i>Pictou County.</i>				
Walter Murray	Pictou County, East Division, includ- ing Sutherland's, French and Barney's River	Barney's River, W. O.	Overseer	100 00
George Murray	Barney's River		Warden	25 00
Donald Rankin	Sutherland River	New Glasgow	do	25 00
James McMillan	French River		do	25 00
Angus McDonald	Bailey's Brook	Bailey's Brook, W. O.	do	20 00
Thomas Graham	Pictou County, West Division, includ- ing East, Middle, West and Caribou Rivers	New Glasgow	Overseer	100 00
Wm. Smith	New Glasgow Bridge to head of East River	do	Warden	30 00
Wm. Graham	New Glasgow Bridge to Harbor	do	do	25 00
Robert Archibald	Middle River	Middle River	do	25 00
Daniel Creighton	West River		do	25 00
Jno. Cameron	River John		do	25 00
<i>Queen's County.</i>				
Saml. T. N. Sellon	Queen's County	Liverpool	Overseer	120 00
Stephen Clements	Fort Point to Salmon Rocks, Milton Bridge, on Liverpool River	do	Warden	25 00
Theodosius Ford	Milton Bridge, up Port Liverpool River	Milton	do	25 00
Wm. Buchanan	Salmon Rock to Puddingpan Island, around the coast	Liverpool	do	20 00
Hy. Hooker	Puddingpan Island to Toby's Island, up Port Medway River to Dog Cove	Port Medway	do	30 00

PROVINCE OF NOVA SCOTIA.—Continued.

Name.	District.	Address.	Overseer or Warden.	Salary.
<i>Queen's County.—Continued.</i>				
John Fitzgerald.....	From Steam Mills to Salters Falls on Port Medway River.	Mill's Village	Warden ..	30 00
Barnabas Miles	Salters Falls to Pawn Hook on Port Medway River.	Greenfield, W. O.	do ..	20 00
Stephen Smith	Pawn Hook to Brookfield	Liverpool	do ..	20 00
Jonathan Smith	Fort Point to Western Head, Liver- pool Harbor	do ..	do ..	15 00
James Farquhar.....	Western Head, Liverpool Harbor, to Broad River, Port Mouton and Port Joli.....	do ..	do ..	30 00
<i>Richmond County.</i>				
Duncan Cameron....	Eastern Division from River Bour- geoisie to East Boundary of County, including said river	St. Peter's.....	Overseer ..	125 00
Alex. Urquhart.....	Grand River	Grand River, W. O.	Warden ..	30 00
Hector McKinnon....	Loch Lomond	Loch Lomond, W. O.	do ..	30 00
Jno. H. Ballam.....	Western Division, from River Bour- geoisie to West Boundary of County	Arichat	Overseer ..	125 00
Peter W. Grouchy....	Decousse River	Decousse River, Arichat.	Warden ..	30 00
John Prector, Sen ..	Inhabitants River	Port Hawkesbury	do ..	30 00
<i>Shelburne County.</i>				
Wm. Muir, Jr.....	Shelburne County	Shelburne	Overseer ..	125 00
W. McKay	Clyde River	do ..	Warden ..	20 00
Mathias Greenwood ..	Round Bay River and Indian Brook ..	Clyde River, W. O.	do ..	20 00
Geo. Archer	Birchtown River	Shelburne	do ..	15 00
Richd. McGill.....	Roseway River	do ..	do ..	20 00
James Turner	Jordan River	Shelburne	Warden ..	30 00
Lathrop Freeman....	Sable River	Sable River, W. O.	do ..	20 00
Hy. Ackerman	Green Harbor	Ragged Island, Lockes Island, W. O.	do ..	20 00
<i>Victoria County.</i>				
Donald McRae, jr ..	Victoria County	Baddeck	Overseer ..	125 00
Jno. McLellan	Middle River	Middle River, W. O., Bad- deck	Warden ..	25 00
Donald McQuarrie....	do	Baddeck	do ..	25 00
Donald McMillan ..	Baddeck River	Middle River, W. O., Bad- deck	do ..	25 00
Augus McKenzie.....	North River	North River, W. O.	do ..	25 00
Donald McRae.....	Baddeck River tributaries	Baddeck	do ..	25 00
<i>Yarmouth County.</i>				
T. B. Crosby.....	Yarmouth County	Tusket	Overseer ..	100 00
Robert Baker	From Lower Narrows to Mouth of Tusket River	Yarmouth.....	Warden ..	25 00
J. A. Hatfield	From Reynard's Falls to Lower Nar- rows, Tusket River	Tusket	do ..	25 00
Wm. Kavanagh.....	Gurill's Bridge to Coldstream	do ..	do ..	25 00
Wm. Prosser.....	Branches of River above Reynard's Falls	do ..	do ..	25 00
Eustace Nickerson....	Salmon River	Yarmouth	do ..	25 00
Edward Perry.....	Little River	do ..	do ..	25 00
Total.....				7,015 00

PROVINCE OF NEW BRUNSWICK.

Name.	District.	Address.	Overseer or Warden.	Salary.
W. H. Venning	New Brunswick and Nova Scotia....	St. John, N.B.	Inspector of fisheries	\$ cts. 1,400 00
R. N. Venning .....	.....	,, .....	Clerk.....	400 00

County of Albert.

Jno. Alcorn	County of Albert	Harvey	Overseer ..	150 00
John Taylor	Petitcodiac River	Coverdale	do ..	40 00
Richd. Gross	Mouth of Petitcodiac and Dorchester Bay	Hillsboro'	Warden ..	30 00
Jacob Beck	Pollet River	Elgin	do ..	30 00

County of Carleton.

Hugh Miller	Miramichi River (S.W.) from Head Waters to Forks	Glassville	Overseer ..	30 00
Hugh Harrison	St. John's River and tributaries, from Long's Creek to Tobique River	Woodstock	do ..	100 00
Toussaint Tremblay ..	St. John's River, from Eel River to Woodstock .....	.....	Warden ..	30 00

County of Charlotte.

B. L. Cunningham ..	Inner Bay of Passamaquoddy	Chamcock, W. O.	Overseer ..	30 00
J. W. Fountain	Campo-Bello and West Isles, with coast and streams in Charlotte County	Deer Island, Fairhaven, W. O.	do ..	100 00
Patrick Curran	St. Croix River and tributaries ..	Milltown, St. Stephen ..	do ..	120 00
W. B. McLaughlin ..	Grand Manan Island and spawning grounds	Grand Manan	do ..	*290 00
Saml. Dick	St. George to Beaver Harbor	La Tête, W. O.	Warden ..	30 00
Robert Dixon	Seely's Cove to Lepreaux	Lepreaux	do ..	30 00

County of Gloucester.

Jas. Hickson	River Nipissiguit and tributaries, with Sea Coast and streams from Belle Dune River to Grindstone Point...	Bathurst	Overseer ..	250 00
Wm. Bateman	Nipissiguit River	do	Warden ..	50 00
Juste Hache	Oyster beds in Co. of Gloucester, Car- raquet, and Shippegan	Carraquet	Overseer ..	100 00
Justinian Savoy	Tracadie	Tracadie, W. O.	do ..	30 00
Jno. L. Veno	Pokemouche	Pokemouche	Warden ..	30 00

County of Kent.

Chas. Cormier	Cocagne River	Dundas	Overseer ..	100 00
J. Mc D. Sutherland.	Richibucto River	Richibucto	do ..	50 00
Francis B. Légaré ..	Little Buctouche River	Little Buctouche River, Shediac	Warden ..	30 00
A. M. Girouard	Big Buctouche River .....	.....	do ..	30 00
T. D. Cormier .....	.....	.....	do ..	30 00

County of Kings.

Isaac Foshay	County of Kings	Sussex, Apohaqui	Overseer ..	100 00
Saml. Gosline	From the mouth of Smith's Creek up- wards	Smith's Creek, W. O.	do ..	50 00
Saml. F. Ryan	Mill stream	Studholm, Apohaqui ..	Warden ..	30 00

* Includes boat hire.

PROVINCE OF NEW BRUNSWICK.—*Continued.*

Name.	District.	Address.	Overseer or Warden	Salary.
<i>County of Northumberland.</i>				
Thos. Savoy	Burnt Church River and tributaries..	Upper Neguac.....	Overseer ..	30 00
Thos. Harris	Tabusintac River and tributaries.....	Tabusintac, Miramichi..	Warden ..	30 00
Norman Campbell.....	.....	do do ..	do ..	30 00
Amos Perley	Miramichi River and Bay east of Beaubairs Island, in the Parishes of Glenelg and Chatham.....	Chatham, Miramichi....	Overseer ..	100 00
Christopher Parker ..	Miramichi River and tributaries from Newcastle to Prices Island between Beaubairs Island and Boiestown.....	Newcastle, do	do ..	160 00
and N. B. T. Underhill ..	.....	Blackville, do	do ..	160 00
John Hogan	Miramichi River (N.W.) and tribu- taries from east end of Beaubairs Island upwards.....	Newcastle, do	do ..	210 00
Aaron Hovey.....	Miramichi River (S.W.) and tributaries between Blissfield and Boiestown ..	Boiestown	Warden ..	30 00
Geo. Bryanton	From Elm Tree Brook to Squire Under- hill's, on S.W. Miramichi River....	Blackville, Indiantown..	do ..	30 00
Kenneth Cameron	Miramichi River S.W. from line of Blissfield to the Head Waters and tributaries.....	Boiestown, Miramichi ..	Overseer ..	100 00
Patrick Bergin	Cain's River, Parish of Blackville....	Dumphey, W.O., Parish Blackville, S.W. Mira- michi	Warden ..	30 00
Thos. Smith.....	From lower end of Fingley's Island on N.W. Miramichi, upwards, and the Big Sevogle	North Esk, Miramichi ..	do ..	30 00
David Somers	From lower side of Ox-Bow, on the little South West, upwards.....	do do ..	Overseer ..	30 00
Patrick Gillis	Little South West River and tribu- taries.....	do do ..	Warden ..	30 00
Denis Hogan.....	Renous River and tributaries	Renous Bridge, W.O....	do ..	30 00
Thos. McKenzie.....	From Dunbar's Point on N.W. Mira- michi to lower end of Fingley's Island on Little South West to lower side of Ox-Bow.....	Red Bank, North Esk, Miramichi.....	do ..	30 00
Robt. Brimner	Napan and Black Rivers and tribu- taries	Chatham, Miramichi....	do ..	30 00
John Williston	Bay du Vin River and Bay, with Parish of Hardwick, Fox, and other Islands and Stations on South side of Main Channel of Miramichi River	Bay du Vin, W.O.....	Overseer ..	100 00
James Russell.....	Miramichi Bay and feeders.....	Newcastle, Miramichi...	do ..	150 00

County of Queens.

Isaiah Langan.....	Salmon River.....	Chipman W.O. Gasperaux	Warden ..	30 00
John Secord.....	Canaan River.....	.....	do ..	30 00

County of Restigouche.

E. Ferguson.....	Little Dune River to Morris Rock....	Dalhousie	Overseer ..	100 00
W. McMillan	From Little Belle Dune to Eel River	New Mills.....	do ..	100 00
J. Galbraith	Charlo River	Dalhousie	Warden ..	25 00
J. McMillan	Jacquet River	River Louison, W.O....	do ..	25 00

PROVINCE OF NEW BRUNSWICK.—*Continued.*

Name.	District.	Address.	Overseer or Warden.	Salary.
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County of Sunbury.

Reuben Hoben	St. John's River, Indiantown, to County Line of York	Burton, W.O.	Overseer ..	100 00
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County of St. John.

Cyprian E. Goddard ..	St. John County	St. John	Overseer ..	150 00
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County of Victoria.

C. McClosky	County of Victoria	Grand Falls	Overseer ..	100 00
Jonn Jamer	Tobique River	Andover	Warden ..	30 00
John M'Dougall	Three Brooks, branch of Tobique River	Arthurette, W.O.	Warden ..	30 00
G. Bedell	Salmon River	Andover	do ..	30 00
Donald Fraser	Tobique River	do	do ..	30 00

County of Westmoreland.

W. B. Deacon	Shediac Harbor and River	Shediac	Overseer ..	60 00
J. Wright	Petitcodiac and Memramcook River ..	Moncton	Warden ..	60 00

County of York.

C. McPherson	County of York	Fredericton	Overseer ..	150 00
J. Campbell	Grand Pass on St. John's River up- wards	Kingsclear, W. O., Fre- dericton	Warden ..	30 00
W. Brown	From Price's Bend to Burnt Hill,	Southampton	do ..	30 00
A. Moir	S. W. Miramichi	Bloomfield	do ..	30 00
Total .....	.....	.....	.....	6,170 00

P. MITCHELL,
Minister of Marine and Fisheries.

(Certified) W. F. WHITCHER,
Department of Marine and Fisheries,
Fisheries Branch, Ottawa, 1871.

APPENDIX C.

REPORT OF THE CRUISE OF THE GOVERNMENT SCHOONER "LA CANADIENNE," IN THE RIVER AND GULF OF ST. LAWRENCE, FOR THE SEASON OF 1871, UNDER COMMAND OF N. LAVOIE, Esq., FISHERY OFFICER.

To the Honble. PETER MITCHELL,
Minister of Marine and Fisheries, Ottawa.

SIR,—In accordance with your instructions, and having completed the necessary repairs to enable *La Canadienne* to put to sea, we left Quebec on the 22nd of April, one day earlier than last year. Our first destination was the Magdalen Islands, where the want of protection is most felt at this season of the year, and whither our instructions directed us to proceed with the utmost despatch. Owing to head winds and stormy weather, we reached that locality only on the 10th of May.

Having already in my previous reports given the history of the Magdalen Islands, it is not necessary that I should repeat it in the present one. I shall only say a few words on the success of the fisheries, and the work of improvement going on there. Neither is it requisite that I should give long details relative to the nature and extent of the various services which the Government schooner *La Canadienne* is called upon to render every year, under my command, in the Lower St. Lawrence. These details are already sufficiently known from my previous reports. Suffice it to say that the cruise of *La Canadienne*, this year, lasted a little over six months, and that it has been attended with all the beneficial results naturally to be expected therefrom. This service, during the present season, as well as in past years, contributed in the greatest degree towards the maintenance of peace and public order on our shores, in assuring to our fishermen and out-fitters security for their persons and fishing establishments, and procuring the harmonious and regular working of the fishery laws among our own as well as foreign fishermen.

This year's cruising has been accomplished without any serious accident to the crew or vessel deserving special mention, nor has it given rise to any incidents of a nature to require any very lengthy report.

With these preliminary remarks, I shall proceed to review the several fisheries of the Gulf and Lower St. Lawrence.

MAGDALEN ISLANDS.

Herring Fishery.

Seventy-seven schooners from various parts of the Dominion, and twenty-three from ports in the United States, had already been a fortnight at the islands, when we anchored there on the 10th of May, and the crews were only waiting for favorable weather to work their seines. Up to this time the cold had been so intense, the rain so frequent and strong winds so constant, that the fishermen could hardly remain on the decks of their vessels. Herring had however appeared since the early part of May, and were so abundant that they could easily be traced by the color of the water in Pleasant Bay.

The delay occasioned by the inclemency of the season gave rise to serious apprehensions, but herring fortunately remained longer than usual in the Bay, and schooners were enabled to take in full cargoes. Shoals of this fish were so thick that as many as 6,000 barrels were caught in one haul of the seine; 1,500 to 2,000 barrels being considered indifferent success.

Reference to the statistics annexed to this report will show that the number of schooners which repaired to the Magdalen Islands this year for the spring herring was not so large as in 1870. The reason of this is that last year one hundred and nineteen schooners caught only 2,100 barrels of herring, and this failure was undoubtedly the cause which prevented the same vessels from coming, in larger numbers even this season to the Magdalen Islands. This is to be regretted, as I feel convinced that there were sufficient fish to load all the vessels in the Dominion.

The inhabitants and fishermen of the Magdalen Islands, were, as usual, permitted to catch herring for their own use when foreign fishermen allowed them to do so in their seines, and supplied them with salt to cure them. It is a matter of wonder, as well as of regret, that this population which in other matters is full of energy to encounter the hardships and perils of the sea, and marked with other good qualities, should be so remiss when their own welfare and progress are concerned.

Herring is the greatest source of the waters surrounding the Magdalen Islands; it is upon this product the inhabitants mostly rely for their winter supplies. Still, strange to say, for the last sixty years they have not yet succeeded in fishing for themselves, being entirely dependent on the kindness of mere strangers for their principal article of food. In vain do they witness the abundance of food which a kind Providence yearly brings to their very doors; in vain do they every season see strangers come from distances of 500 miles and more to reap this rich harvest and pocket large profits — nothing moves them. Should you try to give them encouragement and advise them to form partnerships by clubbing thirty or forty together, and thus procure seines and salt, catch the fish, and after taking in their own supply, sell all the balance to foreign traders, who would only be too happy to buy them, your kind intentions are met with the most flimsy objections. It is therefore no wonder that they have remained what they were sixty years ago. They give you their own reasons to account for their poverty; but the more I see of them, the more I feel convinced that this poverty must be traced to other causes.

These remarks are made with the best intention, and I hope that they will be taken and accepted in the same spirit. I sincerely admire the inhabitants of these Islands for their good qualities, but still, I would like to see them wake up from their lethargy, and show a little more anxiety to take advantage of the multitudinous profits which Providence has placed at their own door.

Seal Hunting.

The mode of pursuing this fishery is so well known that it will only be necessary to say a few words about it. Seal hunting is carried on in the spring upon the ice floating in the Gulf of St. Lawrence, and Magdalen Island schooners mostly repair for this purpose to the fields of ice found during the month of March, near the Island of Anticosti or at the entrance of the straits of Belle Isle. The female seals bring forth their young during the period they remain upon the ice, and it is then that the hunters kill them either with clubs or by shooting them. When abundant, crews of six or seven men have been known to kill several hundreds of these animals in a few hours. This hunting is the favourite talk of the population during the long winter evenings; and the moment they may be enabled to join in this sport is impatiently awaited in spite of its many dangers.

This pursuit, however, almost utterly failed last spring. In 1870, 6,000 Seals were killed on the floating ice around the Islands, but not a single one was seen this year. Sixteen schooners, manned by ten men each, left Amherst and Allright Islands about the latter end of March for the floating ice around the Islands, Newfoundland and Anticosti. The successful season of 1870 gave the Magdalen Islands people great hopes, but unfortunately these were not realized last spring. Several of the crews suffered terribly from the cold, one of the schooners was lost in the ice, her crew having been saved with the greatest difficulty by neighbouring vessels, and others were near sharing the same fate.

Only a couple of vessels met with success, their catch amounting to 450 seals each. The average catch of the others was about 100, which gives a total of 2,200. This is a great falling off from 1870, when the catch was 8,813. Outfitters are not, however, discouraged by this ill success, as early as last fall schooners were being rigged for the next spring's operations. It is true that the yield of the herring and cod, coupled with the mackerel fishing, and this year's abundant crop, had been sufficient to cover the loss of this particular fishery, and enable our Magdalen Islands people to expect better success next season.

Cod Fishery.

At the same date, when codfish appeared at the Magdalen Islands, this spring, that is to say on the 20th of May, schooners had in 1870 already caught from 30 to 40 quintals each. This year, however, although codfish struck in late, they were so abundant and remained so long near the Islands, that our fishermen caught 17,792 quintals during the summer, and 1,240 quintals during the fall, thus giving an average of 100 quintals per boat, whilst in 1870 it was 90 quintals, and in 1869 only 60 quintals.

To this large catch must also be added 5,600 quintals of codfish caught in two weeks by Magdalen Islands schooners which went to the coast of Labrador for such purpose. Some people may wonder that these vessels should leave the Islands in search of fish, when foreign vessels come to their shores for an identical purpose, but the thing will be easily understood when it is considered that cod is so much more abundant on the north coast, that vessels can take in their cargoes in a much shorter time, that abundance of good shelter is a great source of security for the crews, and that the mode of fishing as carried on there is less expensive than the American system of anchoring on the fishing grounds, an expense which the poverty of the Islanders precludes them from incurring. From personal knowledge and experience, I am satisfied that the system pursued by the Islanders is the best, and it is daily being more and more adopted by foreign fishermen.

Mackerel Fishery.

The spring and fall fishing, in every other fishery were abundant. Twenty schooners from the States were successfully engaged in the spring, and fishermen caught 45 or 50 barrels of fish to one of last year. The statistics annexed to this report give the total of mackerel caught around the Islands as 4,470 barrels. Prices were unfortunately much lower than last year, so that although the catch was larger, the profits will be about the same.

I could not ascertain the exact number of foreign vessels engaged in fishing this season around the Magdalen Islands, but according to the most reliable information there were not less than 150 to 500 sail.

The crews of these vessels did not succeed so well as the Islanders, the fish, for some unknown reason, keeping during the whole season within the coves and bays, which accounts for the small catch of the schooners fishing outside.

Agriculture.

The land as well as the sea gave such a bountiful harvest during the past season, that this year is considered one of the most plentiful seen for a long period at the Magdalen Islands. With a little care and forethought savings could be effected and means taken to provide against bad yields, but such a thing as prudence is unknown here. Past hardships and misery are easily forgotten with successful fishing seasons; the same abundance is always reckoned upon, and this accounts for the carelessness of the people for everything else than fishing, and their neglect of agriculture. This state of poverty and dependency will only cease when the Magdalen Islands fishermen shall make the cultivation of their farms their main occupation and consider that their main support.

The geographical position of the Islands, their difficulty of communication with other parts of the world, the fertility of the land and its easy cultivation, the example of strangers

prospering near the struggling natives, should have taught them long ago, that they have been following a wrong direction, and that they have not ere this been entirely ruined can only be accounted for by the abundance of wealth which surrounds them, an abundance which cannot fail all at once. However, there certainly has been some progress made during the last few years, but there is still a wide scope for improvement.

The more the quality and fertility of these lands are looked into, the more one is convinced of the neglect in the mode of cultivation and of the vast amount of wealth lost to its inhabitants. I have seen farms on which, five years ago, barely enough fodder could be raised to feed a horse and cow; these lands fell into the hands of strangers and now yield enough to raise large quantities of cattle, besides producing grain for the support of the owners and their families. Three-fourths of these farms would give a similar result were they better attended to and cultivated in a proper manner.

On most of the land, what little cultivation is seen, is done by women; it is they who till the soil, cultivate it and harvest the little they have to store away, whilst the men go fishing and do almost nothing else; to the women falls the lot of carting, curing and drying the fish, the men working only about four or five months of the year, the remainder of the time they do nothing or muse about future plans. Such a state of things is sincerely to be regretted; let us hope, however, that the progress made in other parts of the country will soon be felt in these Islands, and that the encouraging examples of an Agricultural Society will soon open the eyes of the fishermen, and make the Magdalen Islands what they ought to be, a granary where in times of scarcity other parts of the Dominion may rely for supplying their wants.

Amherst Harbour.

The collector of customs at the Magdalen Islands, experienced no difficulty this year in collecting the duty imposed upon vessels frequenting Amherst Harbour.

Although the works of improvement carried on in 1870 have not been very successful, the owners of vessels willingly complied with the law, in hopes that they would be better executed this year and the deepening of the channel completed in 1872. There is still, however, a good deal to do to remove the ledge of rocks barring the entrance of the harbour, but the work thus far has been well executed by Mr. Rosa, of the Department of Public Works, and he has now succeeded in blasting a channel ten feet wide by twelve or thirteen deep in the highest tides. Another season will very likely be sufficient to complete this work, and it is to be expected that now that the difficulties to be experienced are known to Mr. Rosa, he will be beforehand provided with the requisite materials, without being compelled to stop the men for want of such and have to run from one place to another, as was the case last year, to procure the necessary implements.

Light Houses.

The building of light-houses on Bird Rocks and Amherst Island must undoubtedly be reckoned among the most useful improvements made in the navigation of this part of the Gulf of St. Lawrence during the course of last year. Only those who navigate in the Gulf can fully appreciate the advantage of these lights during dreary nights of suspense and anxiety. Sailors are therefore most thankful to the head or the Department for these guides which have already prevented the wreck of numerous vessels. Aird Rocks light is seen at a distance of 20 miles, and that of Amherst Island from twelve to fifteen miles. The latter is one of the finest in the Gulf.

La Canadienne visited Magdalen Islands twice during the season; first during a fortnight in May and for ten days in October. The marine police schooner *Water Lily*, Commander Story, had been there before in the spring, and in the month of May, the *Stella Maris* took our place and remained during the whole of the stay of the foreign fleet.

Order and peace prevailed during the whole season, even at times when the number

of strangers was greatest. There was not the least quarrel and not a single drunken man. I feel sure that similar precaution will in future ensure similar results; for which state of things the Islanders give merit to whom merit is due.

ISLAND OF ANTICOSTI.

As I have already had the honor of stating in my report of 1870, this Island which was formerly so dreaded, and from the shores of which seamen still keep at a respectful distance, ceases to frighten away either our own or foreign fishermen; the number of people settling thereon for the purpose of fishing is increasing every year, and even in spite of prohibitory laws, foreign vessels resort there from time to time, and fish within forbidden limits, so remunerative is this pursuit around these inhospitable shores.

Cod Fishery.

Codfish which generally follow the spring herring, this fish constituting their principal food, appears very early on the banks off Anticosti, nearly at the same time as on the south shore, several fishermen on the north coast consequently repair here in the spring until the fish arrive at their own shores. The most frequented spots are the South West Point, English Bay, Belle Bay, McDonald's Cove and Ellis or Gamache Bay. The principal outfitters are the Messrs. Setter, of Anticosti, Couture, of Montmagny, and Fruing, of Jersey. The number of boats engaged fishing this year, was ninety. Fishing was most abundant this season, the yield being reckoned at 9,500 quintals of cod. About ninety fishermen from Gaspé, who went over to the Island, were very successful, their catch averaging 100 quintals per man. The greatest draw back however arose from the difficulty experienced in curing the fish. The mode of preparing cod is as follows:—the fish after being dressed and washed, are salted, (in casks if caught in open boats, and in bulk if in vessels) remaining in salt from ten to twelve days, they are then washed, piled in heaps, pressed and then spread out in the sun to dry. In six or eight days, if the weather be fine, they are ready for market. From the above it will be readily understood that fine weather is an indispensable condition for the speedy and satisfactory curing of fish. Owing to the unfavourable weather, which almost constantly prevailed during August and September, a large quantity of cod must be classed as of an inferior quality.

Herring Fishery.

If the Island of Anticosti was surrounded with good harbours, where schooners could find a safe shelter during stormy weather, there is no doubt it would be, every spring, visited by a large fleet, the fish always being abundant in May; but its shores are fraught with dangers, especially at this season of the year, and fishermen prefer to keep away from them. Herring, which seldom fails, is mostly used for bait in codfishing and for the family provisions. Something like 2,775 barrels were, however, exported this year.

Salmon Fishery.

This fishery yielded only about sixty barrels, which is somewhat under the figures of last year, but one station, Dauphine River, yielding from fifteen to eighteen barrels, was not fished. This small quantity of salmon was mainly caught on the sea shores, the estuaries of the rivers yielded very little. Jupiter River for instance, which usually gives from 25 to 30 barrels, yielded only eight this season, owing to long and continued freshets. Two parties who obtained licenses this spring have fished, but others refused to do so.

Several parties who had old stations gave them up, so that the amount collected as license fees is somewhat smaller than last year. There were no infractions of the law by our own people; the local fishery overseer informed me that in going round the Island, he met one Captain Peter, owner of a schooner from Prince Edward Island, the name of which he could not ascertain, who had one thousand fathoms of salmon nets set in Belle Bay. On being told that he could not be allowed to fish there without a license, he produced a permit alleged to have been signed by the Honorable Minister of Marine and Fisheries, and countersigned by me. Although the overseer strongly suspected that these permits were forgeries (as they indeed were) he hesitated to confiscate the nets without further investigation: but a few hours afterwards, as no salmon were caught, the captain took them up and sailed for other fishing grounds.

Halibut Fishery.

Though halibut is found in large quantities around Anticosti Island, our fishermen hardly engage in this fishery and rather keep away from spots frequented by this fish, as they claim that it frightens away the Cod. This fishery is mostly carried on by foreign vessels, and with bottom or bultow lines. The local fishery overseer reports that five or six schooners from Prince Edward Island visited Anticosti this summer and were engaged in halibut fishery on the banks, but owing to high winds and stormy weather they met with very indifferent success, and took in but small cargoes.

I visited Anticosti Island twice this season; on the first occasion to meet the fishery overseer, give him the necessary instructions and receive from him any information he might have to communicate, and a second time to place under bonds a fisherman who had threatened to kill another from English Bay. Our stay there is always as short as possible, owing to the dangers of this coast.

GASPE DIVISION.

For purposes of greater clearness and in order to make the importance of the fisheries on which I have the honor to report, better understood, I have classed them in three divisions:—The first comprising the Magdalen and Anticosti Islands, the second the counties of Gaspé and Bonaventure, and the third, the north shore and Labrador Coast.

COUNTIES OF GASPE AND BONAVENTURE.

This division, which has the largest and most important extent of coast, was frequented for purposes of fishing immediately after the discovery of Canada, but in spite of its inexhaustible resources its progress was at first very slow. For the last ten years however great improvements have taken place, and the impulse given by energetic men is noticed in novel enterprises of all sorts, such as railways, telegraphic lines, colonisation roads, etc., etc.

The owners of former cod fishing establishments are not the only ones who now share in the sources of wealth found in the waters of the Bay des Chaleurs: during the last four or five years, new establishments have been started for the curing of herring, salmon and lobsters; these have occasioned a greater activity and consequent profit than were formerly noticeable with the old firms. This improvement is generally admitted, and I feel happy to be enabled to bear witness to its existence.

The branch of industry in which there has been less progress observable is, undoubtedly agriculture; still the improvement is considerable, and in this as well as in other industries every one seems bent upon opening up new means of communication and improving or extending the colonization roads. When one looks at the splendid lands of Percé, Grand River, Pabos, Paspebiac, New Carlisle and Cascapédia, extending as far as the eye can reach, it can hardly be understood how the opening up and cultivating of farms is limited to those bordering on the sea shore.

The present population of the Gaspé and Bay des Chaleurs coast, to whom fishing is a second nature, can hardly be expected to change their habits and rely on their farms for support. But in such times as these, when so much is said about colonization and immigration, why are no efforts made to bring to this part of the country a population of different habits and propensities? I can fully appreciate all that is said about the advantage of settling in the St. Maurice, the Saguenay, or the Eastern Townships, but I contend that similar advantages are found here, with the further assurance that the sea will always afford to the new settler abundance of food during dull times or in case of a bad harvest. The climate is splendid, and it is to be hoped that at no very distant date there will be sure and easy communication with the interior and the principal towns and cities of the country. In order, however, to attain the desirable ends much energy and perseverance are needed. Large owners already understand this, and I hope the time is not far distant when every man will also understand the necessity of reclaiming these magnificent lands and cultivating them in the most improved manner, so that this fine part of the Dominion may occupy the position to which it is properly entitled. Being once convinced of this truth, the owners will then throw open to colonisation the lands which they now keep, without profit to themselves or others, thereby giving an example of patriotism and evincing a desire to advance the interests of our country.

The last winter was very severe and very long, lasting till the very end of May, and even as late as the 13th June there was snow in different places. Cattle suffered much from want of fodder, and many hundreds of farmers had to feed them on browse which, however, did not prevent the loss of a great number. No such danger is to be apprehended this winter, hay being abundant, the barns full and the crops generally good.

The different kinds of fishing pursued in Gaspé and Bonaventure were most successful. In spite of this, the extensive public works now being carried on, such as the Intercolonial Railway, the completion of a telegraphic line from Matapédia to Fox River, the opening of the maritime road and other colonisation roads occasioned a rise in labourer's wages, and as a matter of course raised the price of fish. The population of this division, children, women as well as men were employed during the whole season, and abundance was felt everywhere in the fishermen's families.

Whilst speaking of the various kinds of fishing carried on in this division, I will state where they are carried on, the statistics annexed to this report showing their relative importance.

Cod Fishery.

Cod fishing was carried on in the early times of new France, but it only began to assume its present importance after the conquest of this colony by England. For years it was followed with remarkable success, but all at once the fish seemed to have abandoned the Gulf and repaired to other places. The cause of this temporary disappearance, the inconvenience which was seriously felt by our people, has not, to the present time been satisfactorily accounted for. This state of things did not fortunately last long, and for the past three or four years they have returned to all the places formerly frequented by them, and were this season met with as far up as Rimouski. The fish were so abundant that, although the number of boats and men was much larger than formerly, the catch by each boat was equal to that of most successful years in former times.

Codfishing is undoubtedly the greatest industry of the country about Gaspé, and is more important than all the other fisheries put together. It gives employment to thousands of men and quite a fleet is engaged exporting the fish to foreign countries.

From Montlouis to Cape Chatte and from Grand Grave to Gaspé Bay, the summer fishery was most successful, the average catch being from 90 to 130 quintals per boat. The fall fishing would undoubtedly have been equally good, had the weather allowed the fishermen to go out to the banks every day. Continual storms unfortunately prevented them from doing so, and they could only occasionally go to the Miscou Banks where codfish is always to be found after the spawning season. I saw myself, on my last visit to Percé, a barge returning from the banks with 20 quintals of fish caught in twelve hours.

The Miscou Banks are distant about forty-five miles from the main land of Percé; one can therefore easily imagine what an amount of boldness and energy is needed from these men, to risk their lives during the storms of the fall, in a frail boat at such a distance from the land: indeed they well earn the fish caught.

My report of last year mentioned, that a new industry connected with cod fishing, had sprung up in the preparing and exporting of cod roe. This preparation was conducted at Percé and Grand River. It consists in utilising the eggs or roe by preparing them exactly in the same manner as pickled codfish. These eggs were formerly thrown away with the rest of the offals. I am quite satisfied that a good deal of money was realised last year from this practice. During the present season, however, owing to the unusual abundance of fish and the relative scarcity of hands, this preparation was entirely abandoned. Experience will, however, teach our fishermen that the preparation of cod roe can easily be carried on at any time and with the greatest source of profit to those engaged in it.

Herring Fishery.

Herring strike in early and large shoals at Gaspé, and Bay des Chaleurs. Gaspé Pabos, Grand River and Port Daniel fishermen, however, merely catch them for their own family use, the manuring of their lands, and for baiting cod hooks. The fish are only caught for exportation at Maria, Carleton and Bonaventure. For five or six years past, the enterprising and energetic Mr. Petry, from Sligo, Ireland, has been carrying on a large trade in this fish. Owing to the ice in Carleton Bay, herring did not strike in there in 1870, and for some unknown reason it also completely failed this season. This has been a serious detriment to the inhabitants in the locality, owing to the handy market located at their own doors and the liberal prices paid by Mr. Petry.

The fall fishing was, however, more satisfactory, especially in Maria Bay and Bonaventure, and from the last two named places, Mr. Petry exported 11,000 barrels to foreign markets. During the year 1870 this gentleman realised but low prices, the blockade of the Prussian ports in a great measure stopping his exports, but now that this cause no longer exists, he hopes that the profits of the present season will enable him to further enlarge his business and deal with his customers in the same spirit of liberality which has always characterized his past operations.

Mackerel Fishery.

In a special report on the duties performed by *La Canadienne* in connection with the Marine Police, I shall have the honor of speaking of mackerel fishing by foreign schooners. This pursuit is not much followed by our own fishermen, and has steadily decreased since 1869. The fish did not come near the shores, and not more than one hundred barrels were caught in Bay des Chaleurs. It was more abundant in Gaspé Bay, the catch being 400

barrels over that of last year. Codfishing is the main occupation of the people in this division. This fish was so abundant and the price of mackerel so low, that this may account for their not attending to the latter.

Salmon Fishery.

Salmon fishing has not the commercial importance of cod fishing; but it is now so popular, it has been so zealously and effectually protected by the Government, and it requires so much constant care and attention, that I might be excused in placing it in this report, at head of the fisheries in the County of Gaspé and Bonaventure.

The large number of fish seen last fall on the spawning beds led everyone to expect as successful a season as that of 1870, but for special reasons these hopes were not fully realised. The sudden melting of the snow, following a late spring, and the constant rains of the month of May so swelled the rivers, that in several of them, such as the York and St. John, the Restigouche and Ste. Anne des Monts Rivers, nets could only be set very late, and were almost immediately carried away by the water or destroyed by drift wood, so that the first fish had mostly gone up and reached the spawning beds before the nets could be properly fixed. Such are the main reasons for the decrease in the catch of salmon this year. The failure was most noticeable at Ste. Anne des Monts, and in the Gaspé and Pabos rivers; it was also felt but on a smaller scale at Carleton, New Carlisle, Restigouche and Madeleine rivers. At Montlouis, the fishing was very good, and in no way inferior to that of last year, as may be ascertained by referring to the statistics annexed to this report.

The season of 1870, being an exceptional one, must not be taken as a standard from which to judge. The returns of this year's catch, however, show that even with this falling off, the fishing was very good compared with that of the past five years, and I feel confident that had it not been for the reasons above stated, it would have been still larger than in 1870. The local fishery overseers report that the spawning beds were everywhere crowded with breeding fish, and the fact that the fry was noticed coming down the rivers in larger numbers than usual is a guarantee of success for next year's fishing.

Salmon do not appear at all places at the same time. They are first seen at Gaspé Basin, then at Restigouche and Port Daniel, and at a later period along the Gaspé coast. The first salmon caught this year was at Gaspé Basin, on the 10th of May, at Restigouche on the 25th, at Port Daniel on the 5th June, and Montlouis and at Ste. Anne des Monts on the 18th. It was noticed that the fish caught at Gaspé was much larger than in previous years.

The salmon caught at Gaspé and its neighborhood is sent fresh to the markets of Quebec, Montreal, and Upper Canada. Ninety three barrels caught at Port Daniel, were purchased by Mr. Brown, put in tins, and sent to New Brunswick and Nova Scotia markets. The owners of packing establishments at Campbelltown and Dalhousie bought 239,000 pounds from Restigouche and the neighborhood, and exported them in ice or in tins to the United States markets. What remains of the catch was used on the spot or sent pickled to Quebec and sold for provisions.

The usual price paid for fresh salmon is from five to seven cents a pound. This is sufficient to show the immense advantages of these packing establishments and how useful they are to the inhabitants, who are thus enabled to dispose of their fish at a large profit, and with no trouble whatever.

The information I received from the Gaspé, Little and Grand Cascapédias and Restigouche rivers is most encouraging for next year. The success obtained by anglers establish fully the presence of a large number of fish in these streams. Two hundred and fifty salmon were caught with the fly in Restigouche river, fifty in Bonaventure and 103 in the Grand Cascapédia. It is stated that in the two last named streams the fish have increased five to one.

Forty new salmon stands were granted during the past two years in the counties of

Gaspé and Bonaventure (thirty in Gaspé and ten in Bonaventure); a much larger number of demands was refused, and new applications are constantly pouring in, especially from the county of Gaspé. In view of the decrease in this year's fishing I believe that it would only be a matter of prudence, before granting further leave to set new stations, to wait a couple of years and notice the result of the present state of things. It would certainly be a matter of regret to again cause by an injudicious increase in the number of stands the ruin of rivers, the restocking of which has cost so much trouble and expense and in whose protection everyone must feel interested. Even supposing that the catch should not diminish, the quantity of salmon caught will be divided between so many people, that not only will there be no profits to anyone, but expense and loss to all.

The laws relating to salmon fishing were well observed; only two infractions being found out, both against the "Sunday Clause," one of these suits was settled by Mr. Mowat, the other is still pending.

Trout Fishery.

As already stated in my report of last year, trout fishing is not carried to any extent on the coast of Gaspé. A few barrels may be caught here and there, but this fishing is mostly carried on by sportsmen. Some nets are however set at Cape Chatte, Bonaventure and Cascapédia, but, they did very little for the same reason which prevented the success of salmon fishing.

Several people are under the impression that trout is injurious to salmon and that to better promote the growth of the latter fish, the former must be destroyed as much as possible. I have strong doubts as to the accuracy of this theory, and am supported in my opinion by authorities in pisciculture. Such an extreme measure would undoubtedly be a hardship to many families having no other source of enjoyment or support, and besides this the steady and remarkable increase of salmon in rivers most frequented by trout is a conclusive proof that both fish can live and thrive together, and that if the one destroys the other it only occurs in a certain ratio and in no injurious manner. The experience I have obtained by a close examination of the spawning beds, and the mode of living of both fish, convinces me that the existing causes of destruction must be looked for in other quarters, being in most instances the result of spearing and poaching. Unless I am convinced by strong and conclusive evidence of the fallacy of my opinion, I am far from recommending to the Department the adoption of such an extreme measure as that above alluded to.

Lobster Fishery.

This fishery was carried on during the fall in Cascapédia Bay. Lobsters are very abundant here, the fishing is easy and attended with very little expense. It employs a large number of hands and is a source of revenue to the inhabitants.

Lobsters are prepared in the salmon preserving establishments, the same utensils being used for both fish. The mode of catching them is most simple; a wooden box, opened at each end is filled with bait, the lobster goes into this box lured by the bait therein, and remains there, the box after having remained under water long enough is drawn up, and whatever it may contain is emptied into a boat. Mr. Campbell is at present the only one in Bay des Chaleurs engaged in this fishery. He prepared 55,000 boxes during the fall.

REMARKS ON THE TRADE OF GASPÉ BASIN.

For the following information of the exports, together with the number of inward and

outward bound vessels at the Port of Gaspé during the year 1871, I am indebted to the courtesy of Joseph Eden, Esq., Harbor Master :—

From and to what Country.	Vessels Inwards.		Vessels Outwards		EXPORTS.		
	Cargo.	Ballast.	Cargo.	Ballast.	Description.	Quantity.	Value.
United Kingdom....	21	3	10	.....	Dried Fish.....qtls.	19,408	\$ 71,871
					Wet Fish.....bbls.	435	1,343
					Fish Oil.....gal.	19,902	9,851
					Deals.....std.	955	29,488
					Other Lumber.....		4,618
					Other Articles.....		3,906
British N.A. Colonies	4	5	3	.....	Dried Fish.....qtls.	40	160
					Lumber.....		1,065
					Other Articles.....		436
British West Indies..	7	.....	7	.....	Dried Fish.....qtls.	8,848	36,222
					Wet Fish.....bbls.	445	1,114
					Lumber.....		209
					Other Articles.....		2,086
United States.....	1	1	.....	.....	
Spain.....	3	.....	3	.....	Dried Fish.....qtls.	27,688	117,312
Portugal.....	8	.....	3	.....	do.....	14,275	57,600
Italy.....	.....	.....	16	.....	do.....	53,937	223,233
Brazil.....	2	1	6	.....	do.....	18,276	86,535
Total....	46	10	48	.....	Total....		\$673,959

The foregoing statement is believed to be, as nearly as possible, correct. The merchants and others have given all the information they could, and the value affixed is the average value at Gaspé Basin.

This, however, does not show the actual exports for the year ; as in addition to the fish, &c., exported to foreign ports, a considerable quantity of dry fish is sent by our merchants to Halifax and is thence shipped during the winter to the West Indies and Brazil on their account ; and again, a very large quantity of dry and wet fish, cod and whale oil, &c., is sent to Quebec and Montreal. Besides this (in consequence of several vessels bound hither being lost) it is estimated that at least 26,000 quintals of dry cod fish will remain in the port during winter.

With regard to the imports it is difficult to procure many particulars, but their value for this year may be fairly estimated at \$132,000, and the amount would be larger had not a vessel with a general cargo for this port been lost at sea. Many articles, the consumption of which is large here, such as boots and shoes, cloth, ready made clothes, &c., which formerly were all imported from Great Britain, are now almost entirely purchased in the Dominion. Of the amount thus bought in Canada manufacture, no estimate can be obtained, nor of the coasting trade generally, of which no record is kept at the Custom House. But two or three years ago, the value of inward coasting at this port was over \$286,000 ; and, although at that time, Nova Scotia and New Brunswick were not united to Canada, the imports from those provinces were of trifling importance, and nearly the whole of the above amount was for articles, the produce and manufacture of Quebec and Ontario or goods imported by Canadian merchants.

It must be remarked in reference to the above that the large quantity of fish on hand is partly on account of the non-arrival of several vessels that were wrecked on the passage out, or had returned to ports ; there were also two large vessels from four to seven hundred tons burden, wrecked on their way out, and consigned to Messrs. Lowndes Bros. to load with deals, &c., the two cargoes are now on hand here waiting shipment.

Mr. Hyman has on hand fish to the amount of £4,000, which will cause a great disappointment in not being able to ship so large a quantity to market.

NEW CARLISLE.

The following is a Statement of the quantity of Fish exported from the Port of New Carlisle, together with their value, during the year 1871,—compiled from Statements furnished by the Collector of Customs at the above named Port.

Kind of Fish.	Where Exported.	Quantity.	Value.	Total Quantity.	Total Value.
			\$ cts.		\$ cts.
Dried Cod, Qtls	Great Britain	6,913	23,430 00		
do do	South America	28,212	126,860 00		
do do	Brazil	2,913	11,500 00		
do do	Bahia	1,463	6,500 00		
do do	Naples	8,984	34,410 00		
do do	Oporto	1,748	6,930 00		
do do	B. W. Indies	16,158	42,529 00		
do do	United States	247	1,388 00		
				66,735	261,607 00
Green Cod, do	Barbadoes	2	10 00		
do do	Naples	24	120 00		
do do	South America	4	18 00		
do do	Oporto	2	12 00		
do do	Great Britain	563	2,393 00		
				565	2,553 00
Salmon, Bls.	United States	2	32 00		
do do	Barbadoes	2	20 00		
do do	Great Britain	3	45 00		
				7	97 00
Herring, do	do	1,734	5,230 00		
do do	Naples	350	1,050 00		
do do	South America	181	545 00		
do do	B. W. Indies	469	1,408 00		
do do	United States	2,643	5,288 00		
				5,377	13,521 00
Smoked Herring, Els.	do	18	5 00		
				18	5 00
Fish Oil, Galls.	Great Britain	35,828	17,821 00		
Seal Skins, No.		80	80 00		
				35,908	\$295,684 00

RECAPITULATION.

Exports during Quarter ended 30th June, 1871	\$72,278 00
do do 30th September, 1871	74,548 00
do do 31st December, 1871	138,858 00
	<u>\$295,684 00</u>

THE RESTIGOUCHE INDIANS.

At the date of my first visit to Restigouche, during the month of May, I was engaged fixing the limits of the salmon stands which the Government granted to this tribe to replace the privilege of limited spearing they had enjoyed up to this date. Being unfortunately unprovided with nets, they could not take advantage of the permission, and it was found advisable to allow them to spear for a few weeks more. They seemed much astonished to learn that a privilege which they claim to have been granted to them by treaties, was withdrawn, and they appeared to accept this change in their habits with

very little relish indeed. I did my best to make them understand that the present system would be more advantageous to them, as it would enable them to derive more profit with less work and hardship, that it would give them more time for the farming of their lands, securing thereby peace of mind and support for old age, and concluded by telling them that they could no longer be considered as spoiled children.

This passion for spearing, born with them and still further developed with age, is so deeply rooted in these Indians that several of them were almost disheartened in learning that in future they would be deprived of such a pleasure.

The large quantity of salmon which ascended the Restigouche and its tributaries was a strong temptation to them, and although they were allowed to fish during part of the summer within certain limits fixed by the local fishery overseer (Mr. Mowat), he told me that he experienced the utmost difficulty in preventing them from spearing in other places than those fixed by him, and that he is under the impression that spearing was more resorted to this season than in 1870. It was also easier for them to do so, for Mr. Mowat, was alone and could not be everywhere at the same time. During my visit to Restigouche this fall, I had two of them brought before me. They were both convicted and fined, and warned that any others caught in a similar act would be treated with the utmost severity.

There is no occasion whatever to allow these Indians to spear when they can every day find employment and earn enough to support themselves and their families; and now is the time to put a stop to a practice which is injurious both to the Indians and to the rivers. How can they complain when they have a share in a salmon station, a share in the Government grant of money, the crops of their farms, and can get high wages everywhere? I know a great many white men to whom Providence is not so liberal, and who cannot depend on such reliable resources.

The Indians did not much attend to their farms this year, as they preferred working on the Intercolonial Railway where they could earn two dollars a day.

Whilst speaking of farming by these Indians, it is unnecessary that I should repeat what I have already said in a previous report on the mode of distribution of the Government grant, given them for the purpose of procuring seed: suffice it to say that most of this money is spent for quite a different purpose. The grant is placed in the hands of the missionary for distribution; he however, receives no instructions as to the mode of doing so; in order therefore to prevent quarrels or his being insulted, he is compelled to divide it in equal shares between the Indians. Were he directed to give a larger share to the Indian having made the most clearings or improvements on his farm, the effect would be immediately felt, the missionary could act fearlessly, the grant would be distributed with discretion, and would not encourage dissipation and idleness.

LABRADOR DIVISION.

This division extends from Pointe des Monts to Blanc Sablon. It may be of less importance than the division of Gaspé, agricultural pursuits being impossible here, but the wealth of its fisheries is greater, and more varied; and it has, in addition to the fisheries carried on on the south shore, the halibut and herring fall fisheries, the whale and the seal fisheries; and there is besides quite a number of safe and commodious harbors.

These shores were frequented long before those of Gaspé, and as far back as the fifteenth century Frenchmen and Spaniards had large fishing establishments on the Western part of the coast where old establishments still hold the names of their former occupants, and where are seen the ruins of ancient fortifications and buildings.

The pursuit of the fisheries of this division gave rise to great fortunes, and it is still a matter of surprise to see what an amount of business is transacted here. On several parts of the coast, such as Moisie, St. John, Esquimaux Point and Natashquan: establishments

were begun, which in course of time have grown to be villages, in which a large amount of business is transacted in summer time.

The population of this division lives entirely on the products of the fisheries ; but most of the fishing, codfishing especially, is carried on by strangers. The western part of the coast is frequented chiefly by Quebec fishermen, the coast of Labrador, (properly so called) by fishermen from the Maritime Provinces and the United States. Three great sources of industry are now carried on ; fishing, commerce, and the fur trade, to which must be added the working of the magnetic ore, which sooner or later must expand into large proportions. Another business which is largely engaged in, but which should by no means be encouraged, is the robbing of the eggs of the wild fowl ; but as I intend to treat this subject more at length in another part of my report, I shall not further allude to it here.

Although these various sources of revenue did not yield equal results, codfishing was so abundant, that its benefits were felt everywhere. The catch of the past three years has been so large that the hardships of the winter of 1865 have been entirely forgotten, and I noticed that an unprecedented sense of carefulness and economy seems now to prevail.

The interior of Labrador is inhabited by the Montagnais and Naskapis tribes of Indians. These people live entirely by hunting and fishing and come down to the sea shore only once a year ; they are of a kind and mild disposition. They are not now so successful as hitherto, and the reason of this is supposed to be that they follow our mode of living and eating, which causes them to require more luggage and more food than formerly and consequently prevents them from going so far inland as they used to do.

The misery of these tribes was very great last winter, and I was informed that three families starved.

Fall Seal Fishery.

This fishery which was formerly so remunerative failed to a considerable extent last fall, only 556 seals being killed from Little Meccatina to Blanc Sablon, where thousands of these animals used formerly to fall a prey to the skill of huntsmen. This has not, however, damped the enthusiasm of the fishermen, since as many seals are noticed in these waters as formerly. Taking into consideration the large number of these animals destroyed every spring in the Gulf, there would be nothing to wonder at, if in a few years the species were not considerably diminished or even wholly destroyed. The seals seen on the ice are the same ones which ascend the Gulf in the fall.

Seal hunting on grounded fields of ice near the coasts of Labrador entirely failed this spring, owing to rough weather and contrary winds. Several fishermen from Bonne Esperance and Bradore Bay have followed the example set by Magdalen Islands people, who go after the seals on the floating ice, and some of them venture even as far as midway between the North Shore and Newfoundland. Seventy-two seals were killed in this manner, and as this mode of hunting is gaining favor amongst them it will be undoubtedly be pursued with greater energy next year.

Seal Hunting.

Seal hunting on the ice is mainly followed by the inhabitants of Esquimaux Point, Natashquan and Kegashca. Twenty-two schooners, manned by twelve men each set out thence early in March and returned with 8,209 seals. This was not so great a success as that obtained last season ; the fishermen are, however satisfied.

Thanks to a succession of remunerative fishings, these three places which formerly had only a few inhabitants are daily increasing in population. The houses are neat and comfortable, and an appearance of prosperity is noticeable in every family. Taught by former experience the fishermen have become more careful and look to the future ; most of them having some savings in the banks to meet times of adversity should they happen to come.

Cod Fishery.

It would be a matter of difficulty to say if codfish were more abundant this season than in 1870 on the north coast ; but it can be safely stated that it would hardly be possible to see codfish in larger numbers than were met with from Trinity Bay to Blanc Sablon. Owing to this unexpected abundance, our fishermen were last year caught unprepared, and for want of salt lost a good deal of time and fish. Salt was abundant this year, but another cause of loss was found in foggy and rainy weather, which prevented the curing of fish and caused heavy losses, especially to fishermen owning several barges. The profits also would have been much larger but for the fact that many of the fish caught were of an inferior quality.

Codfish were taken this season as far up as Trinity and even above that. Encouraged by the unprecedented success of the past two years, the men who used to cross over to the south shore every fall, remained to winter on the north coast, in order to be on the spot early in the spring.

Codfishing on the north coast is much easier than on the south shore ; it is carried on close to land, and in case of storms arising, safe harbours are at hand. The north coast fisherman can enjoy his rest at night, he is not troubled by the anxiety of finding bait, for it is always close at hand when he goes out in the morning ; whilst on the south shore, whole nights are often spent in looking for and securing this indispensable article. The fishing season is moreover much shorter on the north than on the south side ; it begins later in the spring and ends sooner in the fall. Such advantages could not escape the keen eyes of the owners of large establishments in Bay des Chaleurs ; several of them have already built stores here nearly equal to those on the south coast and new ones of a large and convenient size are being put up to replace the former temporary buildings.

Besides the schooners from Magdalen Islands and the north coast, it is calculated that over 300 vessels from the Maritime Provinces and the United States repaired to Meccatina, Bonne Esperance and Bradore Bay for purposes of codfishing. The cargo of each is rated at 800 quintals of fish. Traders from Nova Scotia gave eighteen shillings sterling in cash per quintal for cod this fall ; from Natashquan and above, the usual price was \$3.25. This part of the coast is now frequented by such a large number of traders, and competition is so active that goods and provisions are as cheap as in the cities, and some articles can be purchased even cheaper than in Quebec.

Mackerel Fishery.

Mackerel which, for the last forty years, had disappeared from the waters of the coast of Labrador returned this season and in as great abundance as formerly. I have seen as many as 400 or 500 barrels caught in one haul of the seine at Bonne Esperance and Meccatina. Several schooners loaded at Seven Islands. Mackerel remained two months in the bay during the winter. A much larger quantity than was needed for their own use was caught at several ports along the coast, but prices were very low. There is no doubt that if codfish and mackerel continue to visit the waters of this division in as large numbers as they did this year, the coast of Labrador will assume an importance which may become even superior to that of the Gaspé division.

Fall Herring Fishery.

About twenty schooners fitted out at Quebec went herring fishing on the coast of Labrador. They met with complete success and returned with full cargoes. Prices were, however, very low. This is undoubtedly caused by the inferior manner of preparing and packing the fish, which makes the buyer diffident and retards the sales.

Whale Fishery.

This fishery is only pursued by Gaspe fishermen and has been followed by the members of the same families for years past. It is full of dangers and hardships and requires great energy and courage.

The first people who engaged in it were United States loyalists who settled at Gaspe after the declaration of independence, and who had already been engaged in similar expeditions on New England vessels. Their children inherited their trade for this adventurous kind of life, but the fishery however remunerative formerly, is now barely sufficient to cover the cost of the outfit. This year's fishing was better than that of the previous seasons. Four schooners went as far as Esquimaux Bay and Cape Charles and returned with 523 barrels of whale oil.

Whales as well as other fish frequenting the waters of the Gulf had almost disappeared for several years. The same reason which have brought back codfish and mackerel seem to have caused them to return, and they were met with this season in larger numbers than usual, especially near Mingan, the S. W. Point of Anticosti and the Seven Islands. Large numbers were seen even in Bay des Chaleurs. There is no doubt that had our fishermen kept within these limits the results would have been highly satisfactory.

Halibut Fishery.

This fishery is not pursued to any extent on the north coast, not even at Mingan and vicinity where these fish are found in large numbers. It has, however, this season been carried on to a larger extent than usual. Messrs. McKay and Warner built last winter three fine schooners for this purpose. They unfortunately found it so difficult to find men in Quebec to fish on shares, that they had to engage crews from the United States ports where this fishery is carried on. These schooners succeeded in securing two cargoes each in a very short space of time, and were in time for mackerel fishing in which their success was very good. One of these vessels was afterwards lost on the coast of Prince Edward Island. Halibut fishing is easy and carried on with little expense. I cannot understand why the people from Trinity Bay who cannot always depend upon codfish do not largely engage in it.

Salmon Fishery.

Salmon fishing stands are in great demand on the north coast as well as on the south shore, but to the credit of the former it must be said that they are more reasonable in their applications.

The yield of this season fell short of that of last year; at Moisie and St. John the difference being one half; at Mingan, Natshquan, Kegashca, and St. Paul, two-thirds. This falling off is undoubtedly due to the freshets in the rivers, which prevented the early setting of the nets and thereby enabled the fish to ascend the rivers and reach the spawn-beds at a much earlier date than usual; the truth of this reason is apparent when it is taken into consideration that such streams as the Etamamiou, Washeecootai, Agwanus, &c., where the bed of the river is shallow yielded more than last year.

The catch on the sea coast and outside of the rivers was as good as last year. According to all reports, a large quantity of fish reached the spawning beds. Mr. Holliday, in whose judgment and experience I have the utmost confidence, says that he never saw such a large quantity of salmon ascending the Moisie, and the fishery overseer substantiates this. Angling was all that could be desired at Moisie, St. John, Natashquan, as many as forty-two fish being landed in one day with the fly. The Mingan, Romaine and Watsheeshoo rivers did not, however yield such good sport; the cause being found in the heavy freshets experienced in these streams.

With reference to the illegal practices carried on at Watsheeshoo river in 1870, I

must say that there is no doubt that such was the case, and that this poaching and illegal netting were, in main, due to neglect of the former fishery overseer, Mr. Prudent Fournier. The culprits are, however, known, and I hope that sooner or later I shall be able to punish them. The care and attention bestowed by the present overseer, Mr. Sylvestre, during the past season, and the energy displayed by him in the performance of his duties, prevented a repetition of similar offences, and evidently saved this stream from utter ruin. I hope he will be again placed in charge of this division for the care of which he is eminently fitted. A man of his activity and experience is especially wanted in a wild place like this where it is often difficult, not to say impossible, for *La Canadienne* to stop. That part of the coast is one of the most dangerous in the Gulf, there being neither harbor nor shelter of any kind. The schooner has to be anchored outside, and constant care is needed to keep it from being drifted ashore by wind or high seas. On very few occasions is it possible to stop there, and these seldom occur more than once a season. Poachers and violators of the law can see the schooner from a distance and take to the woods, so that all our searching will remain ineffectual.

In my opinion, as well as in that of the overseer, some netting ought to be allowed in the Watsheeshoo and the Corneille in order to protect them effectually. A trustworthy man allowed to set a certain number of fathoms of nets and catch a limited quantity of salmon, would prove a more effective guardian than all the fishery overseers put together. He would feel some interest in the protection of the stream, and would be of the greatest help to the overseer for the prevention of poaching or illegal fishing. The settlers at the mouth of these rivers are poor, and such a permission would be of the greatest help to them.

I shall now bring to a close my remarks on the fishing season of 1871; the limited space of this report will not permit my entering into longer details on the inexhaustible sources of wealth of our waters neither will it allow of my showing what changes would occur in our old city of Quebec were the importance and advantage of our fisheries fully understood. Let it be hoped however, that their value may soon come to be understood, and that these vast resources will not always fall to the lot of our neighbors from the Maritime Provinces or the fishermen from the United States.

Quebec has been almost stationary for the last ten years, the laboring classes are clamoring for work, our ship yards are deserted, when we have skilled carpenters. Would not a proper pursuit of our fisheries give life to Quebec, to the ship trade and builders? Ship building is cheap, our men are strong, healthy and enterprising, they are born sailors, we are only four days distant from the fishing grounds, why should we not then follow such an easy pursuit which enriches our neighbors who have to contend with difficulties which we have not to encounter. The example set last spring by these enterprising builders, Messrs McKay and Warner will, I hope, have a good effect, and the successful voyages made by their vessels, stimulate the energy of our builders.

Captains Joncas, from Berthier and Durand, from Cape St. Ignace, being fully aware of the profits to be made in such ventures, last year fitted out two schooners for the seal hunting and cod fishing on the banks. In spite of the difficulties to be experienced in enterprises of this kind, their energy was rewarded with success, and they intend to repeat the experience next season. Such a spirit of enterprise can not be too highly commended, and our outfitters could not do better than place their money in such enterprises. No better time could be found than the present for such a purpose when we shall be allowed to send our fish free to the United States markets. Let us therefore enter heartily on the new era which is before us, let us reap the harvest of our seas, and we shall soon find that this new Treaty is more advantageous than is thought. Whilst bringing wealth to our doors and benefitting the population of our cities, these pursuits will also form a body of hardy seamen, who at any time will be able to defend their country and be an honour to Canada. Who knows what difficulties may beset our young country in days to come; circumstances may occur when all our strength and energy may be needed, then will these seamen inured to hard work and danger of all kinds be of use against her enemies!

The Wild Fowl of the Gulf of St. Lawrence.

Before concluding this report I feel it my duty to say a few words about the illegitimate destruction of the wild fowl frequenting the Islands of the Gulf of St. Lawrence.

I have on several occasions, had the honor to draw the attention of the Department to this matter, but as I find that these practices, instead of diminishing are on the increase, I am compelled again to notice it. The practice of robbing the eggs is mainly carried on by schooners from Nova Scotia ; it has already caused a noticeable decrease in the number of birds frequenting the Gulf, and should not a timely check be put to such lawless proceedings, a time will come when these birds formerly so abundant will become completely extinct.

Apart from the cheerfulness they impart to this barren part of the coast, another consideration urges the necessity for their preservation. They afford ready and cheap food to the settler, and the sale of the feathers more than enables a poor family to procure provisions for the winter. When the game laws were under the control of the Fisheries Branch of the Department of Crown Lands, *La Canadienne* was enabled at no special cost, to effect a great deal of good in chasing away these egg-poachers, from Nova Scotia and elsewhere, and even seizing them. Since Confederation however, these laws are administered by the local government and are no better than a dead letter. In my humble opinion I consider that it is of the utmost importance that some arrangement be arrived at by which the officer in command of "*La Canadienne*" or the overseer where these robberies are committed, should be vested with some authority by the local government, by which they could put a stop to this wanton destruction of our wild fowl, otherwise their utter destruction is only a matter of time.

I have the honor to be, Sir,

Your most obedient servant,

N. LAVOIE.

L'Islet, 31st December, 1871.

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, kinds of Nets
Bonaventure, Magdalen Islands, and the North Coast of Labrador,

COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms, salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Cape Chatte...	2	54	....	4	108	15	1	....	....	1	1	....	....	....	89	40	30	2	....	2700	286
Ste. Anne des Monts...	3	128	....	10	256	....	....	....	....	2	2	....	....	....	237	70	30	3	....	4460	1220
Ruisseau à Re- bours...		5	3	....	8	....	....	....	....	....	....	....	....	....	7	....	....	....	....	160	40
Claude River...		9	6	....	15	....	....	....	....	....	....	....	....	....	15	....	....	....	....	400	50
River à Pierre...		7	4	....	13	....	1	....	....	....	....	....	....	....	13	50	....	....	....	350	70
Mont Louis...		28	22	....	52	18	....	....	....	2	....	....	....	2	52	100	....	....	....	1400	300
Anse pleureuse et River des Olives...	}	6	....	....	14	....	....	....	....	....	....	....	....	....	14	70	....	....	....	300	50
Gros Mâle...		4	4	8	8	150	200	50
Manche d'Epée...		8	7	....	15	....	....	....	....	....	....	....	....	....	15	60	....	....	....	300	20
Madeleine River...		1	1	....	2	....	....	....	....	....	....	....	....	1	1	150	....	....	....	....	....
Grande Vallée...		38	5	....	26	21	....	....	....	1	....	....	....	10	8	....	....	....	....	1900	600
Little Vallée...		4	2	....	8	5	....	....	....	....	....	....	....	....	8	....	....	....	....	200	90
Frigate Point...		7	7	....	14	7	....	....	....	....	....	....	....	....	11	....	....	....	....	300	80
Petite Anse...		7	7	....	14	17	....	....	....	....	....	....	....	....	17	....	....	....	....	400	150
Grand Clori- dorme...		8	8	....	16	8	....	....	....	....	....	....	....	....	15	....	....	....	....	400	200
Petit Cloridorme...		7	11	....	14	7	....	....	....	....	....	....	....	....	20	....	....	....	....	550	200
Pointe Scèche...		11	12	....	22	13	....	....	....	....	....	....	....	....	18	40	....	....	....	700	200
Grand Etang...		20	10	....	40	24	....	....	....	2	1	....	....	5	50	....	....	....	....	2000	400
L'Anse à Valeau...		6	6	....	12	6	....	....	....	2	....	....	....	2	12	....	....	....	....	300	150
Pointe Jaune...		6	6	....	12	6	....	....	....	....	....	....	....	....	12	....	....	....	....	350	150
Echourie...		4	4	....	8	4	....	....	....	....	....	....	....	2	8	....	....	....	....	300	100
Little Cape...		12	12	....	24	12	....	....	....	....	....	....	....	....	24	....	....	....	....	700	200
Little Fox River...		12	12	....	24	12	....	....	....	3	....	....	....	2	24	....	....	....	....	900	300
Fox River, N. W.		17	17	....	34	20	....	....	....	6	1	....	....	12	40	....	....	....	....	1300	400
" E...		24	24	....	48	30	....	....	....	6	1	....	....	8	60	....	....	....	....	1800	600
L'Anse à Fugère...		3	3	....	6	3	....	....	....	1	....	....	....	....	6	....	....	....	....	200	80
Griffin's Cove, N. W...		14	14	....	24	14	....	....	....	4	1	....	....	8	38	....	....	....	....	1200	400
Griffin's Cove, E.		12	12	....	24	12	....	1	....	2	1	....	....	6	30	....	....	....	....	1000	300
Three Brooks...		3	3	....	6	3	....	....	....	....	....	....	....	1	6	....	....	....	....	225	75
Jersey Cove...		3	3	....	6	3	....	....	....	2	....	....	....	2	6	....	....	....	....	200	50
L'Anse à Louise...		8	8	....	16	8	....	....	....	2	....	....	....	4	16	....	....	....	....	600	200
Cape Rosier...		20	20	....	40	40	1	....	....	6	2	....	....	10	50	....	....	....	....	1400	400
St. George's Cove to Ship Head...		40	20	....	70	30	....	1	1	2	1	....	....	10	35	....	....	....	....	60	30
Grand Grève...	6	40	20	36	60	30	1	1	2	4	4	....	....	20	40	....	....	....	....	60	20
Little Gaspe...		20	20	....	30	....	....	....	....	4	4	....	....	4	20	....	....	....	....	60	....
Cape aux Os...		10	20	....	15	....	....	....	....	....	....	....	....	10	20	25	....	....	....	40	....
Peninsula...	2	1	20	12	....	....	....	....	....	....	....	....	6	12	42	....	....	....	....	....	....
N. W. Bay...	2	2	50	....	20	....	....	....	....	....	....	....	....	5	6	54	....	....	....	....	....
Gaspé Basin and York River...	1	6	40	4	24	....	1	1	....	....	....	....	....	2	8	1500	....	....	....	....	....
Lobster Cove...	1	....	4	3	4	....	....	....	....	....	....	....	....	....	4	518	....	....	....	....	....
Sandy Beach...	6	6	30	24	42	4	....	....	....	1	1	....	....	6	20	56	....	....	....	20	10

used, kinds of Fish and Fish Oils, &c., &c., in the Counties of Gaspe and from Point des Monts to Blanc Sablon, including the Island of Anticosti.

GASPE.

KINDS OF FISH.											OILS.				FISH USED AS MANURE.					REMARKS.	
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smelt, barrels.		Cod roes, barrels.
30	...	2	6	...	...	5	...	6	7	...	3	...	...	40	1414	300	...	...	...	...	...
30	...	11	28	...	...	2	...	14	6	...	10	3	...	82	3866	...	...	...	...	...	...
...	...	4	10	...	...	...	...	...	...	...	...	...	...	...	200	...	...	...	...	...	...
...	...	6	12	...	...	...	...	...	...	...	...	...	...	...	400	...	...	...	...	...	...
...	...	4	10	...	...	...	...	3	1	...	...	...	...	...	320	...	...	...	...	...	...
...	...	12	25	...	...	...	...	13	3	...	...	...	...	...	1300	...	...	...	...	...	...
...	...	10	10	...	...	...	...	14	12	...	...	...	...	...	250	...	...	...	...	...	...
...	...	15	15	...	...	...	...	11	...	...	...	...	...	...	200	...	...	...	...	...	...
...	...	15	20	...	...	...	...	5	...	...	...	...	...	...	300	...	...	...	...	...	...
...	...	9	8	...	...	...	...	16	2	...	...	...	...	...	1180	...	...	...	...	...	...
...	...	3	12	...	...	...	...	...	...	...	...	1	...	...	220	...	...	...	...	...	...
...	...	6	12	...	...	20	...	...	...	...	...	1	...	...	200	...	...	...	...	...	...
...	...	6	12	...	...	10	...	...	...	...	...	2	...	...	250	...	...	...	...	...	...
...	...	8	16	...	...	4	...	...	...	...	...	2	...	...	500	...	...	...	...	...	...
...	...	4	8	...	...	4	...	...	...	...	...	3	...	...	600	...	...	...	...	...	...
...	...	5	12	...	...	4	...	...	...	...	...	3	...	...	750	...	...	...	...	...	...
...	...	4	20	...	...	...	...	...	3	...	...	25	...	...	2000	...	...	...	...	...	...
...	...	4	6	...	...	...	...	...	...	...	...	1	...	...	400	...	...	...	...	...	...
...	...	4	12	...	...	6	...	...	...	...	...	3	...	...	400	...	...	...	...	...	...
...	...	10	8	...	...	6	...	...	...	...	...	1	...	...	350	...	...	...	...	...	...
...	...	6	22	...	...	6	...	...	...	...	...	3	...	...	720	...	...	...	...	...	...
...	...	4	30	...	...	4	...	...	...	...	...	4	...	...	1000	...	...	...	...	...	...
...	...	12	60	...	...	12	...	...	...	...	...	5	...	...	1500	...	...	...	...	...	...
...	...	7	70	...	...	7	...	...	...	...	...	6	...	...	2000	...	...	...	...	...	...
...	...	3	6	...	...	3	...	...	...	...	...	...	...	...	220	...	...	...	...	...	...
...	...	7	40	...	...	4	...	...	...	...	...	1	...	...	1400	...	...	...	...	...	...
...	...	4	60	...	...	6	...	...	...	...	...	1	...	...	1120	...	...	...	...	...	...
...	...	3	6	...	...	1	...	...	...	...	...	...	...	...	250	...	...	...	...	...	...
...	...	4	6	...	...	2	...	...	...	...	...	1	...	...	200	...	...	...	...	...	...
...	...	6	16	...	...	4	...	...	...	...	...	1	...	...	650	...	...	...	...	...	...
...	...	12	60	...	...	8	...	...	...	...	...	5	...	...	1500	...	200	...	...	...	...
...	...	30	120	...	...	...	...	...	...	...	...	...	...	...	3600	...	...	...	...	...	...
...	...	50	100	...	...	...	...	...	...	...	...	...	...	...	3000	...	...	...	...	...	...
...	...	35	50	...	...	...	...	...	...	...	...	...	...	...	900	...	...	...	...	...	...
...	...	40	50	...	...	...	...	24	...	...	...	...	...	...	4300	...	...	...	...	...	...
...	...	70	20	...	...	...	...	49	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	40	20	...	...	...	...	60	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	30	...	...	...	...	...	100	...	...	...	...	...	4500	...	...	...	...	...	...	...
...	...	8	10	...	...	...	...	36	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	200	30	...	...	...	...	60	...	...	...	...	...	1200	...	180	...	...	...	...	...

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, kinds
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.											CODFISH.				
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Douglastown ..	1	40	20	4	70	20	1	..	..	2	2	..	..	6	40	25	..	..	..	46	30
Seal Cove .....	..	8	8	..	16	6	..	..	..	1	1	..	..	..	10	180	..	..	..	50	40
Belle Anse .....	..	27	20	..	50	8	..	..	..	2	1	..	..	5	20	..	..	..	..	50	40
Point St. Peter ..	5	42	40	50	84	26	1	5	4	7	6	..	..	10	40	180	..	..	..	200	160
Mal Bay	1	39	30	3	70	20	1	..	..	4	1	..	..	15	40	240	..	..	..	200	160
Barachois	2	10	10	6	20	10	..	..	..	5	1	..	..	6	10	600	..	..	..	200	160
Coin du Banc	1	15	15	4	30	10	2	..	..	7	1	..	..	10	6	125	..	..	..	200	160
Bonaventure Is. ....	..	41	25	..	82	60	..	..	..	3	..	..	..	18	109	..	..	..	..	4350	700
Anse à Beaufils ..	..	41	20	..	82	60	..	..	..	11	..	..	..	6	120	..	..	..	..	3690	2050
Cape Cove .....	..	37	20	..	74	40	..	..	..	7	..	..	..	5	90	..	..	..	..	2960	1650
Perce	128	90	..	256	210	..	..	..	..	13	..	..	..	12	320	..	..	..	..	12800	3500
Cape Despair .....	..	18	10	..	86	25	..	..	..	3	..	..	..	7	40	..	..	..	..	14400	900
Little River .....	..	24	20	..	48	28	..	..	..	4	..	..	..	4	65	..	..	..	..	1800	960
Grand River .....	..	97	30	..	194	100	..	..	..	10	..	..	..	6	200	60	..	..	..	5820	3880
Pabos .....	..	72	46	..	144	82	..	..	..	12	..	..	..	4	160	270	..	..	..	3960	2000
Newport .....	..	75	34	..	150	86	..	..	..	8	..	..	..	6	154	40	..	..	..	5250	3000
	33	1347	921	160	2584	1163	9	8	152	33	....	14	..	264	1932	4286	60	5	....	63111	28961

of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

GASPE.—*Continued.*

KINDS OF FISH.											OILS.				FISH USED AS MANURE.				REMARKS.		
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallon.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.		Smelt, barrels.	Cod roes, barrels.
...	...	30	100	...	...	...	...	30	...	...	...	...	...	...	...	3000	...	...	...	...	...
...	...	20	20	...	...	...	...	7	...	...	...	...	...	...	...	360	...	...	...	...	...
...	...	20	50	...	...	...	...	...	...	...	...	...	...	...	...	1500	...	...	...	...	...
...	...	30	100	...	...	...	...	8	...	...	...	...	...	...	...	3000	...	...	...	...	...
...	...	10	70	...	...	...	...	30	...	...	...	...	...	...	...	1800	...	...	...	...	...
...	40	...	...	...	...	56	...	...	...	...	...	...	...	1200	...	...	...	...	...
...	40	...	...	...	...	18	...	...	...	...	...	...	...	1500	...	...	...	...	...
...	...	5	50	...	...	...	...	...	...	...	8	...	...	...	...	3550	...	...	...	44	...
...	...	20	200	...	...	...	...	...	...	...	20	...	...	...	...	4020	...	...	...	...	...
...	...	10	120	...	...	...	...	...	...	...	15	...	...	...	...	3250	...	...	...	...	...
...	...	15	200	...	...	...	...	2	...	...	25	...	...	...	...	11400	...	...	...	160	...
...	...	20	150	...	...	3	...	...	...	...	15	...	...	...	...	1640	...	...	...	15	...
...	...	10	230	...	...	2	...	...	...	...	12	...	...	...	...	1930	...	...	...	15	...
...	...	15	300	...	...	20	7	...	...	...	20	...	...	...	...	6790	...	...	...	120	...
...	...	10	400	...	...	5	37	...	...	...	20	...	...	...	...	4172	...	...	...	20	...
...	...	40	200	...	...	35	3	...	...	...	40	...	...	...	...	5780	...	...	...	80	...
60	...	968	3328	...	...	197	47	460	34	...	257	3	18000	122	92382	300	200	...	...	604	...

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Anse au Gascon ..	66	9	...	141	...	...	...	...	...	3	...	...	...	...	60	40	...	...	...	925	1135
Anse à la Barbe ..	18	10	...	46	...	...	...	...	...	...	...	...	...	...	18	40	...	...	...	310	315
Port Daniel	78	6	...	156	...	...	...	...	...	5	...	...	...	...	80	320	...	...	...	2000	1120
Point Loup																					
Marin to S.W.																					
Pt. Pt. Daniel ..	4	36	...	44	...	...	...	...	...	4	...	...	...	...	40	...	...	...	...	550	250
Chigouac ..	14	...	...	28	...	...	...	...	...	1	...	...	...	...	24	...	...	...	...	105	140
Nouvelle	37	...	...	114	...	...	...	...	...	3	...	...	...	...	65	...	...	...	...	960	625
Paspebiac	31	...	...	62	...	...	...	...	...	10	...	...	...	...	25	30	...	...	...	200	525
New Carlisle ..	33	33	...	66	226	...	...	...	...	16	...	...	...	53	33	...	...	...	...	900	835
Grand and Little Bona- venture ..	64	64	...	128	80	...	...	...	...	14	...	...	...	64	64	334	30	...	...	2410	1700
From Capelin River to Grand Cascapedia	10	10	...	20	10	...	...	...	...	1	...	...	...	7	10	1674	...	...	...	250	150
Maria ..	5	25	...	33	...	...	...	...	...	14	...	...	...	...	200	2718	...	3	...	60	...
Carleton ..	4	22	...	32	...	...	...	...	...	14	...	...	...	...	185	1812	...	2	...	40	...
Nouvelle ..	1	15	...	20	...	...	...	...	...	12	...	...	...	...	40	906	...	...	...	...	...
Maguasha ..	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	150	...	...	...	...	...
Fleurant's Pt	...	2	...	4	...	...	...	...	...	...	...	...	...	...	...	600	...	...	...	...	...
Englishman's Brook ..	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	150	...	...	...	...	...
Escuminac Pt.	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	150	...	...	...	...	...
Pt. à la Garde ..	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	190	...	...	...	...	...
Battery Point ..	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	150	...	...	...	...	...
Little Battery ..	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	75	...	...	...	...	...
Cross Point ..	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	200	...	...	...	...	...
Bourdon Point ..	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	450	...	...	...	...	...
Total	365	241	...	906	316	...	...	44	68	31	...	...	...	124	844	10039	30	5	...	8800	6795

kinds of Nets used, kinds of Fish and Fish Oils, &c. &c.—*Continued.*

BONAVENTURE.

KINDS OF FISH.										OILS.					FISH USED AS MANURE.					REMARKS.	
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Belg, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smelt, barrels.		Cod roe, barrels.
...	200	2000	...	150	} Lobsters, 55,000 lbs.
...	89	...	...	...	...	...	...	...	...	...	...	...	650	...	250	...	...	...
...	...	25	1000	...	...	...	...	22	...	...	...	...	...	...	2300	...	400	...	...	...
...	
...	600	...	...	...	...	...	...	...	...	...	...	...	700	200	300	...	...	...
...	100	...	...	...	...	...	...	...	...	...	...	...	220	...	...	...	...	...
...	300	...	...	...	...	...	...	...	...	...	...	...	1500	...	...	...	...	...
60	14	20	550	...	...	...	...	5	...	...	5	...	...	...	700	...	2500	...	...	...
...	930	...	...	...	...	...
85	16	30	2000	1500	...	...	...	4	1	...	10	...	...	...	2100	160	3000	...	260	...
6	3	2	1150	650	...	...	...	67	...	...	...	...	...	...	65	...	300	...	...	...
...	...	14	3500	40	...	...	...	109	...	...	...	...	...	...	46	250	200	...	...	...
...	...	15	2300	45	...	...	...	68	...	5	...	...	...	...	22	200	180	...	...	...
...	...	1	600	...	...	...	...	32	...	...	...	...	...	...	...	250	82	...	...	...
...	12	...	...	...	...	...	...	...	...	...	...	...	...
...	40	...	...	...	...	...	...	...	...	...	...	...	...
...	2	...	...	...	...	...	...	...	...	...	...	...	...
...	3	...	...	...	...	...	...	...	...	...	...	...	...
...	4	...	...	...	...	...	...	...	...	...	...	...	...
...	8	...	...	...	...	...	...	...	...	...	...	...	...
...	3	...	...	...	...	...	...	...	...	...	...	...	...
...	20	...	...	...	...	...	...	...	...	...	...	...	...
...	8	...	...	...	...	...	...	...	...	...	...	...	...
151	33	107	12380	2235	...	...	...	474	1	10	15	...	...	...	11827	1000	7362	...	260	...

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,

MAGDALEN

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat-boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fath. of salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
<i>Amherst Island.</i>																					
Pleasant Bay ..	8	55	19	10	160	86		1	3				155	10					790	2480	22
Basin.....		19			46	46							44	25						1070	136
Mill Cove		13			30	28							102	20						755	114
Anse à la Ca- bane.....		38			85	68							47	40						2305	272
West Cape.....		3			7	2							1	3						180	24
<i>Grindstone Island.</i>																					
Etang du Nord ..	42				94	87							7	5						4058	652
Cape Mull.....	10				27	4														40	
<i>Allright Island.</i>																					
House Harbor ..	12	39	45	6	146	17		4					7	8					1876	5046	
W. side Grand Entry		4			9	6							4								45
L'Anse à Elie ..	14				36	14							4	9						233	
L'Echourie	4				11	4							4	1						43	
Pointe Basse...	2				6	2								2						25	
South Beach	31				64	33							17	19						742	
<i>Coffin Island & Grosse Isle.</i>		27			57	30							1	21						536	20
<i>Bryon Island ..</i>		6			14	8							5	4						170	
<i>Entry Island....</i>		6			12	10							15	1						65	
	20	313	64	16	804	448		1	7				412	168					2666	17793	1240

kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

ISLANDS.

KINDS OF FISH.											OILS.				FISH USED AS MANURE.				REMARKS.		
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.		Smelt, barrels.	Cod roes, barrels.
.....	1018	457	.....	.....	.....	.....	.....	.....	.....	.....	5110	.....	.....	.....	1674	.....	.....	.....	.....	.....
.....	135	214	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	539	.....	.....	.....	.....	.....
.....	246	142	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	460	.....	.....	.....	.....	.....
.....	133	418	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1351	.....	.....	.....	.....	.....
.....	9	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	105	.....	.....	.....	.....	.....
.....	18	422	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2025	.....	.....	.....	.....	.....
.....	154	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	.....	.....
.....	140	96	.....	.....	.....	.....	.....	.....	.....	.....	7450	.....	.....	.....	3418	.....	.....	.....	.....	.....
.....	102	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	.....	.....	.....	.....
.....	351	182	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	114	.....	.....	.....	.....	.....
.....	75	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	.....	.....	.....	.....
.....	35	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.....	.....	.....	.....	.....
.....	960	322	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	370	.....	.....	.....	.....	.....
.....	855	623	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	206	.....	.....	.....	.....	.....
.....	205	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	.....	.....	.....	.....	.....
.....	36	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	.....	.....
.....	4472	3178	.....	.....	.....	.....	.....	.....	.....	.....	12560	.....	.....	.....	10453	.....	.....	.....	.....	.....

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Pointe des Monts.....	2	12	3	3	3								12			100	500			18	20
Trinity Bay.....	3	12	6	6	6								4			120	600			16	24
Trinity River.....																					
Trinity River (outside).....	1				2	2							2			150	84			50	30
Cariboo Islets.....	1	2			4								3			70					40
Anse des Morts.....																30					
Egg Islands.....																30					
Pentecost River.....	1	1			4								3			40				20	90
River St. Marguerite.....	1	3	2		6	3										90				75	200
Seven Islands.....	3	6			6	6	8	6								40				125	100
Pointe Jambon.....	1	2	3	3	4	3	1	2								40				100	250
Moisie River (inside).....	2	3	15	9	66	7	1	2								6000	20			700	600
Moisie River (outside).....	29	19	8		57	32	10	11	4							120				1300	1600
Pigou.....	11	5			22	5										40				744	207
Shallop River.....	4	3			8	4			1											430	40
Gibraltar Cove.....	18	6			36	19	2	1												1663	250
Sheldrake River.....	18	8			36	21	2						3			80				1300	60
Beach.....	12	6			24	13	2						2			30				1660	90
Primrose Cove.....	3	2			5				1						2					229	20
Thunder River.....	25	8			48	43	3	2						1	4	30				3715	95
Ridge Point.....	11	2			22	12			1											1360	
Ramblers Cove.....	56	16			102	88			3	4					4	30				8417	340
Magpie.....	19	11			33	22				7					7					3251	385
Maxpie River.....	2	4			3				2	1					3	80				50	
Esquimaux Pt. 14.....	38	14	127				4	2										5000		5166	
Jupitagan River.....	1	1			2					1						90				30	10
Mingan River.....		3														200					
Harbor.....																					
Long Point.....	45	16			89	41	2		7						3	60				12874	1290
St. John's River.....	57	30			119	73	1	2		6					6	1000	45			6843	746
Nabisi River.....	1	2			4	2										109	15			40	
Point.....	1	1			3															80	
Aguanus.....	1	3			2							100			1	300				12	
Natashquan.....																					
Harbor.....	2	3			5	7			1						4	315				330	
Bank.....	2	26	16		55	47														3346	
River.....		1	11		18										23						
Kikasca.....	4	12	13	10	47	28			2						8	800				932	
Washcootai.....		2			4											156					
Musquarro.....		1			1											150					
Point à la Croix.....		1			2											50	20				
Mistassini.....		1			1											18				26	
La Romaine.....		1			2											60					
Atepetal.....		1			1							75				100					
Corneille.....		1			1							30			1	90	24				
River au Foin.....		1			2											30					
																90					

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.											Codfish.				
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lince seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals	Fall fishing, quintals.
Little Watshe- schoo.....	1	3		2								30				100	20				
Grand Watshe- schoo.....		1		3	4																
Chicatica.....	2	2		4	4							180	21			212	24	20		64	
Anse du Portage.....	1	1		1								300				70		7			
Pêche à Duquet.....	1	1		1												60				20	
Giroux Point.....	1	1		2	2							48				240	30	30		20	
Dog Island.....		2		2								40	18			480	30			3	
Sandy Island.....		2		2												93	20				
Lac Salé.....		2		2												291	40				
Fraser's Rapid.....		1		1								30				40	50	30			
St. Augustine's Bay.....		1		1								135				150	30	25			
St. Augustine's River.....		2		2												150	55				
Grosse Isle, St. Augustine.....		1		1												235	40				
Big Rigolet, Pacachoo.....		1		1												130	30				
Little Rigolet, Pacachoo.....		2		2												257	40				
Whale Head, Pacachoo.....		2		2								250				180		10		20	
Red Point, Pa- cachoo.....		1		1												50	10				
Kikapoe.....		1		1								252				215		13			
Fonderie de Fectean.....	1	1		1												42				20	
Salt Lake, Tab- atière.....	1	1			3							335	1			75		15		80	
Spar Point, Ta- batière.....	2	1			4	1	1					727	1	1		80		220		150	
Red Bay, Tab- atière.....	1	1		2	5			1				100			1	75		4		150	
Meccatina Isld.....	3	3		4	4							320			2	40		119		168	
Sheep Bay.....	1	1		1	1											150				40	
Great Mecca- tina River.....		2		2												150					
Whale Head, Meccatina.....	1	3		5	5					1	380			2		130		28		130	
Little Mecca- tina River ..	1	1		2							69					69				110	
Nitagamiou River.....		1		1								100									
Pointe à Mourier.....	1	1		1												20		56		20	
Etamamiqu Riv		2		2												150					
Cape Whittle.....	1	2		2								30				50		50		100	
Coacoachoo.....		1		1								30				50					
Napittipi River.....		1		2	2							20				100		10		20	

kinds of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*

SAGUENAY.—*Continued.*

KINDS OF FISH.								OILS.				FISH USED AS MANURE.				REMARKS.					
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.		Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smelt, barrels.	Cod roes, barrels.
.....	9	1	24	} With the fly.
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	11	1	.....	.....	30	.....	.....	60	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	50	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	15	.....	.....	.....	.....	.....
.....	6	.....	.....	.....	56	.....	.....	14	.....	.....	.....	.....	.....
.....	36	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....
.....	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	23	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	5	6	.....	.....	30	.....	.....	.....	.....	.....	.....	.....	.....
.....	6	1	.....	.....	40	.....	.....	.....	.....	.....	.....	.....	.....
.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	13	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	5	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	9	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	8	.....	.....	.....	70	.....	.....	15	.....	.....	.....	.....	.....
.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	5	.....	.....	.....	75	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	16	.....	.....	.....	.....	.....
.....	3	.....	.....	.....	115	.....	.....	50	.....	.....	.....	.....	.....
.....	6	.....	.....	.....	.....	.....	2	.....	.....	.....	1160	.....	.....	80	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	26	.....	.....	70	.....	.....	.....	.....	.....
.....	6	.....	.....	.....	726	.....	.....	128	.....	.....	.....	.....	.....
.....	3	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	.....	.....
.....	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	9	.....	.....	.....	.....	15	.....	.....	.....	.....	.....	.....	75	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	175	.....	.....	10	.....	.....	.....	.....	.....
.....	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	39	.....	.....	.....	.....	.....	.....	.....	.....
.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	5	.....	.....	.....	50	.....	.....	20	.....	.....	.....	.....	.....

5—6**

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men,
COUNTY OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.											CODFISH.				
	No. of vessels,	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms, seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summerfishing, quintals.	Fall fishing, quintals.
Bull Cove		1	1		1	1										60				30	
Bay of Rocks	1	2	2		4	4				1		20				90				200	
Lydia's Cove		2	2		2	1						20				60				60	
Dog Islands	1	2	2		2	1						300				60			50	60	
Pêche à Lizotte		2	2		2	2						20			2	60					
Old Fort Island	5	5	5		10	2	1	1	1	1	1	50							50	60	
Burnt Island	2	2	2		2	1						100				30		30		380	
St. Paul's River	1	4	4		4	2						20				270		19		20	
Bonne Esprance	7	7	7		14	5	1	1	1	1	1	50	2		2	60				1300	
Pigou Island	2	3	3		4	2	1	1	1	1	1	50	2	2		60				300	
Stick Point	1	2	2		2	2						100				120		5		30	
Salmon Bay	9	12	12		20	17	1	1	1	1	1					60				1800	
Little Fishery		2	2		2	2						100				60				30	
Five Leagues	1	2	2		4	2	1			1		50				60			50	120	
Middle Bay	1	2	2		2	1									2	60				60	
Belles Amours	1	2	2		4	2				1		200			2				40	200	
Bras d'Or		1	2		2	2						300							140	50	
Anse des Dunes	2	2	2		2	2				1		200			2	30			60	120	
Long Point	3	8			11	8				1		800			2	60		310		200	
	28	477	361	166	973	577	16	24	32	34	40	5956	16	50	86	16663	1722	6341	59110	6487	

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men, kinds
ISLAND OF

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.										CODFISH.					
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Baie de Gache																					
Bessie River				1		1										75	25				
S. W. Point	1	10		8	3	18	11								22	90	40			1,100	480
Shallop Creek		1		2		1										40					
Dauphine River				1		1										40					
Belle River				1		1										40					
Belle Bay	1	16		12	14	31	8					75		21	540				20	1,527	
South Point				1															15		
East Point				1												40					
Baie des Anglais		35	23			70	27							35						7,525	
Cow Head		4	2			8				1				6						600	
Mansdrolle Cove		8	7			16	5			1				18	30					1,046	
Salmon River		1	2			3				1		60	200	2	70					60	
McDonald's Cove		7	7			14	1	7	1					14	30					735	
Capelin Bay		18	9			36	12		4					28						2,053	
Total	2	100	77	17	199	64	1	7	8		135		200	146	995	65		35		14,646	480

of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Continued.*
 ANTICOSTI.

KINDS OF FISH.												OILS.		FISH USED AS MANURE.		REMARKS.				
Haddock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.		Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smelt, barrels.
.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	3	321	.....	.....	11	.....	10	4	.....	.....	.....	.....	.....	.....	1380	.....	.....	.....	.....
.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	385	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	1018	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5590	.....	.....	.....	.....
.....	21	420	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	400	.....	.....	.....	.....
.....	5	.....	.....	.....	.....	.....	20	.....	.....	.....	200	.....	.....	.....	1150	.....	.....	.....	.....
.....	30	.....	.....	.....	.....
.....	95	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	465	.....	.....	.....	.....
.....	90	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	1525	.....	.....	.....	.....
.....	29	2405	.....	.....	19	.....	78	6	.....	.....	360	.....	.....	.....	11720	.....	.....	.....	.....

RETURN OF FISHING STATIONS, kinds of Vessels, number of Men kinds
RECAPITU

NAME OF PLACE.	KINDS OF VESSELS.			NUMBER OF MEN.		KINDS OF NETS USED.												CODFISH.			
	No. of vessels.	No. of fishing boats.	No. of flat boats.	No. of sailors.	No. of fishermen.	No. of shoremen.	No. of codfish seines.	No. of mackerel seines.	No. of herring seines.	No. of capelin seines.	No. of lance seines.	No. of fathoms seal nets.	No. of cod nets.	No. of mackerel nets.	No. of herring nets.	No. of fathoms salmon nets.	No. of fath. of trout nets.	No. of brush fisheries.	No. of seals.	Summer fishing, quintals.	Fall fishing, quintals.
Magdalen Is-lands	20	313	64	16	804	448	...	1	7	...	...	...	...	415	168	...	...	...	2666	17793	1240
Island of Anti-costi	2	100	77	17	199	64	1	7	8	...	135	...	...	200	146	995	65	...	35	14646	480
County of Bonaventure .....	...	365	241	...	906	316	...	44	63	31	...	...	...	124	844	10039	30	5	...	8800	6795
Cnty of Gaspe	33	1347	921	160	2584	1163	9	8	8	152	33	...	14	261	1932	4286	60	5	...	63111	28061
County of Saguenay	28	477	361	166	973	577	16	24	32	34	40	5956	16	50	86	16663	1722	...	6341	59110	6487
Total	83	2602	1664	359	5466	2568	26	32	92	269	104	6091	30	1050	3176	31983	1877	10	9042	163460	43963

of Nets used, kinds of Fish and Fish Oils, &c., &c.—*Concluded*.
LATION.

KINDS OF FISH.												OILS.				FISH USED AS MANURE.				REMARKS.
Hadlock, quintals.	Ling, quintals.	Mackerel, barrels.	Herring, barrels.	Smoked herring, boxes.	Sardines, barrels.	Halibut, barrels.	Tunny, barrels.	Salmon, barrels.	Trout, barrels.	Eels, barrels.	Cod tongues and sounds.	Seal oil, gallons.	Whale oil, gallons.	Porpoise oil, gallons.	Cod oil, gallons.	Herring, barrels.	Capelin, barrels.	Flat-fish, barrels.	Smelt, barrels.	
.....	.....	4472	3178	.....	.....	.....	.....	.....	.....	.....	.....	12560	.....	.....	10453	.....	.....	.....	.....	.....
.....	.....	29	2405	.....	.....	19	.....	78	6	.....	.....	360	.....	.....	11720	.....	.....	.....	.....	.....
151	33	107	12380	2235	.....	.....	.....	474	1	10	15	.....	.....	.....	11827	1060	7362	.....	260	.....
60	.....	968	3328	.....	.....	197	47	460	34	.....	254	3	18000	122	92382	300	200	.....	.....	604
.....	.....	84	3556	.....	.....	104	.....	2386	55	.....	17	5605	.....	.....	34476	97	286	.....	.....	.....
211	33	5660	24847	2235	.....	320	47	3398	65	10	289	18528	18000	122	160055	1457	7848	.....	260	604

APPENDIX D.

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c., on the South Shore of the River St. Lawrence, from Point Levi to Cape Chatte.

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.								REMARKS.
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar and White Fish—doz.	Small Fish—barrels.		Fish for Manure.
Pointe Levis.....	3	..	...	...	119	2750	...	...	7	...	357	...	...
Beaumont.....	4	..	...	...	145	8800	...	...	3	...	73	...	...
St. Michel.....	1	...	...	...	25	500	...	...	3	...	100	...	...
St. Valier.....	1	...	...	...	75	2000	...	...	4	...	400	...	...
Berthier.....	1	...	...	25	...	...	...	1565	...	...	...	...	...
St. Thomas.....	14	18	...	...	...	...	...	3446	59	...	451	34	...
Cap St. Ignace.....	15	3	...	...	...	...	...	2700	83	...	500	129	...
Anse a Gilles.....	...	3	...	...	...	...	...	310	...	...	11	9	...
Islet.....	...	20	...	...	...	...	...	3833	...	...	...	...	...
St. Jean Port Joli.....	...	44	...	...	...	...	...	9450	...	...	...	...	...
St. Roch.....	...	16	...	...	...	...	...	3665	...	...	...	...	...
Cap Martin.....	3	16	...	...	...	...	...	3220	18	...	107	...	...
Ste. Anne.....	...	11	...	...	...	...	...	6345	63	...	225	...	...
Rivière Ouelle.....	...	450	...	...	...	...	...	60000	...	...	...	...	100
Petite Anse St. Denis.....	1	...	...	...	150	4000	30	...	...	25	...	75	...
St. Denis.....	...	11	...	...	...	...	...	7700	...	...	...	150	...
Cap au Diable.....	...	2	...	...	85	...	3	...	...	17	...	...	...
Kamouraska (including adjacent islands).....	12	3	79	4235	80	3450	...	102	...	...	...	...	...
St. André.....	10	9	...	720	117	1810	2	62	...	...	...	...	...
Notre Dame du Por- tage.....	...	8	...	...	...	...	510	...	...	...	...	...	...
Rivière du Loup.....	10	170	582	274	150	...	54	...	...	...	...	...	...
Cacouna.....	8	1	61	311	57	...	...	...	...	50	...	...	...
Isle Verte.....	23	...	30	150	662	...	...	...	...	848	...	...	...
Isle Verte (mainland).....	7	3	15	181	91	150	...	...	...	25	...	...	...
Pointe à la Loupe.....	1	5	...	15	15	...	...	...	...	21	...	...	...
Trois Pistoles.....	3	5	...	148	...	35	...	...	...	23	...	...	...
St. Simon.....	4	...	255	...	...	...	...	...	...	...	...	...	...
Port Pic.....	3	...	195	...	...	...	...	...	...	...	...	...	...
Point à la Cive.....	2	1	...	250	...	4	...	...	...	5	...	...	...
Anse à Mercier.....	...	2	...	14	12	...	...	...	...	12	...	...	...
Islet au Flacon.....	1	...	200	...	25	...	...	...	...	15	...	...	...
Baie des Ha-ha.....	...	1	100	...	60	...	...	...	...	50	...	...	...
Cap à l'Original.....	...	1	6	7	...	...	...	...	...	1	...	...	...
Bic.....	...	1	10	20	2	...	...	...	...	2	...	...	...
Anse à la Truie.....	...	1	20	100	7	...	...	...	...	3	...	...	...
Anse au Bouleau.....	...	1	20	30	7	...	...	...	...	2	...	...	...
Cap Enrage.....	1	...	250	...	...	...	...	...	...	...	...	...	...
Isle Brûlée.....	...	1	15	...	1	...	...	...	...	...	...	...	...
Islet au Massacre.....	1	1	317	12	4	...	...	...	...	...	...	...	...
Rivière Hâtée.....	...	3	13	40	19	...	...	...	...	2	...	...	...
Anse au Sable.....	...	5	30	192	92	...	...	...	...	23	...	...	...
Islet Canuel.....	...	1	18	200	30	...	...	...	...	12	...	...	...

RETURN of Fishing Stations, Yield, Value, Kinds of Fish, &c, on the South Shore of the River St. Lawrence, from Point Levi to Cape Chatte.—*Concluded.*

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.									REMARKS.
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar and White Fish.	Small Fish—barrels.	Fish for Manure.	
Isle St. Barnabé	3	52	175	70	45	* 200 brls. codfish, summer fishing, 1000 quint. do fall 2000 brls. mackerel, 2000 galls. oil. The mackerel was caught in the fascine fisheries of River Blanche.
Rivière et quai de Ri- mouski	1	.....	5	.....	269	30	54	400	.....	10	.....	.....	.....
Ste. Luce .....	.....	.....	6	.....	12	.....	10	.....	.....	.....	.....	.....	.....
Anse au Lard .....	.....	.....	5	.....	7	.....	10	.....	.....	3	.....	.....	.....
Ruisseau à la Loutre ..	1	.....	4	.....	310	.....	8	.....	.....	.....	.....	.....	.....
Ste. Flavie .....	.....	.....	7	.....	27	.....	51	.....	.....	11	.....	.....	.....
Pointe aux Senelles ..	.....	.....	1	.....	38	.....	40	.....	.....	20	.....	.....	.....
From Metis to Grands Mechins	1	.....	16	.....	475	.....	300	.....	.....	.....	.....	.....	2000*
	19	11	180	831	4432	24727	2046	108554	336	1389	2224	172	2325	

RECAPITULATION of the Yield and Value of the Fisheries from Point Levi to Cape Chatte.

No. of legal Salmon nets.	No. of brush and net fisheries.	No. of brush fisheries.	No. of Eel weirs.	No. of Men.	No. of Boats.	No. of Salmon.	No. of Shad.	No. of barrels of Herring.	No. of barrels of Sardines.	No. of barrels of Sturgeon.	No. of Eels.	No. of barrels of small mixed fish.	No. of barrels of fish for manure.	No. of doz. of Bar, Pickerel, and White fish.	No. of Porpoises.	No. of barrels of Cod—Summer fishery.	No. of quintals of Cod—Autumn fishery.	No. of gallons of oil.	REMARKS.
19	10	181	651	130	49	4020	25035	2169	1443	242	109204	172	2325	2224	115	200	1000	2000	There were caught with the fly in Rimouski River, 63 Salmon, weighing 826 lbs., and 30 in Metis River. Bar, Trout, and other river fish taken with the line are not entered, for want of sufficient information.

Number of Salmon nets	19	Number of Eel Weirs.....	651
Number of Brush and Net fisheries.....	10	Number of Men	130
Number of Brush fisheries	181	Number of Boats	49

	Total Value.		Total Value.
Number of Salmon 4,020 at \$1 00	\$ cts. 4,020 00	Number of doz. of Bar, Pickerel and Whitefish 2,224 at \$2 00 per doz.	\$ cts. 4,448 00
Number of Shad 25,035 at \$0 10	2,503 50	Number of Porpoises 115 at \$40 each.	4,600 00
Number of barrels of Herring 2,169 at \$3 00 per barrel	6,507 00	Number of barrels of Cod—Summer fishery—200 at \$4 00 per bl.	800 00
Number of barrels of Sardines 1,443 at \$5 00 per barrel.....	7,215 00	Number of quintals of Cod—Autumn fishery—1000 at \$3 00 per quintal	3,000 00
Number of barrels of Sturgeon 242 at \$4 00 per barrel.....	968 00	Number of barrels of Mackerel 1000 at \$3 00	1,000 00
Number of Eels 109,204 at \$10 00 per 100	10,920 00	Number of gallons of oil 2000 at \$0 50 each	1,000 00
Number of barrels of small fish 172 at \$4 00 per barrel	688 00	Number of barrels of Fish for manure 2,325 at \$0 25 per barrel.	581 25
			48,250 75

Certified,

W. F. WHITCHER.

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.								REMARKS.
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Fel Fisheries.	Number of Salmon.	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar and White Fish—doz.	Small Fish—barrels.	
St. Laurent	4				91	1100					66		
St. Francois, north side of the Island				11				1240					
Argentenay				5				735					
St. Francois, south side of the Island	1	5	2					1047	25		1356	71	
Ste. Famille		17	4					733	32		378	116	
Chateau Richer		7						180	8		299	66	
Ste. Anne		3	12					1068	4		23	4	
St. Joachim			34					9725					
Baie St. Paul		2	8					1862		4		15	
Cap au Corbeau			14					1288				13	
Ile aux Coudres	1	7	91					6613		57	10	189	19
La Misère			14					625				5	
Les Eboulements		16	22					845		61		81	435
Cap aux Oies		5	8		3			345		10		14	225
St. Irénée	4	17	13			19		535		36		42	997
Terrebonne	6	12				12				2		2	10
Pointe au Pic	3	13	2			34		3		1		10	5
Malbaie and Cap à l'Aigle	1	5	10	4		31	32	46		6		210	290
Port au Saumon	1	8	10			76	19	56		6		17	2
St. Fidèle		2	2				9	8		2		4	26
Port au Persil		10	1				19						4
Rivière Noire		10	8				16					16	196
Port aux Quilles	1	3	2			107	32					6	67
Baie des Rochers	1	12				5	18						
Rivière au Canard			1			2	1						20
Pointe au Bouleau			1		12		10			3		2	
Anse à Catherine			1		9		9			4		13	30
Pointe Rouge	1				675								
Moulin Baudé	2				351								
Pointe Carole	1				295								
Anse Puante	1				147								
Bergeronnes		2					23					1	12
Bon Désir		3			10		32			1		1	30
Anse à la Cave		1			15		2					1	4
Anse aux Basques		1			2		5			1		1	6
Escoumains	1	1			60		3			2		1	
Ilets Penchés	3	2	1		732								
Petite Romaine		2			30		8			2		13	22
Baie des Bâcons		2			22		14			3		2	17
Cran Rouge		3			7		10			2		1	15
Baie des Mille Vaches													

RETURN of Fishing Stations, Yield, Value, kinds of Fish, &c., on the North Shore of the River St. Lawrence, from Baie St. Paul to Point au Colombier.—*Concluded.*

NAME OF THE PLACE.	KINDS OF NETS USED.				KINDS OF FISH.									REMARKS.
	Salmon Nets.	Brush Fisheries with Nets.	Brush Fisheries.	Eel Fisheries.	Number of Salmon.	Number of Shad.	Herrings—barrels.	Number of Eels.	Sturgeon—barrels.	Sardines—barrels.	Bar and White Fish—doz.	Small Fish—barrels.	Fish for Manure.	
Patte de Lievre.....	1				66									
Sault au Cochon.....	1	1			230									
Baie de Laval.....		1			266									
Pointe au Colombier.....	1				342									
	18	85	146	242	3574	1324	337	26954	69	206	2132	803	2432	

Certified,

W. F. WHITCHER.

APPENDIX F.

GENERAL Recapitulation of the Yield of the Fisheries on the North and South Shores of the River and Gulf of St. Lawrence, from Quebec to Blanc Sablon, and from Point Levi to Bay des Chaleurs, during the year 1871.

Quantity and Value of Fish.	1870.	Remarks.
	\$ cts.	
Summer Codfishing, 163,810 cwt., at	\$3 00	491,430 00
Autumn Codfishing, 53,963 cwt., at	3 00	161,889 00
Ling, 16 barrels at	5 00	80 00
Mackerel, 7,638 barrels, at	10 00	76,380 00
Herring, 27,353 barrels, at	3 00	82,059 00
Herring (smoked) 2,235 boxes, at	0 25	558 75
Sardines, 1,649 barrels, at	5 00	8,245 00
Halibut, 320 barrels, at	5 00	1,600 00
Tunny, 47 barrels, at	5 00	235 00
Salmon, 3,728 barrels, at	16 00	60,648 00
Trout, 65 barrels, at	10 00	650 00
Sturgeon, 311 barrels, at	5 00	1,555 00
Eel, 137,158 fish, at \$10 per cent.		13,715 80
Cod, Tongues and Sounds, 289 barrels, at	7 00	2,023 00
Cod Roes, 604 barrels, at	6 00	3,624 00
Seal Oil, 13,525 gallons, at	0 80	14,820 00
Whale Oil, 18,000 gallons, at	0 80	14,400 00
Porpoise Oil, 2,122 gallons, at	0 50	1,061 00
Cod Oil, 160,055 gallons, at	0 50	80,027 50
Haddock, 106 barrels, at	5 00	530 00
Bar and Whitefish, 4,356 doz., at	2 00	8,712 00
Mixed Fish, 1,072 barrels, at	4 00	4,288 00
Shad, 26,359 fish, at 10 cts. a piece		2,635 90
Fish used as manure, 14,372 barrels, at	0 25	3,593 00
Number of Porpoises, 115, at	40 00	4,600 00
Number of Seals, 9,042, at	6 00	54,252 00
		1,093,611 95

Owing to the want of reliable statistics, the yield and value of the River and Inland Fisheries in those departments of the Province of Quebec, comprising the Districts of Quebec, Three Rivers, Montreal, and St. Francis, cannot be determined with any degree of accuracy; but the value per annum may be safely estimated at about \$100,000 for commerce and local consumption.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1871.

(Certified)

W. F. WHITCHER.

P. MITCHELL,
Minister of Marine and Fisheries.

APPENDIX. -G.

STATEMENT of the Number and Tonnage of Vessels and Number of Men engaged exporting the Products of the Sea Fisheries at the Magdalen Islands to places within the Dominion of Canada, during the season of 1871, from Returns furnished by the Collector of Customs at Amherst Island.

Number.	Name of Vessel.	Masters' Name.	Tons.	Men.	To where Exported.	Description and Quantity of Cargo.								Value.
						Dry Codfish.	Pickled Codfish.	Pickled Herring.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	Fish Spawn.	
						Cwts.	Brls.	Brls.	Brls.	Galls.	Galls.	No.	Brls.	
1	Ann Leonard.....	Rage.....	89	8	Welchpool, N. B.....			1,200						1,200
2	Bessie.....	Bacon.....	40	8	Grand Manan.....			700						700
3	Joanna.....	Holmes.....	40	5	West Isles, N. B.....			600						600
4	Mariner.....	Risser.....	58	6	Halifax.....			600						600
5	Young Nova Scotian.....	".....	68	7	".....			600						600
6	S. E. Teel.....	Teel.....	48	8	".....			600						600
7	Lois Jane.....	Monser.....	53	6	".....			600						600
8	Tropic Bird.....	Yong.....	46	6	".....			500						500
9	Emblem.....	Eiseneaur.....	57	6	".....			600						600
10	Louisa Agnes.....	Slawenwaite.....	50	8	".....			400						400
11	Express.....	Redmond.....	34	5	".....			400						400
12	Humming Bird.....	Harnish.....	49	5	".....			400						400
13	Rosalie.....	Croucher.....	46	5	".....			400						400
14	Brilliant Star.....	Smith.....	39	7	".....			550						550
15	E. Ferguson.....	Ferguson.....	39	4	Tracadie, N. B.....			400						400
16	Onward.....	Cox.....	52	8	Isaac's Harbor.....			700						700
17	C. D. Smith.....	Grant.....	70	9	Port Hawkesbury.....			800						800
18	Swan.....	Jamieson.....	46	8	Canso.....			550						550
19	Kate.....	Meuse.....	48	5	Yarmouth, N. Y.....			500						500
20	Engedé.....	Cormier.....	25	4	Ship Harbor.....			300						300
21	Centreville.....	McLeod.....	25	4	Port Mulgrave.....			400						400
22	Onyx.....	Morrison.....	59	8	".....			360						360
23	Lillian.....	Proctor.....	44	5	Port Hawkesbury.....			500						500
24	Velocity.....	Colford.....	37	5	".....			400						400
25	Flash.....	Hyson.....	40	5	Halifax.....			400						400
26	Whisper.....	Hilchey.....	27	5	".....			320						320
27	Seven Brothers.....	Porter.....	81	6	Yarmouth.....			1,100						1,100

28	William Taylor	Bollong	45	6	Port Mulgrave	450							450
29	Margaret	Drake	37	5	Guysboro', N. S.	500							500
30	Allegro	Steele	36	5	Canso	450							450
31	Mary	Murray	41	5	Port Hawkesbury	420							420
32	Kate	Walker	58	6	"	800							800
33	Alert	"	46	6	Cape Canso	600							600
34	Princess Augusta	Parker	37	4	Campo Bello	400							400
35	Aretic	Reddy	52	5	Halifax	185							768
36	Victory	Colford	37	6	Port Hawkesbury	400							400
37	Franklin Goold	Gaskie	46	5	Grand Manan	700							700
38	Margaret Ann	Murray	50	6	Port Hawkesbury	400							400
39	Dusky Lake	Roberts	44	7	Canso	400							400
40	Margaret Jane	Steele	42	5	"	400							400
41	Ocean Wave	Jameison	23	5	"	150							150
42	Ruby	Hearn	33	6	Guysboro'	400							400
43	Susan	Walker	19	4	Canso	120							120
44	Reufrew	McMillan	41	8	Isaac's Harbor	600							600
45	Garnet	Peebles	60	8	Guysboro'	600							600
46	British Tar	Evans	30	6	Halifax	500							500
47	Merlin	Moser	57	7	"	400							400
48	Lillian	Proctor	44	5	Port Richmond	150							600
49	Amiel	Cook	42	12	Spry Bay	200							800
50	Jane Otis	Harvey	50	7	Port Mulgrave	10							150
51	Ocean Bride	Malcomb	13	6	Port Richmond	100							400
52	Fly	Langley	21	5	"	80							320
53	Express	Redmond	34	6	Halifax	140							500
54	Maria	Hubley	17	5	"	56							224
55	Foam	Henley	40	11	"	50							1,000
56	Janet	Hubley	31	10	Spry Bay	250							1,000
57	Annie Belle	Leslie	41	13	"	330							1,320
58	Cleary	Hawes	35	9	"	190							760
59	Catharine	Gerald	27	7	"	140							560
60	Lavenia & Elizabeth	Hawes	23	8	"	230							920
61	Harvest Home	Jackson	29	9	Halifax	190							760
62	Emily Jane	Murphy	34	8	"	125							500
63	P. Martin	Murphey	19	8	Halifax	150							600
64	Fleetwing	Boulet	47	5	"	300							1,800
65	Jane Amelia	Leslie	48	5	Spry Bay	350							2,800
66	Flirt	Boudreau	46	5	Halifax	21							4,900
67	Glad Tidings	Jackson	30	4	Spry Bay	600							1,800
68	Fleetwing	Boulet	47	5	Montreal	15							1,785
69	Flora	Boudreau	34	5	Halifax	350							2,100
70	Archangel	Jomphe	40	5	Quebec	35							3,000
71	Flirt	Boudreau	46	5	Halifax	786							2,250
72	Dolphin	Richard	52	6	Quebec	100							3,360
73	Mary	Arsineau	34	5	Halifax	600							2,000
74	Seven Brothers	Porter	81	6	Yarmouth	500							3,000
75	Esperance	Chiasson	51	5	Perce	1,160							3,300
76	Annie	Therrieau	41	5	Quebec	11							1,100
77	Marie Louise	Jacques	43	4	"	20							900
78	Flirt	Boudreau	46	5	Halifax	602							2,250

STATEMENT of the Number and Tonnage of Vessels and Number of Men engaged exporting the Products of the Sea Fisheries at the Magdalen Islands, &c.—Concluded.

Number.	Name of Vessel.	Master's Name.	Tons.	Men.	To where exported.	Description and Quantity of Cargo.								Value.
						Dry Codfish.	Pickled Codfish.	Pickled Herring.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	Fish Spawn.	
						Cwts.	Brls.	Brls.	Brls.	Galls.	Galls.	No.	Brls.	\$ cts.
79	President.....	Turbide.....	30	4	".....	650			4					2,287
80	Engedé.....	Cornier.....	25	6	".....	300		22	50	120				1,400
81	Marie Louise.....	Cornier.....	21	5	".....	400			49	150				1,595
82	Esperance.....	Chiasson.....	51	6	Quebec.....	100	200		200	2,100				2,850
83	Flora.....	Devos.....	34	6	Halifax.....	600		18	120	250				2,705
84	Glad Tidings.....	Jackson.....	30	4	Spry Bay.....				400					1,600
85	Jane Amelia.....	Leslie.....	46	5	Halifax.....	700			200	200				3,350
86	Fleetwing.....	Boulet.....	47	6	Montreal.....	20	247	55	107	900				1,900
87	A. Painchaud.....	Bourgeois.....	36	5	Halifax.....	700		31	7					2,540
88	Cutter.....	Cornier.....	27	5	".....	600			15					2,160
89	Mary Ann.....	Arsineau.....	36	5	".....	192			291					1,836
90	Greenock.....	Terriau.....	39	5	".....	700			50					2,650
91	Panda.....	Neil.....	35	5	Port Mulgrave.....				170					680
92	Dolphin.....	Richard.....	52	3	Halifax.....	500			300					2,950
93	President.....	Turbide.....	30	5	".....	363			147					1,858
94	Mary.....	Arsineau.....	34	5	".....	600			100	200				1,400
95	Annie.....	Terria.....	41	5	".....	817			112					3,307
96	Archangel.....	Jomphe.....	40	5	".....	850			140					3,535
97	Jenny Lind.....	Turbide.....	39	5	".....	800			106					3,224
98	Haro'.....	Bourque.....	50	5	Pictou, N.S.....	36	4		4					158
99	Temperance.....	Arsineau.....	36	6	Halifax.....	480			100					2,080
100	Glad Tidings.....	Jackson.....	30	5	".....	700			200					3,800
Total, No. 100..			4045	598		15,638	469	24,922	7,215	10,107	7,948	1,862	36	121,022

RECAPITULATION.

		Cwt.							
To Nova Scotia.....	14,248	8	20,126	6,021	920	5,824	1,862	36	98,827
New Brunswick			4,000						4,000
* Quebec	1,390	930	796	1,194	9,187	2,124			18,195
Total.....	15,638	938	24,922	7,215	10,107	7,948	1,862	36	121,022

P. MITCHELL,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1871.

(Certified) W. F. WHITCHER.

STATEMENT of the Number and Tonnage of Vessels and Number of Men engaged exporting the products of the Sea Fisheries at the Magdalene Islands to places without the Dominion of Canada, during the season of 1871.

No. of Vessel.	Name of Vessel.	Master's Name.	Tons.	Men.	To Where Exported.	Description and Quantity of Cargo.							Value.
						Dry Codfish.	Pickled Herring.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	Fish Spawn.	
						Cwt.	Brls.	Brls.	Galls.	Galls.	No.	Brls.	\$
1	Lizzie Lee.....	Stubbs.....	92	12	United States.....	.....	1,200	.....	.....	.....	.....	.....	1,200
2	Cape Ann.....	Foss.....	42	7	do.....	.....	450	.....	.....	.....	.....	.....	450
3	Pointer.....	Hinds.....	74	7	do.....	.....	1,200	.....	.....	.....	.....	.....	1,200
4	Atlantic.....	Alexander.....	35	5	do.....	.....	400	.....	.....	.....	.....	.....	400
5	A. B. Higgins.....	Higgins.....	42	7	do.....	.....	500	.....	.....	.....	.....	.....	500
6	Red Beach.....	Holmes.....	70	6	do.....	.....	1,200	.....	.....	.....	.....	.....	1,200
7	L. H. Smith.....	Leach.....	51	7	do.....	.....	600	.....	.....	.....	.....	.....	600
8	Nellie H.....	Mallock.....	78	6	do.....	.....	900	.....	.....	.....	.....	.....	900
9	I. Coolidge.....	Coolidge.....	52	7	do.....	.....	700	.....	.....	.....	.....	.....	700
10	Samuel Knight.....	Tracey.....	59	9	do.....	.....	800	.....	.....	.....	.....	.....	800
11	Prize.....	Robinson.....	71	6	do.....	.....	1,000	.....	.....	.....	.....	.....	1,000
12	Harvest Home.....	Croptree.....	78	9	do.....	.....	800	.....	.....	.....	.....	.....	800
13	A. I. Whiting.....	Smallidge.....	43	5	do.....	.....	700	.....	.....	.....	.....	.....	700
14	Josephine.....	Stanley.....	55	6	do.....	.....	700	.....	.....	.....	.....	.....	770
15	Laurel.....	Richardson.....	32	6	do.....	.....	500	.....	.....	.....	.....	.....	500
16	Fleetwing.....	Coolidge.....	52	7	do.....	.....	400	.....	.....	.....	.....	.....	400
17	G. Gilmour.....	Gardner.....	59	6	do.....	.....	600	.....	.....	.....	.....	.....	600
18	Caroline Knight.....	Morgan.....	99	8	do.....	.....	900	.....	.....	.....	.....	.....	900
19	F. P. Frye.....	Coggins.....	85	12	do.....	.....	1,000	.....	.....	.....	.....	.....	1,000
20	E. H. King.....	Bragdon.....	106	12	do.....	.....	1,000	.....	.....	.....	.....	.....	1,000
21	Hattie.....	Mellis.....	52	5	do.....	.....	400	.....	.....	.....	.....	.....	400
22	Olive Branch.....	Ferguson.....	62	6	do.....	.....	700	.....	.....	.....	.....	.....	700
23	"We are Here".....	Johnston.....	24	6	Prince Edward Island.....	.....	200	.....	.....	.....	.....	.....	200
24	Margaretha.....	Gallant.....	58	4	do.....	.....	400	.....	.....	.....	.....	.....	400
25	Carrie.....	McPhee.....	32	5	do.....	.....	300	.....	.....	.....	.....	.....	300
26	Leader.....	Baker.....	20	4	do.....	.....	300	.....	.....	.....	.....	.....	200
27	S. V. Coonan.....	McKinnon.....	72	5	do.....	.....	800	.....	.....	.....	.....	.....	800
28	M. R. McKenzie.....	Walsh.....	55	5	do.....	.....	700	.....	.....	.....	.....	.....	700
29	I. E. Carr.....	Frost.....	19	4	do.....	.....	175	.....	.....	.....	.....	.....	174
30	Josephine.....	Cheverie.....	40	5	do.....	.....	500	.....	.....	.....	.....	.....	500
31	Winnie.....	Judge.....	37	5	do.....	.....	400	.....	.....	.....	.....	.....	400
32	Sea Skipper.....	McKay.....	15	3	do.....	.....	200	.....	.....	.....	.....	.....	200
33	Bounty.....	Gallant.....	54	5	do.....	.....	550	.....	.....	.....	.....	.....	553

34	Hattie Collet.....	Squarebrigs.....	52	4	do	670					670
35	Marie Alva.....	McEvoy.....	36	4	do	300					300
36	Onesime.....	Richard.....	42	5	do	8					24
37	Frank.....	Hearn.....	61	9	do	750					750
38	Odessa.....	McDonald.....	43	5	do	500					500
39	Lillian.....	McVane.....	25	4	do	400					400
40	Dominion.....	McLeod.....	61	6	do	950					950
41	Octavia.....	McDonald.....	64	6	do	800					800
42	Adele.....	Campbell.....	66	6	do	800					800
43	Glad Tidings.....	Jackson.....	30	3	do	100					200
44	Mary Margaret.....	Convey.....	26	5	do	200					200
45	Alberton.....	Perry.....	28	9	do	400					400
46	Sun.....	Wooster.....	40	5	United States.....	600					600
Total, No. 46.....			2,368	285		27,653					27,769

RECAPITULATION.

To United States.....	17,250					17,250
„ Prince Edward's Island.....	10,403					10,519
Total.....	27,653					27,769

MEMO.—The very low price of Mackerel this year compared with former years, has diminished the price of exports in proportion. The average price of that fish this season has ranged from \$2 50 to \$5 00, both in the Quebec and Halifax markets, whereas the same article has readily commanded for several years past from \$7 00 to \$9 00 per barrel. The small demand from the United States this year, and the large quantity of fish remaining on hand from last year has also had the effect of diminishing the value of this article.

It is a remarkable fact that whenever pork is low in price, pickled fish will be the same. I cannot assign any reason for this, but perhaps it may in some measure be accounted for by the fact that farmers and pork raisers in the Western States consume a large quantity of fat mackerel, when they can obtain a high price for their meat, and, on the contrary, when meat sells low by their keeping it for home use.

There will be 200 quintals of Dry Codfish left here this season, on account of there being no vessels to take them to market.

RECAPITULATION of all Exports of Fish and Oil from the Magdalen Islands during the season of 1871.

Fish and Oil.	Dry Cod Fish.	Pickled Cod Fish.	Herring.	Mackerel.	Cod Oil.	Seal Oil.	Seal Skins.	Fish Spawn.	Value.
	cwt.	cwt.	barrels.	barrels.	gallons.	gallons.	No.	barrels.	\$
To United States			17,250						17,250
„ Prince Edward Island			10,403						10,519
Total			27,653						27,769
Coastwise.									
To Nova Scotia	14,248	8	20,126	6,021	920	5,824	1,862	36	98,827
„ New Brunswick			4,000						4,000
„ Quebec	1,390	930	796	1,194	9,187	2,124			18,195
Total	15,638	938	24,922	7,215	10,107	9,948	1,862	36	121,022
Grand Total	15,638	938	52,575	7,215	10,107	7,948	1,862	36	148,791

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1871.

(Certified)

W. F. WHITCHER.

P. MITCHELL,

Minister of Marine and Fisheries.

STATEMENT of the Number and Tonnage of Vessels and Boats engaged in the Seal Fishery at the Magdalen Islands, during the season of 1871.

AMHERST HARBOR.

Name of Vessel.	Master.	Tons.	Men.	Boats.	No. of Seals Taken.	Remarks.
Flirt	Boudreau	46	10	4	16	
Archangel	Jomphe	40	10	4	80	
Jenny Lind	Turbide	39	10	4	60	
Greenock	Terrieau	39	10	4	200	
Dolphin	Richard	52	10	4	60	
Two Brothers	Delany	42	10	4	120	
Onesime	Richard	42	10	4	400	
Annie	W. Terrieau	41	10	4	20	
Mary Ann	Arsineau	36	10	4	310	
Temperance	do	34	10	3	80	
Mary	do	34	10	3	130	
Emelite	Bourque	26	8	3	Nil.	
Total, No. 12		473	118	45	1,476	

HOUSE HARBOR.

Esperance	Chiasson	51	10	4	430	
Cutter	Cormier	27	10	3	60	
Marie Louise	Arsineau	21	7	3	150	
Flora	Sire	34	10	3	50	
Queen of the East	Lapierre	12	5	2	50	
President	Boudreau	30	10	3	50	
Total, No. 6		175	52	18	790	
Grand Total, No. 18		648	170	63	2,266	

P. MITCHELL,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,

Fisheries Branch, Ottawa, 1871.

(Certified,) W. F. WHITCHER.

STATEMENT of the Number and Tonnage of Vessels, with the Men, Boats, and Nets engaged in the Spring Mackerel Fishery, at the Magdalen Islands, during season of 1871.

Name of Vessel.	Master.	From whence.	Tons.	Men.	Boats.	Nets.	No. of Barrels Mackerel taken.
Foam	Henley	Spry Bay, N. S.	40	11	5	80	180
Harvest Home	Jackson	"	30	6	4	70	190
Catherine	Gerard	"	27	7	3	60	140
Clary	Hawes	"	35	11	4	80	190
Lavina and Elizabeth	Hawes	"	23	10	5	100	230
Annie	Cook	"	42	12	5	110	200
Maria	Habley	"	17	4	2	30	55
Janet	Habley	"	30	11	4	86	250
Annie Belle	Leslie	"	41	13	6	120	330
Convoy	Hawes	"	19	5	2	40	80
Express	Redmond	Halifax	34	6	3	62	140
Ocean Bride	Malcomb	Port Richmond ..	13	4	2	60	100
Lillian	Proctor	"	44	5	2	50	150
Fly	Langley	Pt. Hawkesbury ..	22	5	2	42	80
Mary	Embree	"	41	8	4	80	120
P. Martin	Murphy	Ship Harbor	23	7	3	50	150
Emily Jane	Murphy	"	40	8	3	80	125
Engedé	Moore	Port Mulgrave ..	25	4	1	20	100
Total No. 18 .....	.....	.....	546	140	60	1220	2811

P. MITCHELL,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1871.

(Certified) W. F. WHITCHER.

GENERAL STATEMENT of the catch of Magdalen Islands Vessels in 1871.

Name of Vessel.	Name of Outfitter.	Tonnage.	No. of Flat Boats.	No. of Fishing Boats.	No. of Sailors.	No. of Fishermen.	No. of Shoremen.	No. of Herring Seines.	No. of Capelin Seines.	No. of Mackerel Nets.	No. of Herring Nets.	No. of Seals.	Cwts. Codfish.	Cwts. Haddock.	Bls. Mackerel.	Bls. Herring.	Gall. Seal Oil.	Gall. Cod Oil.	Bls. Fish Spawn.	Remarks.
<i>Amherst Island.</i>																				
President	F. Painchaud	30	3	3		9	9		1			50	450				250	320		
A. Painchaud		35		4		10	10		1				580				360	360		
Cutter		27	3			9	9					50	300				360	240		
Engedé	Cormier	25	1	13		8	8						230				200	200		
Marie Louise	Leslie	21	3	12		7	7					150	260				900	260		
Flora	D. Devos	35	3	3		10	10		1			50	400				300	200		
Esperance	Chiasson	51	4		10							430					3000			
Queen of the East	Lapierre	12	2			5						50					300			
Total No. 8		237	19	16	10	58	53		3			780	2270				5110	1580		
<i>House Harbor.</i>																				
Annie	Terrieau	41	4	3		10	10					20	500				180	300		
Dolphin	Richard	52	4	4		13	13		1			60	550				300	360		
Archangel	Jomphe	40	4	3		10	10		1			80	500				400	320		
Two Brothers	Delany	42	4	3		11	10					120	500				600	340		
Onesime	Richard	42	4	3		11	10					400	450				2000	300		
Jenny Lind	Turbide	39	4	3		10	10					60	400				400	300		
Mary Ann	Arsineau	34	4	3		11	10		1			310	500				1500	335		
Mary	"	34	3	3		11	10					130	500				600	360		
Greenock	Terrieau	39	4	3		11	10		1			200	500				1000	345		
Temperance	Arsineau	36	3	3		11	10					80	450				400	350		
Flirt	Johnston	46	4		6	11						16					90			
Emelite	"	26	3			8														
Total No. 12		473	45	31	6	128	103		4			1476	4850				7450	3310		
RECAPITULATION.																				
Amherst Harbor	No. 8	237	19	16	10	58	53		3			790	2270				5110	1580		
House Harbor	" 12	473	45	31	6	128	103		4			1476	4850				7450	3310		
Total No. of Vessels			64	47	16	186	156		7			2266	7120				12560	4890		

DEPARTMENT OF MARINE AND FISHERIES, Fisheries Branch, Ottawa, 1871.

(Certified)

W. F. WHITCHER.

P. MITCHELL,

Minister of Marine and Fisheries.

STATEMENT of the number and tonnage of vessels, with the boats, nets, seines, and men engaged in the herring fishery at the Magdalen Islands, during the season of 1871.

Name of Vessel.	Flag or Nation.	From Whence.	Tons.	Men.	Boats.	Nets.	Seines.
Winnie.....	British	Halifax, N. S.	37	4	1	.....	.....
Franklin Gould.....	"	Grand Manan, N. B.	46	5	3	.....	.....
Lillian.....	"	Port Hawkesbury, N. S.	45	7	2	.....	.....
Mariner.....	"	Lunenburg, N. S.	56	7	3	.....	.....
Nellie H.....	United States	Eastport, U. S.	78	6	3	.....	.....
A. P. Whiting.....	"	Mount Desert, U. S.	43	5	3	.....	.....
Josephine.....	"	Freemont, U. S.	55	6	2	.....	.....
Olive Branch.....	"	Cutler, U. S.	62	6	2	.....	.....
Lewis H. Smith.....	"	Bucksport, U. S.	51	7	2	.....	.....
Onward.....	British	Port Hawkesbury, N. S.	52	8	3	.....	.....
Ann Leonard.....	"	West Isles, N. B.	89	8	3	.....	.....
Victory.....	"	Port Hawkesbury, N. S.	37	6	1	.....	.....
Joanna.....	"	St. Andrew, N. B.	40	5	3	.....	.....
Hattie.....	United States	Eastport, U. S.	52	5	2	.....	.....
A. B. Higgins.....	"	Lamoine, U. S.	42	7	2	.....	.....
E. H. King.....	"	"	106	12	4	.....	.....
F. P. Frye.....	"	Northhaven, U. S.	85	12	3	.....	.....
M. R. M'Kenzie.....	British	Prince Edward Island	55	5	1	.....	.....
Adele.....	"	"	66	6	2	.....	.....
Josephine.....	"	"	40	6	2	.....	.....
Octavia.....	"	"	64	6	2	.....	.....
Caroline Knight.....	United States	Lubec, U. S.	99	8	3	.....	.....
Margaret Ann.....	British	Port Hawkesbury, N. S.	70	9	2	.....	.....
W. D. Smith.....	"	"	50	6	2	.....	.....
Margarathea.....	"	Prince Edward Island	38	4	1	.....	.....
Atlantic.....	United States	Camden, U. S.	35	6	2	.....	.....
Cape Ann.....	"	Hancock, U. S.	42	7	2	.....	.....
Sarah.....	British	Canso, N. S.	56	6	3	.....	.....
Margaret Jane.....	"	"	42	5	2	.....	.....
Louis Jane.....	"	Port Medway, N. S.	53	7	2	.....	.....
S. E. Teel.....	"	Halifax	48	8	3	.....	.....
Red Beach.....	United States	Eastport, U. S.	70	6	2	.....	.....
Young Witch.....	British	Cheticamp, U. S.	30	7	4	.....	.....
Fairy Queen.....	"	"	12	5	2	.....	.....
King Fisher.....	"	"	12	5	1	.....	.....
Quick.....	"	Arichat	13	5	2	.....	.....
Pointer.....	United States	Eastport, U. S.	74	7	2	.....	.....
Susan.....	British	Canso, N. S.	19	4	2	.....	.....
Onyx.....	"	Port Mulgrave	59	8	2	.....	.....
Dusky Lake.....	"	Canso	44	7	2	.....	.....
Young Nova Scotian.....	"	Lunenburg	46	7	2	.....	.....
Lizzie Lee.....	United States	Lamoine, U. S.	92	12	3	.....	.....
Swan.....	British	Canso	46	8	2	.....	.....
Allegro.....	"	"	36	6	2	.....	.....
Mary.....	"	Port Hawkesbury	41	6	2	.....	.....
Ruby.....	"	Guysboro'	33	6	2	.....	.....
Emblem.....	"	Halifax	50	6	2	.....	.....
Merlin.....	"	Liverpool	57	7	2	.....	.....
Bessie.....	"	Yarmouth	40	6	2	.....	.....
Brilliant Star.....	"	Port Medway	39	7	2	.....	.....
Ocean Wave.....	"	Canso	23	5	2	.....	.....
George Gilman.....	United States	Cutler, U. S.	59	6	2	.....	.....
Susan.....	British	Port Richmond	19	4	2	.....	.....
Alert.....	"	"	46	5	2	.....	.....
Renfrew.....	"	Isaac's Harbor	41	8	3	.....	.....
Alberton.....	"	Prince Edward Island	28	9	2	.....	.....
Hattie Collet.....	"	"	52	4	1	.....	.....
Leader.....	"	"	20	5	1	.....	.....
Lillian.....	"	"	25	4	2	.....	.....
S. V. Coonan.....	"	"	72	6	2	.....	.....
Dominion.....	"	"	69	6	2	.....	.....
Express.....	"	Halifax	35	5	3	.....	.....

STATEMENT of the number and tonnage of vessels engaged in the herring fishery
at the Magdalen Islands, &c.—*Continued.*

Name of Vessel.	Flag or Nation.	From Whence.	Tons.	Men.	Boats.	Nets.	Saïnes.
Centreville.....	"	Prince Edward Island.....	25	3	1	.....	.....
J. E. Carr.....	"	" ".....	19	5	1	.....	1
Marie Alva.....	"	" ".....	36	4	1	.....	.....
Whisper.....	"	Halifax.....	25	5	2	10	.....
Laurel.....	United States.....	Mount Desert.....	32	6	2	.....	.....
William Taylor.....	British.....	Pope's Harbor.....	45	6	3	4	2
Bounty.....	"	Prince Edward Island.....	54	4	1	.....	.....
Garnet.....	"	Guysboro'.....	60	8	2	.....	.....
British Tar.....	"	Chester, N. S.....	30	6	2	2	.....
Princess Augusta.....	"	St. Andrew's, N. B.....	37	4	2	.....	1
E. Ferguson.....	"	Shippegan.....	39	4	1	.....	.....
Humming Bird.....	"	Halifax.....	39	6	3	.....	.....
Rosalie.....	"	Canso.....	46	5	3	.....	1
Fleetwing.....	United States.....	Lamoine, U. S.....	52	7	2	.....	.....
J. Coolidge.....	"	" ".....	52	7	2	.....	.....
Tropic Bird.....	British.....	Mahone Bay, N. S.....	46	7	3	.....	.....
Harvest Home.....	United States.....	Lamoine, U. S.....	78	9	3	.....	1
Prize.....	"	Freemont, U. S.....	70	6	3	.....	.....
Louisa Agnes.....	British.....	Mahone Bay, N. S.....	50	8	2	.....	1
Samuel Knight.....	United States.....	Lamoine, U. S.....	59	9	2	.....	.....
Margaret.....	British.....	St. Mary's, N. S.....	37	5	2	9	.....
Kate.....	"	Port Hawksbury, N. S.....	58	6	2	.....	1
Frank.....	"	Prince Edward Island.....	61	9	2	.....	.....
Kate.....	"	Yarmouth, N. S.....	48	5	2	.....	1
Odesa.....	"	Prince Edward Island.....	43	5	2	.....	.....
Mary Margaret.....	"	" ".....	26	5	1	.....	.....
Carrie.....	"	" ".....	32	4	1	.....	.....
Willie.....	"	" ".....	65	7	2	.....	.....
"We are here".....	"	" ".....	24	6	2	.....	.....
Sun.....	United States.....	Hancock, U. S.....	45	5	2	.....	.....
Total, No. 92..			4,364	573	194	94	25

RECAPITULATION.

	No.					
From United States.....	23	1428	167	55	14	5
Prince Edward Island.....	21	914	113	32	.....	4
Nova Scotia.....	43	1771	267	95	80	15
New Brunswick.....	5	251	26	12	.....	1
No.....	92	573	573	194	94	25

DEPARTMENT OF MARINE AND FISHERIES,
Fisheries Branch, Ottawa, 1870.
(Certified,) W. F. WHITCHER.

P. MITCHELL,
Minister of Marine and Fisheries.

APPENDIX H.

SYNOPSIS OF FISHERY OVERSEERS' AND GUARDIANS' REPORTS IN THE PROVINCE OF QUEBEC, FOR THE SEASON OF 1871.

SOUTH SHORE DIVISION FROM POINT LEVI TO CAPE CHATTE.

Alfred Blais, Overseer.

This has not, on the whole, been a prosperous season with the fishermen of this division. The salmon fishery was not nearly so good as in 1869 or 1870; the catch in 1869 being 5,800; in 1870, 9,539, while in 1871 it only amounts to 4,020 pieces. The cause of failure is supposed to be the rough and stormy weather which prevailed during the summer months, preventing proper setting and repairing of nets. There has also been a decrease of 4,500 barrels in the yield of herrings and of above 5,000 barrels in sardines, compared with that of last year—a falling off in value of over \$30,000. Only 115 porpoises were taken, while in 1870, 208 were killed. There has, however, been a large increase in the number of shad, 25,000 having been caught this season, against 16,000 last year. The eel fisheries which give employment to a great number of men, have been fully as productive as last year. There has been an increase in the yield of sturgeon. It will be seen by reference to *Appendix D*, that the decrease in the value of the products of the various fisheries of this division as compared with 1870, is about \$50,000.

Sixty-eight salmon, of a gross weight of 826 pounds, were caught this year with the fly in Rimouski River, against eighteen last year. The River Metis is also steadily improving; thirty salmon having been killed in it, against nineteen in 1870.

CAPE CHATTE DIVISION.

Jos. I. Letourneau, Overseer.

This officer's report shews on the whole a considerable increase in the yield of the fisheries in his division as compared with last year. There has also been a large increase in the number of fishermen, boats and fishing material. The catch of salmon was not so good as last year, owing to the high state of water in the rivers.

The Ste. Anne des Monts river was angled for the first time this season; eight salmon were caught in a week's time. This poor success is entirely owing to great and continuous freshets. The spawning beds are reported full of breeding fish. There was a large increase in the summer catch of codfish at Cape Chatte, but a considerable diminution in the fall catch. At Ste. Anne des Monts the summer catch was thirty per cent. in advance of that of last year, and the fall catch nearly three hundred per cent. greater.

By reference to the returns, it will be seen that there was also a considerable increase in the yield of haddock, mackerel and herring, but a slight falling off in cod oil. Several cases of violation of the fishery laws have been reported to the department, which, however, were actively prosecuted by the overseer.

PERCÉ DIVISION.

P. Vibert Sen., Overseer.

Reference to *Appendix C*. will show the yield of the fisheries in this division for the present season. No report was received from this officer, but the department learns from other sources that the yield was fully up to the average.

GASPÉ DIVISION.

Jos. Eden Junr., Overseer.

Although there has been a slight decrease in the yield of salmon in this division as compared with last year's fishing, reference to the returns will show that the catch of other fish has been considerably greater than last season. Cod fishing which was an average one last year has been excellent this season, yielding no fewer than 916 quintals. Mackerel has been much more plentiful than in 1870, the catch being about fifty per cent greater, whereas three and a half times as many barrels have been taken. Nearly six hundred barrels of whale oil and six hundred and eighty-three barrels of cod-oil were produced by fishermen from this division. One hundred and eighty-seven salmon were killed with the fly in York River, notwithstanding the prevalence of heavy weather, squalls and rain during the greater part of the time; the largest fish weighing 36lbs. and the whole 3,887 lbs., the average weight being 21 lbs. At the request of several parties the fluvial division of Dartmouth River was reserved for the accommodation of tourists and transient anglers, and twelve permits were issued during the season, realizing \$22. Ninety-six salmon were killed with the fly in this stream during the past season besides a large number of trout. A violation of the Sunday clause of the Fisheries Act occurred at the Barachois of Malbaie.

PABOS DIVISION.

James M. Remon, Overseer.

This officer reports as follows:—The cod fishery has, on the whole, been of the same average as last year, though the stormy weather, which generally prevailed, prevented our fishermen from profiting by the great abundance of fish on the banks. Herring fishing was good, and at Little and Grand Pabos the fish spawned in great abundance in the spring, which is of rare occurrence, since they usually prefer the quieter waters of the Bay. In the mackerel fishery nothing is done beyond taking what is required for bait. The salmon catch was much less than usual, but this is attributable to the late and very heavy freshets of the spring. In the several rivers the fish have been found more abundant than in former years. Only one infraction of the law was reported by this officer, and summarily punished by him.

PORT DANIEL DIVISION.

William Phelan, Overseer.

This officer states that fishing of nearly all kinds was more than the average. The salmon fishing, though not equal to that of last year, has been very good, and better than for a great many previous years. Cod fishing has been good during both the summer and fall, and bait was abundant during the whole season's fishing. Mackerel were plentiful in July and August, great numbers being taken in the herring nets, which were used for bait. Herrings were scarcely ever known to be so abundant in and about Port Daniel, both in spring and summer. The former struck in about the 20th May, at which time thousands of barrels could have been seined, but there was no immediate demand for them, and the inhabitants were not prepared to cure large quantities. The summer herring came in about the middle of August, in such numbers that several nets were lost on account of the pressure. The fishermen were compelled to tie up part of their nets in order to limit their catch to the demand. The overseer further draws the attention of the Department to the practice which prevails here of obtaining the spawn of herring for manure, which he considers as most destructive to the fish. Shortly after the herring struck in the spring, the shore was lined with spawn—in many places two feet or more in depth, which was rapidly hauled away by farmers for manure: 2,000 barrels at least must have been used for this purpose. No violations of the fishery laws took place in this division during the season.

NEW RICHMOND DIVISION.

R. W. H. Dimock, Overseer.

In this division the fishing has not been so good as last year, but a cause for this decrease is found from the fact that many young men, formerly fishermen, were engaged working on the Intercolonial Railway. Several boats, also belonging to Paspebiac fished on the north shore until the 15th of August. The returns show a falling off in the yield of codfish of nearly one-third as compared with that of last year.

The salmon fishery, while not nearly so good as last season, is still in excess of the yield of previous years.

The yield for 1869.....	lbs. 12,890
" 1870.....	23,797
" 1871.....	14,068

The largest salmon taken weighed $42\frac{1}{2}$ lbs. There was a less quantity of herring taken than last season: about the same quantity of mackerel.

The principal part of shoremen are employed at Paspebiac curing codfish brought from the north shore by the firms of Chas. Robin and Co., and Le Boutillier Bros.

In the Grand Cascapedia River, there were forty-four salmon killed with the fly, two weighing forty lbs. each, one thirty-eight, and four others above thirty lbs. The average weight was about twenty three lbs. In the Grand Bonaventure sixty salmon were caught with the fly of an average weight of about thirty-three lbs., and twenty-nine lbs. each.

It being reported that the Little Cascapedia was completely obstructed by timber and driftwood in one part of its course, so as to prevent the ascent of either salmon or trout, this officer was authorized to examine the river, and have the obstruction removed. He did so, at a cost of about forty dollars, and the fish can now ascend to the spawning beds without hindrance. In the course of his visit, during the latter part of the fall, Mr. Dimock counted over one hundred salmon in the various pools of Little Cascapedia. The Grand Cascapedia and Grand Bonaventure rivers are also stated to be well stocked with breeding fish.

MARIA DIVISION.

P. C. Beauchesne, Overseer.

Cod fishing in this division has not been so productive as last year, only 100 quintals being taken in the summer, and none during the fall.

The salmon fishing, though not so good as last season, is much greater than in 1869. This officer reports a general observance of the laws in his division.

MATAPEDIA AND RESTIGOUCHE DIVISIONS.

John Mowat, Overseer.

Owing to the death of Mr. Alexander Fraser, the former Fishery Overseer, it was found necessary to place the Matapedia Division under the charge of this officer. He reports that heavy freshets, greatly retarded salmon net fishing, and that, after the waters had sufficiently subsided to enable the fishermen to set their nets, they were afterwards carried away or partially destroyed by drift timber and fallen trees; in consequence of which the catch has not been half of that of last season, being only 30,000 against 85,000 pounds. Salmon, however, owing to the high water, have ascended the rivers in large numbers and safely reached the spawning grounds.

During the past season 40 salmon were killed with the fly in the Matapedia River of a good average size, and over 200 in the Restigouche. Trout abounded in these rivers.

On Mr. Mowat's recommendation, the Kedgwick, a tributary of the Restigouche, was set apart for the natural and artificial propagation of salmon.

At the request of the department, Mr. Mowat supplies the following description of the Restigouche River as an angling stream.

"I do not consider the main Restigouche River capable of affording good fishing to more than four rods. There are only two pools in which salmon can be taken at all times, viz:—Patapedia and Indian pools; excellent fishing has been done in many of the other pools, but only at certain stages of the water, as it appears that the fish only gather and rest in them for a short period on their way up to the Kedgwick. The two pools above named are exceptions; fish in smaller or larger numbers can be caught in them during the whole season. Salmon may be caught at many places on their ascent to the spawning beds, but I doubt very much whether the sport would repay the trouble. Odd fish might be taken, but a successful day's fishing such as can be done at a pool could hardly be accomplished.

"The Patapedia River I do not consider of any value as an angling stream. The first pools are thirty miles up; they are not large and are very foul. From personal observation I believe the salmon does not rest in this stream, but runs up at once to the lakes.

"The Upsalquitch, if properly preserved, I consider the finest of the lot, and my opinion is corroborated by that of Capt. Murray whose experience must be much more extensive than mine. He visited it at my request last summer and caught thirteen fish in two hours at one pool with two rods. It will require most careful supervision, being of convenient access and frequented by Indians for bark and berries in summer, also by whites for lumber. It contains some of the finest spots of water ever a fly was thrown upon. The fish varies in weight from eight to fifteen pounds. I should say that three rods would be its capacity."

QUEBEC DIVISION.

D. Rosa,
L. P. Huot. } *Guardians.*

The first of these officers to whom is assigned the protection of the lakes north of Quebec of which Lakes Beauport, St. Charles, Huron, Laron, Noel, des Roches, Jacques Cartier, and those lying near the colonization road of Lake St. John, are the chief ones, has satisfactorily performed his services. Trout, the principal fish in the lakes, have been abundant, affording excellent sport to anglers. Lake Beauport was again set apart from winter fishing.

Mr. Huot's division now comprises the lakes in the counties of Charlevoix and Montmorency, and the several fishing stations of the Island of Orleans, which formerly were under the oversight of Mr. Blais, whose district is on the south shore, but as his division was already sufficiently large, these stations were placed under the care of Mr. Huot. There has been a large increase in the eel fishery, and the lake fisheries have been very productive. Violations of the law have taken place in this division during the last season; the guilty parties were found out, prosecuted and fined by this officer.

MURRAY BAY DIVISION.

C. Demeule, Guardian.

States that the fishery laws were generally observed, though there were some infractions which he says he could neither detect nor punish. There has been a considerable diminution in the number of fish taken as compared with 1870, i. e. in sardines and eels, which is attributed to contrary winds and stormy weather.

SAGUENAY DISTRICT.

George Riverin, } *Guardians.*
Ferd. Saillant, }

Reference to appendix E. will show that the yield of salmon in this division is slightly in advance of that of last year, while the yield of herring has more than doubled. There have been several violations of the law in Mr. Riverin's division. The offenders were brought before the Stipendiary Magistrate for the Saguenay district, Judge Cimon, and summarily punished.

Mr. Saillant has been actively engaged on the Saguenay River and its tributaries, and his vigorous action in detecting trespassers and enforcing the law in this large and difficult district, where poaching was formerly the rule, is being attended with the very best results. Seventy-eight salmon were taken with the fly this year in Anse St. Jean River, eight in Little Saguenay, and 237 in the St. Margaret.

The following interesting information and description of rivers is condensed from a late report by Mr. Saillant :—

“During the present season I paid three visits to *Ste. Marguerite River*. On two occasions I ascended the whole of the stream, and on the third visited the North west arm up to the falls. On each occasion I found everything in order, and consider that the guardians faithfully performed their duties. Anglers were complaining that salmon did not rise freely ; they explained their indifferent success by the fact that, owing to the high state of the water, the fish must have gone up earlier than usual. In everyone of my visits I saw a large quantity of salmon upon the spawning beds, more especially in the upper part of the river, and in greater numbers than last year.

“*Little Saguenay River* is, I believe, well guarded ; it is not usually frequented by poachers. The guardian informed me that there were more salmon in the stream than last year.

“*Anse St. Jean River* has been exceedingly well protected during the past season, there being no less than four guardians on an extent of six miles, one of whom has nothing else to do but to oversee the three others, for which onerous duties he draws from the lessee five shillings a day, and his board besides. I am also of opinion that the example given last year by the punishment of the poachers whom I sued had a good effect in preventing illegal fishing this season. The lessee fished only at the foot of the dam, and is highly pleased with his success, as may be seen by the result of his catch. Over 100 salmon ascended a small stream situate on the land of one David Côté, about four or five miles above tideway. On my going there in October to procure some spawn, I saw seven of them, but it rained on the next day and they were seen no more.

“*Eternity River* is a favorite resort for poachers as it affords special facilities for spearing during the day time as well at as night. I spent a good deal of my time there and even kept a guardian on the river for nineteen days during my temporary absence ; still I am under the impression that some poaching was practiced, if I am to believe the information given. A short time will prove whether I am right or wrong in my surmise. However, I feel satisfied that double the quantity of fish must have gone up the river this season. Their ascent was favored by the high state of the water and by the removal of a timber jam which blocked up the way, and which I removed in the spring.

“*Descente des Femmes River* is not properly speaking an angling stream ; its water falling too low in summer ; still it will with proper care become a good river for the breeding of salmon. Three years ago not a single fish were seen in it, but this season being favored by high water and the removal of obstacles, a good many salmon ascended to the spawning beds. During a short visit which I paid to the river I counted no less than eleven fish in a distance of one mile, and the guardian assured me that there were many more.

“*Ha ! Ha ! River* has never been considered a salmon river. It is, however, reported that several fish went up this fall, I myself counted no less than seven at the foot of the dam trying to leap over, but without success. The fishway is at one end of the dam and the fish follow the middle of the stream. Some must take the fishway, as they have been seen above the dam. The fishway is in good condition.

“*A Mars River* is undoubtedly the best salmon stream in the whole of my division, and I cannot understand why it was not angled this season. No one can form an idea of the increase of salmon in this stream during the past three years ; fish are seen in every little pool. I saw nine myself in a small rapid at the head of slack water, two of which were of a very large size. Salmon fry is most abundant in the lower part of the river.

“I deemed it more prudent to prohibit fishing in all these streams with hook and line for children under twelve years of age, and I was generally well obeyed. People feel

interested in the protection of salmon, and hope in future to make a little money by the generosity of anglers.

"I could ascertain that salmon had much increased during the course of last season in the Saguenay by seeing them leaping in every direction in the coves and creeks during calm weather."

Godbout Division.

E. Pelletier, Guardian.

This officer was appointed last season. He does not appear to have been properly qualified for these duties. He had to leave early in the season, owing to ill health. The statistics rendered by him are very unsatisfactory and unreliable.

Angling in Godbout river was very much better than in 1870. Last year the water was too low for angling; this year it was too high; 509 salmon were killed from the 15th June to the 15th July, of an average weight of eleven and a quarter pounds; only 399 were caught in 1870.

Moisie Division.

F. Thivierge, Overseer.

The salmon catch here has been one-third less than last year, being 742 barrels, against 1,152 for 1870. This decrease is due to the fact, that during the month of June, the River Moisie was so high that nets could scarcely, on account of the current, be set. Cod-fishing was good, but the fishermen experienced a good deal of rough weather. Notwithstanding this, and the relative scarcity of the fish at Point Jambon, St. Margaret, and Seven Islands, this year's catch is half as large again as that of last year.

Spring herring struck at Seven Islands in good numbers, but owing to the great quantity of ice, which kept floating there nearly the whole of April, the fishermen lost the most of the fishing season, the herring going away before the ice.

Mackerel were abundant. The fishermen in this division do not, however, in general, follow this fishing but one man took sixty-four barrels. No infractions of the law are reported. Last year's report stated that angling in the Moisie River was unusually good, but this year it must be called excellent.

The lessees of the fly fishing division, who were there about two weeks, killed 325 fish, against 279 last season. Total weight, 18½ lbs. Five of the largest fish averaged 33lbs. 9½ ozs.

Trout River was not angled, the water having kept too high for such purpose.

Mingan Division.

Philip Vibert, Jun., Overseer.

This officer was appointed in June last to replace the late Jos. Beaulieu. Codfishing was very good, especially during the summer season; 40,112 quintals being caught this season, against 30,698 in 1870. The herring fishery was, on the whole, considerably better than last season, yielding 3,431 barrels. Some schooners from Esquimaux Point went to Labrador, and had very good success. Salmon net-fishing was not so successful as in 1870, the catch being full one half less. The best fishing occurred at Magpie River. This relative failure is attributed to the strong tides in all the rivers caused by heavy spring freshets. 15,000 pounds of preserved salmon were put up at Mr. Holliday's establishment, at the mouth of the St. John River. Messrs. McKay, who fished the estuary division of the Mingan, took only sixty-two barrels of fish, against 101 last season. These gentlemen have been very kind to the Indians, providing them with provisions, and it is doubtless due to this fact, that the Indians did not commit any depredations during the past season. The St. John River was angled for the space of a month, during which time 416 salmon were killed of an average weight of 11½ lbs. In the

Mingan, 130 salmon were killed with the fly. Only twenty eight salmon were taken in the Romaine on account of the high state of the river during the whole of the summer.

The guardians afforded good service in preventing poaching in these rivers. The high water during the spring and early summer greatly facilitated the ascent of salmon, and, as a consequence, the spawning beds are all well stocked with salmon. 4,666 salmon in all were taken, weighing 56,516 lbs.

NATASHQUAN DIVISION.

G. Mathurin, Overseer.

Cod fishing has been exceedingly good in this division, there being much larger catches than during the season previous. Salmon net-fishing has not been half so great as last year, especially in the estuaries of rivers, owing to the continuous high state of the waters; but the overseer reports the spawning grounds as full of breeding fish. There has been a great decrease in the herring fishery as compared with that of 1870. For further details of fishing see *Appendix C*.

The river Grand Natashquan was angled by H. E. the Governor General and party, composed of Sir A. T. Galt, Col. McNeil, V.C., Hon. Mr. Ponsonby, A.D.C., and Mr. Molson, who in seven days killed 202 salmon.

WATSHEESHOO DISTRICT.

Felix Sylvestre, Overseer.

The salmon fishery has not been so good here as last year, only twenty barrels having been taken, against thirty-six in 1870. Cod-fishing was very poor. Mackerel abundant, but the fishermen of this division do not follow this fishing. Scarcely any seals were taken along this part of the coast. In *Appendix C* will be found the result of the season's fishing. This officer remarks that egg-poaching is carried on here indiscriminately both by the whites and the Indians, and as a natural result, game is becoming more scarce every year.

The Indians fish for cod on a small scale, and Mr. Sylvestre suggests that it would be well to supply them with hooks and lines by way of encouragement, since they are sufficiently intelligent and honest to obey the laws. Hunting this year (excepting for beaver, of which many young ones were destroyed), was indifferent.

There are few salmon rivers of any importance in this division; the largest being the Watsheeshoo. It has, however, been regularly poached for years, owing to the culpable neglect and apparent connivance of former guardians, especially the officer placed in charge in 1870. Thanks, however, to the activity and energy displayed by Mr. Sylvestre during the present season, these illegal practices were effectually checked and totally prevented; and the Department being now in possession of the names of the guilty parties, it is to be hoped that a salutary example will soon be made.

PACACHOO DIVISION.

Jean Legouvé, Guardian.

Cod fishing was very good, being about the same as last year. Salmon fishing was excellent, 286 barrels being taken against 210 last year.

The herring fishing was a failure: mackerel about the same as in 1870.

The Indians report the St. Augustine River full of salmon, the ascent of which was greatly facilitated by the very high water in the spring. There is a large falling off in the seal fishery, details are given in *Appendix C*.

This division extends from River Napitippi to St. Augustine River.

BONNE ESPERANCE DIVISION.

W. H. Whitely, Guardian.

Cod fishing has been remarkably good, never so many fish were taken by the shore people as during the past season. Owing to the ice, fishermen were able to engage in fishing only after the middle of June. Salmon fishery yield was about one third less than last year, on account of the ice remaining for a long time off Quirpon, Newfoundland. Details of fishing in this division will be found in *Appendix C*.

Several Newfoundland fishermen visited the fisheries in this division during the year, and probably a greater number will do so next year. This division extends from St. Augustine River to Blanc Sablon.

ANTICOSTI DIVISION.

P. Fournier, Overseer.

Codfish were very abundant and nearly three times as many were taken as in 1870. On this account the seal fishery received but little attention. Only about two thirds of the quantity of salmon that were taken in 1870, were caught this year, which may be accounted for by the fact that several parties, who had received new licences did not take them, and old stands were left unfished; people considering it more remunerative to attend solely to cod fishing.

The herring fishing was very good, 2,585 barrels being taken against 833 barrels last year.

The fishery laws were well observed. The statistics of the Anticosti fisheries will be found in *Appendix C*.

MAGDALEN ISLANDS DIVISION.

J. J. Fox, Overseer.

The fisheries in and around these Islands are noticed at length in Dr. Lavoie's report, at *Appendix C*. The trout and eel fisheries are not of sufficient importance to form an article of export, the supply hardly exceeding what is required for home consumption.

This officer, who is also Collector of Customs at Amherst, bears evidence to the good effects of the presence of the Dominion cruisers, "La Canadienne" and "Stella Maris," during herring and mackerel seasons, when so many foreign fishing vessels are there, with crews some of whom belong to the lawless classes, in preserving order and causing the laws to be carried out, and Mr. Fox states that without the presence of a cruiser it would be altogether impossible for the authorities to enforce the laws. In addition to rendering an interesting report on the fisheries in his division, the main points of which are embodied in Dr. Lavoie's report, this officer has also sent into the department valuable statements, shewing the exports of fish and oils at these islands, also the imports, number of vessels, their port of registry, tonnage &c., which will be found in *Appendix G*.

MAGOG DIVISION.

W. H. Austin, Overseer.

The former local fishery overseer for this division, Mr. S. F. Copp, having resigned his situation in July last, the present officer was appointed in his stead. With the exception of a few infringements of the fishery regulations relating to the protection of "lung," during the spawning season, which were detected and summarily punished, a general spirit of order and compliance with the fishery laws prevailed in this division, and from all reports fish appear to increase.

ST. FRANCIS DIVISION.

W. C. Willis, Overseer.

The fisheries in this division are steadily improving and the beneficial influence of protection is beginning to be felt and acknowledged by the people. Salmon this year ascended the Eaton River after an absence of thirty years. Trout fly fishing was excellent in the Magog River, many salmon fry have also been seen in Little Salmon River. The rivers have been much damaged in this division, as elsewhere, by the owners of saw-mills, who throw into them the saw-dust and rubbish from their mills, but the law preventing this is being enforced with good results.

RICHELIEU DIVISION.

H. W. Austin, Overseer.

Spring opened very early and fishing commenced in March with good results. This year the system of protection was extended to the districts of Three Rivers and Beauharnois, in which parts little attention had heretofore been paid to the provisions of the Fisheries Act, and poaching had been very generally carried on. Although some ill-feeling was caused, yet the effects must be very beneficial, and the improvement is already discernible. Last year violations of the Act were very general in Montreal, but they have been effectually stopped. Mr. Austin was greatly assisted by the Police Magistrate in Montreal in carrying out the law. Local guardians were also engaged under this fishery overseer at Three Rivers, Sorel, Beauharnois and Coteau du Lac, to enforce the fishery regulations relating to whitefish, bass and pickerel during their respective close seasons.

In the lakes of Joliette and Berthier parties fished for trout in the interests of American citizens. Trout are very abundant in these lakes and of large size and of fine flavor.

The following return is sent in by Mr. Austin :—

The district of Richelieu employs 1,650 men in the fisheries, with 900 boats; value about \$14,250—7,690 barrels of fish, and 1,500 of salted fish were taken, equal in value to \$45,950; the eels and eel-weirs being worth \$8,000, making a total of 53,950.

In the District of Montreal, 500 men fished with 360 boats, 1,000 barrels of fish were taken; value \$5,000.

In Three Rivers, 1,500 men were employed fishing in 150 boats, which took 2,500 barrels—20,000 bushels of Tommy Cods, the value of which is about \$15,000.

In Beauharnois, 300 men were employed with 150 boats, which took 1,250 barrels of fish, worth \$7,250.

MISSISQUOI DIVISION.

P. E. Luke Overseer.

Fishing was excellent—3,682 shad were caught. These are sold at from 10 to 12 cents each, fresh. One hundred and seventy barrels of other fish were taken, which sell from \$6 to \$7 per barrel. The total value would be about \$1,100.

YAMASKA DIVISION.

R. McCorkill, Overseer.

The mill dams in this division are all provided with fishways, and the law appears to have been respected. There being no further need of Mr. McCorkill's services, his resignation was accepted.

CHATEAUGUAY DIVISION.

D. McFarlane, Overseer.

The fishways on the Chateaugay and Trout Rivers are all in a state of efficiency. There has not been much increase in the number of fish frequenting this river, which is to be attributed to saw-dust, mill rubbish and tan-bark refuse thrown into the river by saw-mills and tanneries.

OTTAWA DISTRICT.

W. L. Holland, Overseer.

This officer visited the Gatineau lakes in the County of Ottawa, during the latter part of the winter. These lakes teem with fine trout, some of a very large size, and with whitefish, some of which weigh as high as thirteen pounds. So plentiful are they, that it is asserted that twenty cwts. could be supplied to the Ottawa market weekly. Pemachonga, one of the chain of lakes, contains speckled and grey trout, maskinonge and pike. In Thirty-one Mile Lake, black bass abound near the small islands. The law seems to be well received and the people in general desirous to observe its prohibitions. They affirm that they already feel the good effects of legal protection. Mr. Holland finds that the most effectual way of securing obedience to the law is by exposing the evil of destroying the spawning fish, and giving the settlers to understand that it is for their own good that the fish are protected. Some lakes which formerly abounded with trout and whitefish have been entirely depopulated, and without efficient protection many others would soon be in the same state. These lakes are well worth protecting, as with proper care they could supply many of our markets with excellent trout, (grey and speckled), whitefish, pickerel, maskinonge and other kinds in any desirable quantities. The waters set apart by Order in Council in 1870, for the natural propagation of fish in the Townships of Wakefield, Portland, etc. in the neighborhood of the City of Ottawa, were well guarded and protected. They are literally teeming with speckled trout, and being easy of access are a great source of enjoyment and pleasure to anglers. Last winter not less than three tons of trout were brought down to the Ottawa City market, and about a half a ton of pickerel. The diversion of the fish supply from its former course into American markets, is due to the action taken by this Department. Very injurious effects are produced by the unnecessary closing of dams throughout the season at the outlets of the lakes by lumbermen.

During the course of a visit to the Coulange district, this officer reported a merciless destruction of game; four hundred moose and one hundred deer were said to have been slaughtered for their heads and hides, the carcasses being left a prey for wolves.

APPENDIX I.

REPORT OF S. WILMOT, ESQ., ON THE FISH-BREEDING ESTABLISHMENT AT NEWCASTLE, ONTARIO, DURING THE SEASON OF 1871.

The Hon. P. MITCHELL,
Minister of Marine and Fisheries, &c., &c., &c.,
Ottawa.

SIR,—Since my last annual report to your Department upon the specialty of artificial Fish Culture, in which I have for the last few years been engaged, nothing of very great importance has transpired in the minutiae of the work. The rapid strides which this new industry has made on the continent of America, even within the past year, is a subject for much congratulation.

But a few years ago, the work of Fish Culture was almost wholly unknown, and when noticed in the journals or periodicals of this country, it was by a large proportion of the people looked upon either as a new absurdity or impracticable theory. On the other hand, now that the science is more fully understood and appreciated, articles upon fish culture are most eagerly sought for both by the daily and weekly papers, as well as all other publications in America. This, then, is in itself an evidence of the fact, that the knowledge already diffused has been of great service in educating the minds of the people on this subject. The work of replenishing and re-stocking the waters of this country with valuable fish, is becoming a subject of the highest consideration with the larger proportion of its inhabitants, and is of even more importance than many people are willing to admit. This unwillingness arises simply from the want of greater information, and a more extended knowledge as to the practical application of the work, and the benefits to be derived therefrom.

A further evidence of the increasing importance of Fish Culture in a commercial point of view, is the great demand for supplies of impregnated ova and young fry of almost every kind. The Fishery Commissioners for the State of New York, in the neighboring Republic, cannot supply the demand made upon them for those kinds of fish adapted for the inland waters of their State.

Several applications were made by Fishery Commissioners and others in the United States, during last season, for a supply of impregnated salmon ova from this establishment, and they were in a measure supplied; but no particular effort was made by your Department or by myself for the disposal of this new commodity. Had there been any desire shewn to make sales, a large amount of the eggs and the fry could have been sold at very remunerative prices; but it was considered advisable that the distribution in our own waters of this valuable fish should not for the present be interfered with to any great extent. The few sales that were made, however, fully established the fact of the full realization of a money value for an article of trade not hitherto known or even anticipated by any one in this country.

DISPOSAL OF OVA.

The number of impregnated ova of salmon that were sold to foreign applicants, during the past season, amounted to about thirty-three thousand (33,000). The Fishery Commissioners from the State of Connecticut, purchased some ten thousand (10,000), a portion of which, from an unforeseen cause, was lost during its transshipment; the loss, however, was supplied again by me, the last batch arriving safely, and proving in every way satisfactory to all parties concerned. I was informed afterwards that the hatching out of the young fry was all that could be desired, and that they were in time distributed in some of the rivers of that State; and the Commissioners look forward with certainty

to a decided benefit from the undertaking. Another lot of ova was sent to Thaddeus Norris, Esq., for a company formed to stock the Delaware River, on the Atlantic coast. These eggs reached their destination in capital order; other lots were sent to different parts of the States, and I am pleased to state that the percentage of loss in transmission was very trifling. As an evidence of the safety of transmission of ova when properly packed, I append the following, taken from the *Germantown Telegraph*:—"Our Salmon project, Mr. Thaddeus Norris informs us, is progressing most satisfactorily. He has recently returned from a visit to Mr. Christie's establishment, where the ova is now hatching, and reports that only *fifty-five* of the eggs (*thirteen thousand were sent*) were addled during their conveyance from Canada. Mr. Norris will shortly inspect Bushkill Creek, above Easton, with the expectation of making this cold stream a nursery for the fry before their entrance into the Delaware."

OVA SENT TO NOVA SCOTIA.

One lot of salmon ova was forwarded to Liverpool, in Nova Scotia; they were some sixteen days on the road, having to run the chances of alternate carriage by waggon, railway, steamboat and sleighs; and were it not that the season was so very far advanced when applied for, they would no doubt almost all have reached their destination in good order. The eggs were very far advanced in incubation at the time of sending them away, which was by the ordinary mode of express; and had I then been aware of the time taken in reaching Liverpool, I should not have sent them, as I must have known that they would (unless kept at a very low temperature) have hatched out on the road, thereby resulting in a total loss. Nevertheless, as it was, a considerable number arrived in good condition; the balance, having hatched out on the road, died for want of being in their natural element. It is perhaps as well that this small loss did occur, as it will prevent a similar one in the transmission of larger quantities in the future. Those that did arrive in safety were placed in water, and hatched out a few days afterwards, and when I last heard from Dr. Forbes, M.P., Queen's County, N.S., to whom the ova were sent by your order, they were doing very well.

From these shipments of salmon ova then, some of which were in charge of messengers expressly sent for them, and others placed in the express office to be forwarded like other goods, it may be safely concluded that the transmission of impregnated ova, from this establishment to any part of the Continent of America, or even Europe, (where ordinary modes of conveyance can be obtained,) need not result in any great loss or danger; and I feel assured that, with the mode of packing now adopted at this establishment, parties requiring ova forwarded to them, may not anticipate much, if any, loss. It must be always borne in mind, however, that all applications should be sent forward as early in the season as possible, to prevent the possibility of the fry hatching out on the road, when the eggs are to be sent to long distances, and when a considerable time may elapse before they reach their destination.

VALUE OF OVA.

The prices obtained on the sales of salmon eggs made with Fishery Commissioners and others in the United States, were *Forty Dollars* per thousand, amounting in the whole to the sum of *One thousand three hundred and twenty dollars* (\$1,320). It being the policy of your Department to restock the waters of this country, no effort was made by advertisements or circulars to draw attention to the large stock on hand. If publicity had been given, larger demands would have been made, and a handsome sum realized.

After the above-mentioned sales were made, there remained in the hatching troughs at this place fully *Two hundred thousand living ova*, which, if estimated at the same price as those already sold, would have amounted to the large sum of *Eight thousand dollars* (\$8,000). These eggs when hatched out into fry, would be more than doubled in value.

TIME OF HATCHING.

In the month of April, nearly all of the ova hatched out, and became young fry. At this time, and for a month or six weeks after, an umbilical sac, filled with an oily substance, is attached to the stomach of the little fish, from which, by daily absorption into the body, life is maintained, and a gradual growth observed. During this period the fish takes in no food by the mouth, but continues to lie upon its side in a dull and sluggish state. It is at this particular stage of its existence, being the safest time to carry them, that they are distributed in the various streams in the country.

This is a work requiring great care, the person engaged in it having to meet with so many obstacles of various kinds, both by land and water; in the first place, there is the difficulty of obtaining fresh water when travelling by railway; then the jolting and splashing about, together with the extreme heat, often prostrating the little fish to such a degree that, in some instances, considerable loss is sustained. These and many other difficulties combined, have the effect of making the work of distribution to the person engaged in it, not a very desirable occupation; and few people would be found to attempt it, after a first trial, were it not for the deep interest felt in prosecuting the work to a successful issue, and furthering this hitherto neglected source of wealth.

DISTRIBUTION OF YOUNG FRY.

River Trent.

Commencing at the River Trent, the most easterly point of distribution during the past season, a large number of salmon fry were deposited both in the main river and two of its tributaries, namely: Cole Creek and Salmon Creek. The young fish were safely placed in these streams, without any loss either in the carriage by rail to Trenton, or in their journey up the river for distribution. In this work, very important and timely aid was rendered to me by Mr. Grahame, M.P.P., and Mr. Wilkins, the local fishery officer, both of whom accompanied me up the river, and, with much apparent satisfaction, witnessed the new colonization of these streams with several thousands of young and lively salmon fry.

Grafton Creek and White's Creek.

A large number were also deposited in the Grafton stream, and also in White's Creek, at Cobourg; at the latter place, some loss was occasioned by the want of a plentiful supply of fresh water, the day being an extremely hot one, and the water obtainable from the well at the station, being somewhat unhealthy for them. A large number, however, were safely deposited some distance up the stream.

Barber's Creek.

This creek, which enters the lake at the Town of Bowmanville, had several thousands of young fry placed in it, on two separate occasions, during last summer. This stream was very famous in former years for the entrance of salmon into it, during the autumn months, for spawning. Very little difficulty was experienced in depositing the young fry in this creek, as the distance from the breeding-house is only a few miles.

A considerable amount of manufacturing is carried on by the water power on this stream; how far it may affect the young salmon placed in it, is yet to be ascertained. Much interest is taken by the inhabitants of Bowmanville in this undertaking. Mr. Milne, a prominent gentleman in that town, accompanied me, and assisted in depositing the first lot of salmon in Barber's Creek.

Black's Creek.

This is a smaller stream, some miles further west. In it were placed several thousand fry. This stream, though small, has always a sufficient supply of clear running water, and is well adapted for the growth of young salmon. In former years, it was a resort for salmon for breeding purposes.

Lynd's Creek.

This stream is situated a short distance west of the Town of Whitby, and was at one time widely known for its abundant supply of salmon; this fact induced me to place in it a large number of young fry. Some little loss was occasioned on this journey, having to travel some twenty-six miles with horses and carriage, during a very warm day, to perform this work. Upon this occasion, I called upon T. N. Gibbs, Esq., M.P., of Oshawa, in order that he might witness the living cargo of young colonists on their way to their new home. Mr. Gibbs has, upon all occasions, shewn a deep and lively interest in encouraging and furthering this new work.

On reaching Whitby, some little sensation was created at seeing thousands of living salmon travelling westward through the town. J. V. Ham, Esq., assisted me in planting these fry in the stream. The water in the creek was very low at the time; the little salmon, however, sought hiding places immediately, underneath the stones and along the banks, as a refuge from their enemies.

Duffin's Creek.

Further westward, this stream enters lake Ontario, and, like the others just mentioned, was well supplied with young fry. On one occasion, some thousands were given to Mr. Hartrick, the local fishery overseer, who carried them far up the stream, and scattered them on the rapids and other suitable places. Mr. Hartrick is a magistrate in that locality, and, being overseer as well, takes great interest in the re-stocking of this stream.

Highland Creek.

In this stream, a considerable number of young salmon were also safely deposited. A portion of this work was kindly performed by William Helliwell, Esq., to whom I despatched by a messenger a large number of the fry. Mr. Helliwell, being thoroughly conversant with the nature and habits of the salmon, doubtless placed them in the most suitable and advantageous situations for their protection and after growth.

River Humber.

This river, which is some eight miles west of the City of Toronto, was visited by me on two separate occasions in the months of May and June last. The first lot of young fry placed in it, were originally intended to be taken to Owen Sound, on the Georgian Bay, but, owing to the difficulties I met with at Toronto in the connection of trains, and fearing that delay would prove dangerous, I procured a carriage and took the fry out to the Humber. The extreme heat of the day, and want of ice to aerate the water in the cans, caused me some little loss; several thousands were, however, safely placed in the river, above and below the bridge at Mr. Howland's mill.

The second lot taken there in June, did not give me so much anxiety of mind or trouble, as, immediately upon reaching Toronto by train, I drove out to the Humber, and in passing the bridge at the Lambton Mills, emptied two cans of fry into the stream, taking the remaining six cans on to Mr. Fisher's mills, some distance below, and there, with that gentleman's assistance, put them into the river. The young fish seemed to enjoy the change from their close confinement to the open stream very much, and took refuge quickly amongst the rocks, and in the eddies of the river.

In former years, salmon frequented this river in abundance, and were taken in the spring and autumn. They were frequently caught there as early as the months of April and May, when they were bright and silvery in color, rich and fat in flesh, in prime condition, and were called by the inhabitants *Spring Salmon*, in contradistinction to *Fall Salmon*, which latter were dark in color, lean and lank in flesh, out of condition, being at that season of the year engaged in the work of spawning. It will be a subject for much congratulation if *Spring Salmon* can be again produced in the Humber. So far as the hatching out of the young fry, and planting them by thousands in the river

is concerned, I have performed my part of the work, the success of which remains to be proved.

River Credit.

This river, once so famous for its supply of both spring and fall salmon (as they were called), received my best attention in the general distribution of last season's stock of young fry reared at this establishment. On the 10th of June, I reached Toronto with eight cans, partly filled with pure water aerated with ice; in each can there was computed to be about two thousand young salmon. I was there met by your very efficient fishery overseer, J. W. Kerr, Esq., of Hamilton, who takes the most deep and lively interest in the re-stocking of our waters, and in the general preservation of fish; and he, on this occasion, rendered me very great service both in the distribution and selection of proper places in the Credit, in which to plant the young fry.

After replenishing the water in the cans at Toronto, we took the Hamilton train to the Credit Station, and there procured a team, and drove out rapidly to the village of Springfield on the river, and, in that neighbourhood, turned out most of the young fish.

The appearance of the river here, and quality of water, seemed well adapted for their after development, having for its bed a gravelly bottom, with rapid water. It may be found here as with other parts of the province, that, as the lands become fully cleared, and the streams thoroughly exposed to the rays of the sun and light, other and inferior orders of fish become more numerous, many of which, from their predaceous nature, are destructive to the young salmon. This difficulty, however, cannot be overcome, and the only means of counterbalancing this loss will be to make large and continued contributions of young fry annually into the several streams of the country that may be found best adapted for their development.

Lake Simcoe.

In one of the small streams entering into this lake, a quantity of little salmon were placed. They were intended for some point on the Georgian Bay, or Lake Huron; circumstances, however, arose at the time which would not admit of their being taken beyond Barrie, on Lake Simcoe. The extreme heat at that season, and the difficulty of getting supplies of fresh water when travelling by rail, deterred me from proceeding further than this place. Signs of sickness were also shewn by the little fish, and learning that there was a direct outlet from Lake Simcoe into the Georgian Bay, I preferred making the experiment of planting them in the waters of the former place, rather than run the chance of losing them before reaching some suitable stream in the latter.

In making enquiry for a proper stream in which to place this lot of fish, I received from Mr. Lount very timely aid. He, together with other prominent gentlemen at Barrie, were delighted at the novel idea of planting young salmon in Lake Simcoe. A consultation was held, and a stream selected on the opposite shore of the lake from the Town of Barrie. Mr. Lount kindly accompanied me, and we jointly deposited some thousands of young salmon fry there. From this point, by a very long circuitous route through the Georgian Bay, Lakes Huron, Erie, and Ontario, and the St. Lawrence River, there may be a possibility of some of these fry (when arrived at smolthood), reaching the sea. It would be utterly impossible, however, for any of them to return to the same point again, on account of the great natural barrier of the Niagara Falls. Should salmon then be found hereafter in the waters of Simcoe, or at any point above the Niagara Falls, it may be taken as strong presumptive proof that they had become acclimated to our inland lakes.

Wilmot's or Baldwin's Creek.

This stream being the head-quarters of my piscicultural operations, received not only a supply caused from the small fry escaping from the hatching-boxes and through the screens during the season, but had also large numbers distributed in its upper waters, and in the small brooks running into it. Adding up the numbers of fry deposited here

together with those distributed in the several rivers and streams above mentioned, it may be safely estimated that not less than *One hundred and fifty thousand young salmon* have been placed in the waters of this country during the season of 1871.

ESTIMATED VALUE OF SALMON FRY.

Now, in order to form a somewhat correct estimate of the value of salmon fry distributed throughout this country last season, comparison will have to be made with the sales of other kinds of young fish realized in the United States, where a regular market is established, and prices published. At the several fish-breeding establishments there, where speckled trout are sold in large numbers, the impregnated ova of that fish range in price from eight to ten dollars per thousand; and the fry, when hatched out, at forty dollars per thousand. If, then, the fry of the trout becomes more than quadrupled in value after emerging from the egg, surely the salmon, a more noble fish, equally esteemed as a delicacy for the table, of greater commercial importance, and attaining to fully ten times the size of the speckled trout, ought not to bear a less comparative value in the market. The price of salmon ova being now established at forty dollars per thousand, the fry, upon the same ratio as speckled trout, should be two hundred dollars; but, that too extravagant a view may not prevail, they ought reasonably to be estimated at one hundred dollars per thousand. Taking this as a fair standard of value, and that *One hundred and fifty thousand fry* were distributed throughout the country, it will be found that *Fifteen thousand dollars' worth* of young salmon (over and above the cash sales realized) was the result of the piscicultural operations of Newcastle for the past year.

IMPREGNATED OVA NOW ON HAND.

There is at the present time, January, 1872, upwards of a quarter of a million of impregnated salmon ova undergoing the process of incubation, in the breeding boxes at this place. They all have a very healthy appearance; and, in most of them, the embryo fish is plainly visible to the naked eye. Should nothing of an unusual nature take place with them between this and the hatching-out time, in April next, a very large cross of young fry may be expected. Some loss of eggs has been occasioned by the depredations committed by the common house-rat; these pests climb upon the breeding troughs, and running over the glass frames upon which the ova are laid, so disturb and injure them, that many thousands have been destroyed. In future, some means must be devised to drive this scourge from the premises.

In addition to the salmon ova, there is a large number of whitefish eggs, which to all appearances, at the present time, are doing very well. Many difficulties have attended my experiments in ascertaining the best method of managing these very small eggs during the time of incubation. A similar statement will be given by everyone else engaged in this work, should an honest confession be made by them. In the work of artificial fish culture, I am fearful that too many persons are desirous of forming conclusions before arriving at facts. This has been the case when it is stated that whitefish are as easily fed and taken care of, immediately after emerging from the shell, as the fry of the speckled trout; my experience tells me, after some few years of study and application concerning the nature and habits of this peculiar fish, that no food of an artificial kind, nor any that may be given to them by hand, has yet been discovered. Their minute organism almost forbids this. I am, therefore, of opinion that the proper course to pursue is, to turn them into waters, which, both in purity and productiveness of aquatic plants, should be closely assimilated to those in which the parent fish is found.

The whitefish having no visible teeth, is, therefore, neither predacious nor yet very voracious in its nature. Its food consists almost wholly of the *Articulata* and *Annellata* tribes of animals; such as small crustacea, worms, insects, and larva of all kinds: many of these, from feeding upon the juices of the Algae and other aquatic plants growing at great depths under water, partake of their vegetable flavour; these, being fed upon in turn by the whitefish, convey to it that peculiar whiteness of flesh and delicacy of flavour

which has induced many writers on ichthyology to state that the *Coregonus Albus*, or whitefish of North America, is not an animal feeder, but a vegetarian.

EXTENSION OF FISH CULTURE.

Now that the science of artificial fish breeding on this continent has become an established fact, it is absolutely necessary that the country which desires to obtain the greatest amount of success, not only in the production and distribution of fish, for the benefit of its people, but also a means of commerce, should adopt such liberal views and extended operations, as would gain for it that object.

It must not be considered that the production of fishes by artificial means is only intended for those parts of the country where the waters have already become depleted by improper means, and over-fishing; but this system should be applied alike where salmon and other kinds of valuable fish are now somewhat abundant,—if it has been found beneficial in the former, it will prove equally so in the latter case. Rivers that are now found to have a moderate or even abundant stock of parent fish, offer at once the facilities for obtaining the ova, from which vast numbers of young fry may be reared annually by the artificial methods, and without any loss in numbers of the parent stock. The very much higher percentage produced in this way, shews it to be a valuable adjunct to the natural process, for the maintenance of an increased and continuous supply of fish, both for the river and coast fisheries.

The great demand in the markets of the world for supplies of salmon, both fresh and cured, compels all persons engaged in the trade of fishing, to put forth every available means to capture them. The ingenious appliances used, the numerous fishermen engaged, the constant netting carried on, even under the sanction of the law, together with the illicit modes of destruction practised in the more remote parts of the country, where it is with difficulty the officers of the law can penetrate,—the torch-light and spear, the gaff-hook, the net, and other devices used in killing the fish in the act of spawning,—all tend towards making such sad havoc and waste, that sooner or later it must so diminish the supplies, that an outcry will be raised against the authorities for the loss of this great source of wealth; and the places now so liberally supplied by nature will, ere long, succumb to this drain, and become, as in other parts of the country, wholly lost.

Would it not be wise, then, with this view of the subject, that artificial fish culture, now successfully adopted on the continents of Europe and Asia, and in the United States, should be more largely extended to this Dominion? Reference need only be made to those States bordering upon the Atlantic coast, in the neighboring Republic, to convince us of this actual necessity. The waters of Maine, New Hampshire, Rhode Island, Connecticut, and Massachusetts, all abounded at one time with plentiful supplies of salmon; but, from the causes above enumerated, together with various obstructions and manufactories erected, they have become depleted, and we now find Fishery Commissioners appointed, and large grants of money made annually by each State, for the reproduction of new supplies and other fish, that, from the former cupidity of the people, and the neglect of proper legislation, have been almost exterminated. It is worthy of note in passing, to state that some of the Commissioners of those States have been, and are now, applicants for supplies of impregnated salmon ova from this establishment to re-stock their rivers.

In New Brunswick and the other maritime provinces, artificial fish culture must appear admirably adapted to the rivers and streams traversing them, as they enter directly into the sea; and works should be established there as speedily as possible, in order to promote more effectually the advantages to be derived from the piscine wealth with which nature has supplied them.

IMPORTATION OF CHARR (*SALMO UMBLA*).

Through the kindness of a friend, I was enabled in October last, to obtain a few young charr direct from the Keswick breeding establishment, in England. There are

about fifty of them now alive, and, to all appearances, are doing pretty well. These fish are not indigenous to this country, and I believe are the only ones yet introduced into America. Charr (*Salmo Umbla*) is a fish of the same genus with the salmon found in the lakes of Britain, and of the continent of Europe; they abound in the lakes of Cumberland and Westmoreland, and in some of those of Ireland, and the north of Scotland. It is the celebrated Ombre Chevalier of the lakes of Geneva. It is (in Britain) considered the most delicious of the salmonidæ, and also the most beautiful. How far it may be adapted to the waters of this country, is yet to be ascertained; but, judging from the habitat of the charr in Britain, the mountain lakes and rivers of this country would be well suited for them. In summer, it keeps in deep cool water, and in the autumn, ascends rivers to spawn. Its average will not exceed one pound; they are sometimes taken weighing two pounds and upwards. Its food is principally insects of all kinds, and crustaceans. Charr are fast diminishing in the English lakes, owing to the wholesale slaughter which occurs at the spawning season.

Believing that nearly all of the lakes in this country would be well adapted to the growth of this fish, I would recommend the importation of several thousands of the ova during this winter, and also a few of the adults, if possible, as specimens. Both the ova and full-grown fish can be easily obtained from the Keswick fish-breeding establishment, in England, where attention is principally drawn to rearing them. These works are under the management of Mr. John Parnaby, of Leeds, England, who formerly lived here, and was the first scholar to learn the science of pisciculture, at this Canadian establishment.

This gentleman, I notice in a late English paper, succeeded in conveying safely across the Atlantic, a considerable number of the ova of speckled trout (*Salmo Fontinalis*). Three weeks elapsed from the time of packing them till they were deposited in the breeding-troughs in Cumberland; some amount of loss was experienced in their transmission; the remainder hatched out soon after being placed in the grilles. I purpose forwarding to Mr. Parnaby, during the coming season, a number of the ova of our white-fish, (*Coregonus Albus*,) which, I trust, will reach there in safety.

ENLARGEMENT OF PONDS.

As very great difficulty having been felt here for the want of necessary ponds in which to raise, during the different stages of their growth, not only salmon, but other desirable fish, I would most respectfully urge upon your Department the almost imperative necessity of having this work speedily carried out, and upon such an extended scale as to be of practical utility. It is unwise and unsafe to place together, in the same pond, the young fry of two or more consecutive years' hatchings, as the older are sure to devour the younger. For young salmon, there ought to be at least three ponds, of such dimensions as would accommodate a great many thousands in each; by this means, a regular annual gradation of fish could be kept on hand, not only for local distribution, but also for foreign sales. This plan would prove both satisfactory and profitable. It is equally important that ponds should be constructed for the safe keeping and raising of other kinds of saleable fish, which are now being sought for in the United States and Britain, and which it is also very desirable should be bred for the benefit of the inhabitants of this country. Foremost among these would be the lake trout, speckled trout, white-fish, and black-bass; the two last-mentioned species of fish have been already applied for by persons in England, and prices offered that would give a very large profit on the sales. If, therefore, these appliances were built, in which a stock of fry could be safely kept, large sales at profitable rates could be effected with foreigners; and numerous demands which are being constantly made by our own people, could be supplied, at prices which might be made to cover the cost and charges of raising them. In addition, contributions might be made from these reservoirs annually towards supplying in part the public waters of this country.

SALMON TAKEN IN LAKE ONTARIO.

Under the sanction of your Department, I was induced to make a practical trial last summer to ascertain whether salmon were again frequenting the shores of Lake Ontario, during the spring and summer months, as in former years; and also learn what may have been the result of breeding, and the protection afforded them, since operations were commenced here. Some nets were secured for this purpose, and set at certain distances above and below where this stream enters Lake Ontario, and a practical fisherman engaged to work them. Some two hundred salmon were taken; they were in prime condition, brilliant in color, symmetrically formed, and ranged from six to fifteen pounds in weight: many of these were placed on the Toronto and Hamilton markets, and brought high prices. In the month of May, *fifty cents* per pound were received; as the season advanced, and supplies arrived from Quebec, the market value became less, the minimum being fifteen cents.

I was informed that a few salmon were also taken at other points on the lake by fishermen, with their ordinary nets used in catching herring, white-fish, and trout. Many years have now passed since *Ontario Salmon* were known in the Toronto market, and great pleasure and satisfaction were expressed by the press and the people at again seeing this long lost luxury reproduced in the country.

IDENTITY OF ONTARIO SALMON WITH THOSE IN THE PENOBSCOT RIVER, MAINE.

In February last, Messrs. Hudson and Pike, Fishery Commissioners for the State of Connecticut, visited this establishment for the purpose of inspecting the works and its adaptation to the breeding of fish; together with the view of purchasing some impregnated ova. Apparent satisfaction was the result, and an order left for *ten thousand salmon ova*, which were in due time forwarded to them through the agency of Mr. Clift, a leading fish culturist in the United States.

These gentlemen, both scientific men, were laboring under some doubts previously as to the true character of the salmon entering this stream. It had been reported to them, that the fish here were similar to the (so called) Sebago Schoodie, or Land-locked Salmon of the Eastern States; but having on hand, at the time, some stuffed specimens of Ontario salmon, they were satisfied to the contrary; yet, in order that they might be more fully convinced, they expressed their intention of coming back during the autumn when numbers of salmon would be found in the stream in the act of spawning. Accordingly, in the latter part of October, I had the pleasure of seeing these gentlemen re-visiting this establishment. At this time, a full opportunity was afforded them of seeing large numbers of the salmon within the reception-house, and many more outside, in the main body of the creek; they also saw many of the fish taken out of the water, and the process of manipulation practised. They were apparently highly edified with these ocular and practical demonstrations, and expressed much gratification and pleasure from the result of their visit.

Upon their return home, I received a letter from one of them, (Mr. Pike,) requesting me to send to him to Middletown, Connecticut, specimens of the salmon here, to compare with those taken in the Penobscot river, which runs through the State of Maine into the sea. Upon receipt of this letter, the spawning season was about over, and the few fish yet remaining in the stream, left me a poor chance of making proper selection. They had become very lank in condition, and black in color; however, making the best I could of it under the circumstances, I forwarded by express to Mr. Pike the following samples, namely:—a male and female adult salmon, (the female was an old friend, bearing the marks of having passed through my hands for three seasons,) a grilse, a smolt, some young parrs, an imported British charr, and a number of freshly impregnated salmon ova. These specimens reached Middletown in safety, and were used by Mr. Pike for scientific purposes. I afterwards received a letter from that gentleman, which I here-with append, as it will be found both interesting and instructing on this question of identity:—

STATE OF CONNECTICUT DEPARTMENT OF FISHERIES,
MIDDLETOWN, CONN., December 16th, 1871.

SAMUEL WILMOT, Esq.,
Newcastle, Ontario.

MY DEAR SIR,—Your esteemed favor of the 10th inst. came duly to hand ; and I hasten to say that I am surprised that you have received no acknowledgment from me of the receipt of the box in good condition, with your letter by mail about the same time. My answer, which has failed to reach you, was as follows :—

MIDDLETOWN, CONN.,
November 20th, 1871.

DEAR SIR,—The fish have arrived in good condition, and I am deeply indebted to you for your prompt and generous response to my request. I have delayed my reply for a few days, in order that I might make a critical examination of the fish, and compare them with two others sent to me by Mr. Atkins from the Penobscot. The result is eminently satisfactory. If I had ever entertained any doubt in regard to the true character of the Newcastle salmon, it was entirely dissipated by the comparison. No difference could be detected between the Newcastle fish and one of those from the Penobscot ; but there was a remarkable difference between the two Penobscot fish in respect to color :—one, as I said before, was like yours ; but the other was of a very deep salmon color, not uniform, but mottled all over, the spots extending over nearly the whole operculum. I am informed that these two Penobscot fish were caught at the same time, in about the same neighbourhood ; but the salmon-colored one has been allowed the range of a small stream, while the other that resembled yours had been confined in a pound on the edge of a pond. In all respects, except this of surface color, the fish were identical. Your fish was much the largest, and apparently in as good condition.

I am very much gratified with this result, and it gives me great pleasure to bear this testimony to the true character of your beautiful fish. Of course *you* need no such assurance ; but there were persons here that did, and I believed the best way to remove doubts was by facts.

I took from the grilse about a half-pint of spawn, which I have preserved and given to the college museum here.

In my report, which will be made up in the spring, I shall give a more detailed account of my examination, and will remember to send you a copy.

Again thanking you for your prompt and generous attention,

I am, dear Sir,

Yours most truly,

(Signed) ROBERT G. PIKE.

I beg to submit to you, in connection with this report, the following extracts relating to the success of "The Piscicultural Establishment," under the control and management of your Department.

All of which is respectfully submitted,

SAMUEL WILMOT.

Newcastle, December 30th, 1871.

EXTRACTS.

Extract from the Report of the Fishery Commission, State of New Hampshire, submitted June, 1871 :—

"One of your Commissioners has recently visited a very well arranged fish-breeding establishment, at Newcastle, Ontario, Canada, operated by the Government, under the immediate supervision of Samuel Wilmot, Esq., a gentleman well qualified for the position he occupies. This establishment has greater capacity than any we have seen, and the arrangements throughout must insure success."

"Mr. Wilmot had some three hundred thousand salmon ova in process of hatching at the time we visited him, taken from fish coming into his creek from Lake Ontario. He has also succeeded in rearing the white-fish, or rather they succeeded in rearing themselves in spite of him, by escaping from their place of confinement and running into a shallow pond in his garden, where they found their proper food, and were afterwards found of considerable size and in good condition. He is still experimenting with the young of this fish, and we are glad to have been able to furnish him with some of them for experimental purposes."

Extract from an Address to the Legislature of Michigan, by Hon. N. W. Clarke, February, 1871 :—

"The Government of Canada has an extensive breeding-house, located at Newcastle, on Lake Ontario, under the successful management of Samuel Wilmot, Esq. Some five years ago, this gentleman commenced on his own account to breed salmon, and his efforts were crowned with such perfect success that the Government stepped in, paid him for his outlay, and employed him to manage it, which, under their laws, it had a right to do. He has since hatched out, and is now hatching large numbers of salmon, and turning them out in the public waters of Lake Ontario. The selfish fear that a few of these fish may find their way to the opposite shores and be lost to them, does not deter them from prosecuting this branch of industry. On a visit to that establishment, some two months since, I was informed by the superintendent that it was the intention to procure large numbers of the ova of white-fish, place them in the hatching-boxes, and, as soon as they became fry, turn them into the waters of Lakes Ontario and Erie."

"It is believed that there are not more than three persons on this continent who have ever attempted to hatch the ova of white-fish; and, consequently, less is known of their habits, and of the length of time for them to come to maturity, than other species of the salmonoid family. But enough is known from the success of Samuel Wilmot, Esq., of Canada, to sustain us in the assertion that they increase in weight about three-quarters of a pound a year, as those he had when we saw them last January we judged to have weighed about one and a quarter pounds, and being about eighteen months old."

"The steps taken by the Canadian Government have already given an impetus to private enterprise; the fact of demands to purchase fish eggs and young fish from their establishment, demonstrate at once the remunerative character of such enterprises."

Extract from the Report on the International Exposition of Fish, at Boulogne-sur-Mer, Arcachon et du Havre, 1866—1868, by Dr. J. L. Soubeiran, Secretary delegated by the Acclimation Society of France, Professor of the School of Pharmacy.

[Translated from the French].

FISH-BREEDING IN CANADA.

"We have already had occasion to explain to the Society the happy results obtained in pisciculture in North America; but we think it right to give here some new details of what has been done in Canada, where the people are now persuaded of the importance of increasing the production, since, as Franklin has said, salmon are bits of silver taken from the water. The Canadian Government also gives its support to the attempt at pisciculture made in these different Provinces, and makes a study of finding the most favorable places for the organization of hatching establishments. It possesses one particularly at Newcastle, Ontario, under the skilful direction of Mr. S. Wilmot, who founded it solely with his own resources, and has since ceded it to the Government. The establishment at Newcastle has served as a model for several of the neighboring States, and has been able to spare several thousands of eggs to the Government of Maine. The ease and safety with which the eggs were transported to their destination, led to new demands, and thus a new branch of commerce has arisen in Canada, where it was hitherto unknown.

"The young fry hatched at the breeding-house at Newcastle, (about 150,000,) have been deposited in the affluents of Lake Ontario, with the precaution of giving the preference to small streams, because these were the spawning-places most sought by this fish in the former days of its abundance.

"The best time for the transport of eggs in Canada seems to be in February or March, because the embryo is then sufficiently developed to bear the journey uninjured, yet not so much so as to be in danger of hatching on the road, which would be unfavorable to success. At a later period of the year, it is necessary to pack the eggs in ice, which retards the hatching out, and thus in April, 1870, they were sent without damage to Augusta, in Maine.

"With a view to obviate the difficulty of collecting the eggs, and also the inconvenience presented by the manipulation of reproductive fish, Mr. Wilmot conceived the idea of constructing an apparatus in which the collection of salmon spawn might be made mechanically. Although he has not yet brought his invention to the perfection of which it is capable, Mr. Wilmot succeeded last year in obtaining with it several thousand eggs. The building in which he operates is 66ft. in length by 15ft. wide, and 12 feet deep. The necessary quantity of water is passed through by means of sluices, and is taken from the little stream itself. The bottom is covered with an artificial floor, on which are fixed pieces of wood 3in. in height by 7in. in width, which divide it into four longitudinal compartments, each 37in. wide. Little bars are placed across the strips, at a distance of about 15in. from each other, and 3in. above the bottom. The clear space is furnished with an endless cloth, which may be moved by rollers placed at each end of the building. On the cross-pieces is placed a strong netting of galvanized iron-wire, (No. 12,) with inch meshes, which just fits between the compartments. This metallic network is covered with gravel about 4in. deep, and coarse enough not to fall through the meshes. Over this artificial spawning-place of 60ft. in length by 15ft. in width, the water flows to a depth of 9 to 15 inches, and it has all the appearance of the natural bed of a stream. The salmon, in seeking to re-ascend the river, enter the basin situated at the opening of the building, and, at the moment of spawning, the male and female rest upon the artificial bed, where they operate as they would do in the stream. In displacing somewhat the gravel during spawning, the fish let their eggs slide through the interstices, whence they fall upon the endless cloth; by putting this in motion, they are brought to the roller, and fall from thence into a receptacle, in which they are carried to the hatch-

ing-house. Several dozen salmon can spawn at the same time in the apparatus. Since the establishment of the Newcastle breeding-house, the number of salmon has considerably increased in the stream; there were even more in 1870 than in 1869—as many as three or four hundred having been seen at once in the fish-house. Mr. Wilmot has not only operated upon the salmon, but also upon the white-fish, an excellent species which tends to disappear in Canadian waters, on account of the greediness with which it has been fished for. He has succeeded satisfactorily in hatching the eggs, though there is more difficulty with them than with those of the salmon, and his discovery of a small crustacea living on the roots of aquatic plants, now enables him to succeed perfectly in the rearing of his young fish.”

EXTRACT

From a report by Mr. Andrew Fraser, the Guardian of the Artificial Salmon Breeding Apparatus, at Trout Creek, Moisie River.

MOISIE, 31st December, 1871.

* * * * * "In the beginning of November, 1870, a tremendous fall of rain occurred in the Lower Moisie, causing a great flood in the small stream on which is the establishment, and backing up the water into the house of the rills, this caused a deposit of mud or slime, on the eggs, which could not be removed without injuring them, and the percentage of loss was in consequence much heavier than in bygone years. The trays did not answer so well as where the eggs were not disturbed. However a much larger quantity of eggs having been deposited in the rills, there was even with this unfortunate occurrence a greater number of young fish than in any previous year, and as recommended by Mr. Whitcher, I caused considerably over 6,000 of them to be carried up and let out above the dam. The remainder were let out into the stream below the dam as usual.

"After having the gravel all taken out of the rills and washed in readiness for a new stock, the expedition left the mouth of the Moisie, on the 9th of October, 1871, and safely reached the forks. There were great quantities of salmon but none were then ready to spawn. On the 11th, we seined and hauled forty-six salmon, out of these thirty-four were females, two were bright salmon. One of the females had partially spawned, but about half a gallon of eggs were obtained from her. The salmon not being quite ripe for spawning, and the expedition not supplied with provisions for a lengthened stay it became necessary to return to the mouth of the river. Having refitted, the party re-ascended the river and reached the forks again on the 24th October, but found the salmon had all spawned and left the spawning beds. In the south-west branch could not seine for ice running, and only got sixteen salmon in the main river, five females, six males and five bright salmon. About a quart of spawn was obtained from two of the females. On the lower part of the river near the Trout stream four more bright salmon were hauled.

"It was a mistake to leave such a space of time between the two trips as a few nights' frost seem to bring the Salmon to maturity and make them ready to spawn. It is much to be regretted that a full complement of eggs had not been secured, but as the distance is very considerable to the spawning grounds, and the date of spawning uncertain, a mishap of this kind may be expected occasionally and until experience furnishes us with fuller knowledge."

APPENDIX K.

REPORT ON A DEEP SEA DREDGING EXPEDITION TO THE GULF OF ST. LAWRENCE, BY J. F. WHITEAVES, F.G.S., &c.

To the Hon. PETER MITCHELL,

Minister of Marine and Fisheries for the Dominion of Canada, &c., &c.

SIR,—I have the honor to submit the accompanying report, descriptive of some of the results obtained in a deep sea dredging expedition round the Island of Anticosti, undertaken under your auspices, and on behalf of the Natural History Society of Montreal.

Your obedient Servant,

J. F. WHITEAVES.

INTRODUCTORY.

The most important contribution to our knowledge of the marine animals inhabiting the Gulf of St. Lawrence, was made by Dr. A. S. Packard, Jun., to the Boston Natural History Society, in October, 1865, and printed in their Memoirs in 1867. Extensive dredging operations were carried on by that gentleman on the Labrador coast, near the entrance to the Straits of Belle Isle; but although large collections were made, no greater depths than from fifty to sixty fathoms were examined.

In 1867, I devoted a fortnight to the examination of the bottom of the sea in Gaspé Bay, by means of a dredge, with very decided success. I had previously undertaken three dredging expeditions in various parts of the British seas, so that I already had some experience in such matters. The greater part of the specimens obtained in Gaspé Bay in 1867, were taken by me to London in 1868, where they excited considerable attention among naturalists, who kindly volunteered practical assistance in the further prosecution of these researches. I am specially indebted to J. Gwyn Jeffreys, Esq., F.R.S., for the gift of a dredge of the latest pattern, fitted up with bags of a novel description, which were subsequently found to be of great utility. Having procured the latest apparatus for the purpose while in England, in the summer of 1869, I again went down to Gaspé, and devoted six weeks exclusively to dredging in Gaspé Bay and its vicinity. As in 1867, so in 1869, my kind friends, Messrs. John Luce and P. de Carteret (of the firm of Messrs. W. Fruing and Co., of Grande Grève) received me with the utmost hospitality, and gave me every assistance in their power towards carrying out the objects I had in view. Every available day dredging operations were carried on, and two cod banks, situated between Cape Gaspé and Cap Rosier village, but about five miles from the shore, were carefully examined. Large collections were made, and since 1867 I have devoted nearly all my spare time to the study of the foraminifera, sponges, polyzoa, and mollusca, obtained in these two expeditions, the results of which I hope soon to publish. Microscopical preparations have been made illustrative of the first three of these groups, and careful dissections of a number of the last.

Many interesting marine animals have also been collected in the River and Gulf of the St. Lawrence, by Principal Dawson, Professor R. Bell, and Mr. John Richardson, Jun., but with these gentlemen dredging operations and marine zoology have been for the most part subordinate to special geological investigations. No researches with the dredge have ever been made in the deeper parts of the River or Gulf of the St. Lawrence until the summer of 1871. I had only succeeded in dredging as deep as fifty fathoms, and believe that no one else had dredged much deeper, if any. Five samples of mud brought up by deep sea leads, from depths of from 100 to 313 fathoms in the Gulf, (in the possession of Principal Dawson) containing a few diatoms, some small foraminifera, and two species of polycystinae, represented all that was known (up to 1870) of the fauna of the abyssal zone of the seas of the Dominion. During the winters of 1867 and 1871, I called the special attention of the Society which I have the honor to represent, to the importance of trying to ascertain, by dredging, the nature of the animal and vegetable life inhabiting the greater

depths of the St. Lawrence, and endeavoured to show that such investigations would not only be of great scientific interest, but that they could scarcely fail to be of considerable practical value. Principal Dawson also, as President of the Society, has often advocated similar views, and in June, 1871, I was delighted to hear that he had spoken to you on the subject, and that you, at once appreciating the importance of such researches, had promised every assistance in your power towards the carrying of them out. Principal Dawson requested me to undertake the superintendence of the expedition, (on behalf of the Natural History Society of Montreal), and my friend, Mr. G. T. Kennedy, B.A., an enthusiastic and skilled zoologist, went with me in the interests of McGill College. Unfortunately he was compelled to return to Montreal, after he had been eight days at sea, and I thus lost his valuable services and was left quite alone the greater part of the time, so far as scientific help was concerned. Having plenty of time to make preparations, we took everything that experience, gained in five previous expeditions of the kind, suggested. It having been previously arranged that we were to meet Commander Lavoie at Father Point on the 6th of July, we left Montreal on the 3rd of that month. The following report is arranged in three parts. The first part consists of extracts from a diary kept on board *La Canadienne* and the *Stella Maris*; the second gives a preliminary summary of the zoological results obtained; whilst the third and last part is devoted to practical suggestions and concluding remarks. It may be well to remark that as these investigations were entirely subordinate to the special duties upon which the schooners were engaged, dredging could only be carried on at intervals, and in several cases the same ground was gone over twice or more.

PART I.

(A.) *Abstract of Diary kept on board La Canadienne.*

Thursday, July 6th, 1871. Got on board *La Canadienne* at Father Point, a little before noon, and were exceedingly kindly received by everyone. Sailed for the north shore about noon and spent the afternoon preparing one of the dredges for use.

Friday, July 7th. Anchored in Trinity Bay all day; weather cold and rainy. The Laurentian hills visible on shore in the distance; saw two black guillemots during the day. Specimens of *Lunatia heros* and *Macra polynema* were collected on the beach by a party who went ashore.

Saturday, July 8th. Made two unsuccessful trials with the dredge in 25 fathoms off Trinity Bay; we attributed the failures to the buoyancy of the rope, which was made of cocoa nut fibre. A deep sea lead was lashed to the line a fathom or two in front of the dredge, which obviated the difficulty. Dredge No. 1. (Omitting the unsuccessful ones), 25 fathoms sand in Trinity Bay. Twenty-one species of shells and a few large sandy foraminifera (*Lituolæ*) came up in this haul. Being anxious to try deeper water, another deep sea lead was lashed to the line about 50 fathoms from the first, and we stood out a little further from shore. Dredge No. 2. Half way between Point des Monts and the west end of Trinity Bay, in 96 fathoms, small stones and coarse sand. Number of species considerable; shells fourteen; many rare polyzoa, crustacea, star fishes and three interesting sponges. No microscopical organisms in the sand. A young Norway haddock came up alive in this haul.

Sunday, July 9th. At anchor in Seven Island Bay all day.

Monday, July 10th. No dredging done to-day.

Tuesday, July 11th. Dredge Nos. 3 and 4. Off Seven Island Bay, 12½ miles from shore. 164 fathoms clayey mud. Seven species of shells, many marine worms, a few small crustaceans, a brittle star and a *Dentalina* were obtained in these two hauls. Saw several petrels during the day, but not close enough to distinguish the species.

Wednesday, July 12th. No dredging to-day; many whales and black porpoises seen. A towing net was used for many hours but almost nothing was caught in it.

Thursday, July 13th. Landed at Moisie Village in the morning, saw many capelins and sand launces brought ashore in a net. Dredge No. 5. 70 fathoms sand, off Moisie

Village, seven to eight miles from shore. Twenty-one species of shells and several other things. Dredge No. 6. Fourteen miles from shore, 100 fathoms mud, the bag came up almost empty, there was in it only a small quantity of mud containing no organisms visible to the naked eye. Mr. Kennedy left for Montreal this evening.

Friday, July 14th. Employed this day, for the first time, a new dredge, the frame and bag of which I had had made under my own immediate supervision in Montreal. It worked so well that the dredge was discarded and put aside as a reserve in case of accident. At this point I took observations, as well as I could, of the temperature of the mud or sand brought up from various depths. Dredge No. 7. Off Caribou Island, ten miles distant, 170 fathoms mud. The temperature on deck, in the shade, was 53° Fahr.*; and on plunging the thermometer in the mud brought up, and shading both with a tarpaulin during the process, the mercury sank to 37°. It is probable that it would have fallen a degree or two lower had the instrument been self-registering, or if the bulb could have been immersed deeper into the mud. Eight species of shells, five of which are new to Canada, and a number of curious marine worms were obtained this time. During the day we had sailed back past Point des Monts.

Saturday, July 15th. Returning from Point des Monts, we got dredge No. 8, off Egg Island, eight miles from shore, in 70 to 80 fathoms sandy mud. Temperature on deck in the shade 58°; in the mud, 37°. Eleven species of shells, two star-fishes (*Ctenodiscus*) and a sea-anemone in this haul.

Sunday, July 16th. Anchored in Seven Island Bay all day.

Monday, July 17th. Off Sawhill Point and River in the morning. Dredge No. 9. 30 fathoms sand, two miles distant from Sawhill Point. Thirteen species of shells, a few interesting hydrozoa (*Thuiaria*) polyzoa, &c. Temperature on deck in the shade 59°; in the sand, 37°.

Tuesday, July 18th. Ashore at Magpie Village in the morning; collected many specimens of *Ceronia deaurata*, on the beach, and found one fine example of the great spider crab, *Chionocetes opilio*. Commander Lavoie bought from a man on shore, specimens of a male Barrow's Golden Eye, and a pair each of the Common and King Eider Duck, which were probably shot on the spot. Dredge 10. Off St. John's River, near the West Point of Anticosti, in 60 fathoms sand. Temperature of the sand 37°, while in the shade on deck the mercury registered 56°. The species brought up in this haul, though numerous, were not of special interest.

Wednesday, July 19th. Dredge No. 11. Off St. John's River in 50 fathoms sand. Temperature on deck in the shade 52°, in the sand 37°. The usual shallow water species with a few novelties. Fog and calm part of the day.

Thursday, July 20th. Anchored off St. John's River all day. Dead calm and fog.

Friday, July 21st. In the morning tried to collect some Calcareous fossils on Harbor Island, Mingan, but without success, as at the place where I landed, fossils were both rare and badly preserved. Observed many interesting plants on the rocks near the beach, such as *Sedum rhodiola*, *Mitella nuda*, *Primula farinosa*, *Pinguicula vulgaris*, also the usual and characteristic maritime plants. In the afternoon we set sail for English Bay, Anticosti.

Saturday, July 22nd. Ashore at English Bay, Anticosti, in the morning. At each end of the bay good sections of rocks, of the Hudson River Group age, face the sea. A number of loose blocks of stone (of the same formation) were lying on the beach. Specimens of the characteristic fossils of the period were collected from these drifted masses, such as *Asaphus platycerphalus*, a small *Murchisonia*, *Orthis testudinaria*, *Leptæna sericea*, &c.; a few interesting shells, crustaceans &c., were also collected, as the tide happened to be low. In the afternoon we tried two hauls of the dredge, Nos. 12 and 13. The first (No. 12) was in 25 fathoms, on a rocky bottom, off English Bay, and here the principle involved in the construction of the new dredge was successfully tested. The scraper got foul on a ledge of rocks, but as the arms of the dredge were only tied together with rope

* To prevent reiteration, it may be as well to state that wherever degrees are mentioned in this report, degrees Fahrenheit are intended.

yarn, the strands broke with the strain, and the dredge came up end ways, empty of course, but uninjured. Dredge No. 13 was in 60 fathoms water, a little to the N. E. of the spot previously tried, but all that was obtained was a single shell, and a few small stones covered with a parasitic foraminifer (*Truncatulina*) but nothing else. Dredging between the West end of Anticosti and the north shore of the St. Lawrence is difficult, as the bottom, in most cases, is bare rock. Sailed for St. John's River, and anchored there at night.

Sunday, July 23rd. Anchored off St. John's River all day. Went ashore in the morning, observed a salmon making his way up for the river; noticed also large shoals of capelin, many seals, and a few puffins.

Monday, July 24th. Still at anchor off the St. John's River; fog and no wind. Fished for cod in the morning, and noticed that nearly all the fish taken had nematoid worms encysted on the outside of their livers; preserved specimens of these for microscopical examination. It was our intention to have proceeded as far as Natashquan, then to have tried the deepest water in the gulf (313 fathoms) situate at a spot half way between the east end of Anticosti and the Bird Rocks, and after a short time, devoted entirely to dredging in very deep water to the south of Anticosti, to have made for Gaspé Basin, in order that I might return home from that point. Our plans, however, were entirely changed; for in the afternoon an American schooner was captured illegally fishing near the shore, and the commander decided at once to take her to Gaspé Basin or Percé. We set sail accordingly for the south shore of the St. Lawrence at 6 p.m.

Tuesday, July 25th. Still making for Gaspé Basin, with very little wind. In the afternoon got Dredge No. 14, off the West Point of Anticosti, twenty-four miles from the lighthouse, bearing N.N.E., in 200 fathoms mud. Many annelids, a few star fishes, two or three shrimps and six species of shells, but so little mud, that when the bulb of the thermometer was plunged into it there was barely enough to cover it, consequently the mercury did not fall so low as usual. The temperature on deck in the shade was 66°, in the mud it only sank to 50°.

Wednesday, July 26th. Close to Cap Rosier lighthouse in the morning. Dredge No. 15, (the most successful haul on board *La Canadienne*) in 125 fathoms mud, six miles from shore, immediately opposite Cap Rosier lighthouse. Temperature on deck in the shade 64°, in the mud 38°. Many large specimens of Sar's brittle star and of *Ophiacantha spinulosa* in this haul, also other rare and fine echinoderms, a large *Nymphon*, ten species of shells, &c., &c., quite a number not only of species but also of individuals. We then endeavoured to find a "reef," or cod bank, which runs out to sea between Ship Head and Cape Bon Ami, upon which, in 1869, I had collected a number of rare and new marine sponges, shells, &c., but we failed to find it. Dredge No. 16, the last on board *La Canadienne*, was off Cap Bon Ami, six miles from shore, on a stony bottom, in thirty fathoms water. Not much came up this time, a few stones and five or six species of shells. Anchored in Gaspé Bay at night and, in the morning I went ashore.

In Gaspé Basin.

Commander Lavoie having kindly given me a letter to Captain Lachance I determined to wait for the *Stella Maris*. Mr. Jos. Eden telegraphed to Paspébiac, but unfortunately the schooner had left that place before the telegram arrived. "Waited a fortnight in Gaspé Basin, during which time I got one good days dredging in the bay, and early on the morning of Friday, August 11th, I started on cruise No. 2, on board the *Stella Maris*."

B.—Abstract of Diary on board the Stella Maris.

For convenience of reference, the hauls of the dredge on *La Canadienne* are designated by numbers, those on board the *Stella Maris* by letters of the alphabet. As there was no deep sea lead on the *Stella Maris*, the depths greater than sixty fathoms are taken from the charts.

Friday, August 11th. Sailed from Gaspé Basin at about 3 a.m., and about the middle of the day got Dredge A., in thirty-eight fathoms water, (measured) bottom of small stones, Cape Gaspé W. $\frac{1}{2}$ S., Cape des Rosiers N.W. by N., about five miles from shore. Many fine large specimens of the "crumb of bread" sponge, sea-urchins, star fish, crabs of the genus *Hyas*, *Polysoa*, and about twenty-five species of shells, five of which are very rare, came up this time. The number both of individual specimens and of species very large; a bottom composed of small stones being usually the most productive of all kinds of ground. The dredge was down an hour and a quarter, but the wind was so slight that the scraper anchored the schooner for some time. Dead calm about 1 p.m., which lasted twenty-four hours.

Saturday, August 12th. A light N.W. breeze springing up at 12.15 p.m., enabled us to resume operations. Dredge B. Between Cap Rosier and Griffins Cove, eighteen miles from shore, 120 fathoms. After remaining at the bottom an hour, when it was hauled up, the bag proved to be almost empty—two marine worms and a broken brittle star were all that it contained. We tried again in the same place, but with still worse success, for in Dredge C there was absolutely nothing.

Sunday, August 13th. Sailed along the S.W. shore of Anticosti as far west as the West Point lighthouse, and anchored at night in Ellis Bay. Fine sections of Lower Silurian rocks face the sea here; during the day observed many gannets diving. A long reef of rock extends seawards to the west of Ellis Bay, and this, as was also the beach to the east of it, is dotted over with large boulders.

Monday, August 14th. Rose at 6 a.m., and went to examine the limestone reef mentioned above, the tide being low, but did not find any fossils, or any marine animals of special interest. Clouds of wading birds, plovers, sandpipers, &c., were feeding in the bay; many seals, and a few foolish guillemots were also observed. The limestone in this bay is perfectly riddled with the burrows of *Saxicava* (a boring bivalve), and small crabs (*Cancer borealis*?) are abundant near the shore. Sea-weeds, also, were very plentiful here, amongst them, gigantic fronds of *Laminaria* six to ten feet long or more. Returned to the ship and went ashore at the east end of the bay later in the morning, but landed with difficulty, owing to the extreme shallowness of the water. The land is low, but well wooded, the trees, however, are very small. Few plants of any special interest were noticed. *Zygadenus glaucus* was abundant and in full flower. There appeared to be an exposure of rock at the east end of the bay, but there was not time to walk to it. Many pieces of limestone were lying on the beach, containing common but well preserved fossils of the Hudson River Group. Living specimens of *Helix nemoralis*, var *hortensis* (a common European snail) were collected. At 3 p.m., we sailed for the south shore.

Tuesday, August 15th. On rising, I found that the dredge had been thrown over at 4.30 a.m., and that it had been hauled up nearly full, before I was up. Dredge D, Ellis Bay, Anticosti, bearing S.W., twenty-one miles distant, 160 fathoms mud. About forty sea-pens (*Pennatulids*) of a species new to science, and many interesting and rare forms in this haul. I rose at 6 a.m. to see what the mud contained, and at 6.40 another successful attempt was made. Dredge E, Ellis Bay, Anticosti, bearing S.S.W., twenty-seven miles distant, 200 fathoms mud. The temperature on deck was 68° in the shade, and when the bulb was immersed in the mud in the usual way, the mercury sank barely as low as 42°! This puzzled me considerably, as the temperature of the deep sea mud had hitherto ranged pretty uniformly from 37° to 38°. This time, however, several minutes elapsed, after the bulb had been pushed into the mud, before the mercury sank 10°, and nearly half an hour before it sank to 42°,—if it did at all, for, perhaps 43° to 45° would be nearer the proper reading. Whether a warm current affects the temperature of the bottom at this point, or that my observations were inaccurate or defective, (which is highly probable) remains to be seen. A few (ten to twelve) sea-pens of the same species as before, and a very similar assemblage of specimens to those obtained in the last haul, were procured in this. At 2.30 p.m., we were off Griffin's Cove, an hour afterwards we were making for the north shore, and at 6 p.m., were out of sight of land.

Wednesday, August 16th. Off Sawhill Point (Sheldrake) at 9.45 a.m. Dredge F. Sawhill Point, bearing N.E., twelve miles distant, in sixty-nine fathoms on a rocky bottom; consequently very few specimens were collected. Several "crumb of bread" sponges, a sea anemone, a rare star fish identical with one dredged in the *Porcupine* expedition, and since described by Professor Wyville Thompson, several large shrimps, a small specimen of the great spider-crab, (*Chionocates*) a hermit crab inside a dead shell of *Fusus tornatus* a single valve of *Necera artica*, and a specimen each of *Turritella erosa* and *reticulata*, with a few stones, were all that came up. Our course was now changed to one almost due east; wind nearly ahead,—weather misty rather than foggy. At 6 p.m. we were opposite Thunder River. On the north shore, at this point, the Laurentian (?) rocks crop up near the shore, and form low barren hills almost devoid of vegetation, which gives the landscape a desolate aspect. Dredge G. sixty fathoms mud, off Thunder River, bearing N.N.E., ten miles distant. Two fine examples of Agassiz's "basket fish" (*Astrophyton Agassizii*) in this haul, and a few common shells, in all only seven or eight specimens. Passed to the north of the West Point lighthouse at 9 p.m.; saw the light very plainly.

Thursday, August 17th. In the morning among the Mingan Islands; saw several puffins and kittiwakes. Went ashore at Mingan at 10.30; on landing, noticed that there was a small quantity of magnetic iron sand on the beach. Walked through a cranberry swamp to the Mingan River, botanizing on the way; in the dry places there were small Canada balsam and spruce trees, also small junipers: *Potentilla tridentata*, *Stellaria*, &c., and in the wetter places *Spiranthes*, *Ledum*, *Kalmia*, and other ericaceous and marsh plants. During the afternoon, we sailed through the Islands as far as Esquimaux Point, and went ashore there for a short time in the evening. Set sail again about 8, the course being more to the south—towards the north shore of Anticosti.

Friday, August 18th. At 8 a.m., we were between Cape Observation and Bear Head, Anticosti. Fine bold escarpments of a whitish looking (Upper Silurian) limestone, seven good sections visible at once. The dredge had been thrown out and pulled up again before I was up. Dredge H, between Anticosti and the North Shore, Charleton Point (Anticosti) bearing W. by S., eight miles distant. Many stones, some large, others small, came up in the bag, but there were more gneissoid or Laurentian masses than pieces of fossiliferous limestone. Two rare species of sponge, sea anemones, (*Tealia crassicornis*) several shrimps, a few *Amphipura* and *Ctenodiscus*, twelve species of shells, two of them brachiopods, and two small fishes, were brought up this time. One of the fishes was a juvenile wolf-fish (*Anarrhicas*), the other a gurnard, of the genus *Agonus*. Dredge I. In 120 fathoms mud, Bear Head, Anticosti, bearing N.W. by W., twelve miles distant. Temperature in the shade, on deck, 60°, in the mud, 38° or 39°. Mixed with the mud were a number of small water-worn stones: some of them were pebbles of labradorite, &c., others of fossiliferous limestone, a few isolated fossil Rhynchonellas were also detected. Recent species: several hydrozoa, polyzoa, and marine worms, five large examples of *Ctenodiscus*, and eight species of shells, differing materially from those taken in dredge H. Weather sunny and hot.

Saturday, August 19th. Passed the East Point Lighthouse at 8 a.m. Weather showery, with very little wind. We intended to try and examine to-day the locality in which, according to the chart, the depth is 313 fathoms, but were prevented by the weather. Measured our rope in the morning, and found we had about 575 fathoms. Lashed three heavy weights to the line; the first, with a large swab attached in front, two or three fathoms from the mouth of the dredge, the second, 100 fathoms from the first, and the third 100 fathoms from the second. In the afternoon, (2.45 p.m.) we got Dredge J. Dredge J, off the East Point of Anticosti, bearing S. by W., twenty-four miles distant, 212 fathoms mud, with several large stones. On the swab I found seven specimens of a curious crustacean of the genus *Pycnogonum*, and two or three examples of a brittle star, *Ophiacantha spinulosa*. Temperature on deck, 60° in the shade; in the mud 40°. About twenty species visible to the naked eye were obtained in this haul, but the number of individuals was small when it is considered that the dredge brought up upwards of six buckets full of mud. The microscopic organisms in this and the fol-

lowing haul, were since found to be of unusual interest. At 10.15 p.m., the dredge was thrown over again, in nearly the same place, but in a little deeper water, probably 250 fathoms, and was hauled in a little before midnight. This, the last haul on the *Stella Maris*, is Dredge K. A little mud with a few small stones, came up in the bag; the number of specimens obtained was very small. As the wet rope went over the side of the ship, it was luminous throughout its entire length with electric sparks, but the closest scrutiny with a triplet lens, failed to detect any organic matter among the strands.

Sunday, August 20th. A heavy gale from the north west sprung up a little after midnight, and drove us down to the Magdalen Islands. Anchored in the lee of Bryan Island for shelter at 10 a.m., and remained there all day. A very heavy sea on. Went ashore in the afternoon; noticed several Kittiwakes, Gannets, and two Caspian Terns, near the land. The red sandstone of which Bryan Island is composed appears to be of Lower Carboniferous age.

Monday, August 21st. Tried to beat up towards Gaspé Bay but utterly failed. At 7 in the evening we were almost where we started from.

Tuesday, August 22nd. The gale continued till 1 p.m., and was succeeded by a dead calm, then a favorable breeze springing up, at 11 p.m., we sailed for Gaspé Basin and arrived there the next day at 4.30 p.m. Got on board the S. S. *Gaspé* early on Thursday morning, and arrived in Montreal on the following Sunday.

On *La Canadienne* we had sixteen hauls of the dredge. Of these two were failures, the bag coming up empty: four were in fifty fathoms of water, or less; seven in between fifty and 100 fathoms, and five in from 100 to 200 fathoms.

On the *Stella Maris* we had eleven hauls. Of these, two brought up nothing; one was in less than fifty fathoms; two were between fifty and 100, and six between 100 and 250 fathoms.

PART II.

Provisional Summary of the Zoological Results obtained.

At present only the Echinodermata and Mollusca collected have been carefully studied. The Foraminifera, Polycystinæ, Sponges, Actinozoa, Polyzoa, and Crustacea, have been examined in a somewhat cursory way, but the Hydrozoa and the marine worms are as yet untouched. In the following sketch a complete list is given of the novelties among the Echinoderms and Molluscs, and such notes on the other groups as the time at my disposal for their examination has permitted. For the loan of books of reference, I am indebted to Principal Dawson, and to valuable practical help in the microscopic dissection of many of the species to G. T. Kennedy, B.A.

Foraminifera.

Very large quantities of these beautiful organisms were collected, but not a twentieth of the whole have been examined, even in the most desultory way. Since the publication of Mr. G. M. Dawson's paper on the Canadian species of this group, published in June, 1870, much additional information on the subject has been amassed. Eleven large bagfuls of mud brought up from various localities, at depths of from 100 to 250 fathoms during the past summer, were preserved: only two of which have as yet been partially examined.

Further research does not, so far, confirm Mr. Dawson's theory, that the foraminifera found at depths greater than 100 fathoms "are very small and delicate." Gigantic examples of *Nodosaria*, *Dentalina communis* and *pauperata*, and of a new Marginuline form, armed with spines longer than in most specimens of *Calcarina*, also *Triloculina tricarinata*, var., are frequent in from 150 to 250 fathoms, and are very plainly visible to the naked eye. My experience is, that the arenaceous species are not more plentiful in Gaspé Bay than in any other part of the River or Gulf of the St. Lawrence. In Mr. Dawson's paper, a list is given of 55 sub-species or varietal forms of

foraminifera from the Gulf and River St. Lawrence. Of these I regard a few as too trifling varieties of other species to warrant the application of a distinctive name, and one of them, *Rhabdopleura abyssorum*, I believe to be an annelid tube, having examined the animal in a living state. On the supposition that in 1870 about 50 sub-species, or pretty well characterized varieties were known to inhabit the seas of the Dominion, it is probable that the researches of the past summer will add at least one-third more to the number. The following species seem most characteristic of the deep water of the River and Gulf, to the east of Newfoundland:—

Lagena distoma, type.

Bulimina pyrula.

” *marginata*.

Valvulina Austriaca.

Virgulina squamosa.

Bolivina costata.

” *punctata*.

Triloculina tricarinata.

Polycystinae.

In Principal Dawson's "Handbook of Zoology," two species of this group are recorded as natives of the seas of Canada. The number of species will be now doubled. One of the new forms appears to belong to the genus *Haliomma*, and it would seem that these beautiful organisms are most abundant in very deep water, in not much less than 200 fathoms.

Sponges.

Five or six species of sponge, new to me, were obtained, most of them in deep water. One is *Grantia ciliata*, the first sponge with calcareous spicules, known to inhabit the seas of Canada.

Another belongs to Bowerbank's genus *Polymastia*, and may be a new species, as it does not agree with any yet described. The rest are undetermined.

Hydrozoa.

Many specimens of this group were collected, but they have not yet been examined.

Actinozoa.

No true corals have been discovered in the Gulf of St. Lawrence, or, indeed, north of the State of Massachusetts, on this side of the Atlantic. The so-called "corals" of the charts are calcareous polyzoa.

The two common sea anemones, viz., *Metridium marginatum*, Say, which is probably a variety of the European *Actinoloba dianthus*, Ellis, and *Rhodactinia Daviesii*, Ag., which also seems to be the species known to European authors as *Tealia crassicornis*, occur as abundantly, living in the greatest depths examined, as in very shallow water.

The most interesting discovery made in this group of animals was that of a fine colony of Sea Pens, living in deep water between Anticosti and the south shore of the St. Lawrence. No true Pennatula had hitherto been found either on the east or west coast of North America, and the genus is consequently new to the continent.

These Sea Pens (so called from their curious resemblance to a quill pen) belong to the genus Pennatula, as restricted by the latest writers. The St. Lawrence Pennatula is probably new to science, it is equally distinct from the Mediterranean species, *P. purpurea* of Ellis, the British *Phosphorella phosphorea* and the Norwegian *Ptilella borealis*.

Echinodermata.

The following is a complete list of the deep sea Echinoderms collected:—

Schizaster fragilis. Dub. and Koren. Two living examples.

Calveria hystrix, Wyville Thompson. (Perhaps *Solaster furcifer* of Duben and Koren)

One specimen. I am indebted to Prof. A. Agassiz for the identification of this Asterid.

This is the star fish so called in the proceedings of the Royal Society, Vol. 18, No. 221, page 445, but not the sea urchin to which that name is also given in the same Journal, Vol. 19, No. 125, page 154.

Ctenodiscus crispatus, Duben and Koren. Abundant in deep water everywhere.

Ophioglypha Sarsii, Lutken. Very large and abundant in 25 fathoms.

Ophiacantha spinulosa, Mull. Abundant in 100 to 250 fathoms, as well as in shallow water.

Amphiura Holbollii, Lutken. Not rare in deep water.

Astrophyton Agassizii, Stimps. Two fine specimens in sixty fathoms mud off Thunder River. Hardly a deep sea species.

The few echinoderms yet collected in the deep sea of the gulf are all European species, but two of them are new to America. Many common forms were taken in shallow water.

Annelida.

The series of marine worms collected is interesting and curious in the extreme, and consists of more than twenty species, which, however, have yet to be studied and identified.

Crustacea.

Only a very few of these have yet been examined. No large crabs or lobsters were collected in deep water. The most striking of the deep sea crustaceans are a fine large *Nymphon*, perhaps *N. giganteum* Johnst., a *Pycnogonum* taken in 250 fathoms, which may be Dr. Stimpson's *P. pelagicum*, and among the Amphipods, a fine *Acanthonotus* near to *A. Serratus*.

Polyzoa.

As yet a few of the more conspicuous of these have been submitted to microscopical examination. The number of species new to the seas of the Province of Quebec will probably exceed twenty. Two of the most conspicuous and interesting forms obtained are *Defrancia lucernaria*, Sars, and *Retepora cellulosa*, var., *elongata*, Smitt. Specimens of *Aleyonidium gelatinosum*, Pallas; *Flustra Barleii*? Busk; *Acamarchis plumosa*, *Bicellaria ciliata*, *Crisiaburnea*, *Scrupocellaria scruposa*, *Gemellaria loricata*, and *Idmonea atlantica* have been recognised among the species collected.

Tunicata.

A few of these curious molluscoids were met with, one of which seems to be *Molgula arenosa*, the rest are at present undetermined.

Mollusca.

As I wished to avail myself of the opinion of Mr. J. Gwyn Jeffreys, F.R.S., on the shells collected, during his visit to Montreal, these were carefully studied first. The following species were procured from depths of 100 fathoms and upwards:—

Terebratula septentrionalis, Couth.
Terebratella Spitzbergensis, Dav.
 **Pecten Groenlandicus* Chemn. non Sow.
Arca pectunculoides, Scacchi.
Yoldia thraciceformis, Storer.
 " *lucida*, Loven.
 " *frigida*, Torell.
Dacrydium vitreum, Moll.
Astarte crebricostata, Forbes.
 " *sulcata*, var. minor.
 **Nucula arctica*, Sars.

**Nucula obesa*, Loven.
Cryptodon Gouldii, Philippi.
 **Philine quadrata*, Wood.
Dentalium abyssorum, Sars.
Siphonodentalium vitreum, Sars.
Rissoa scrobiculata, Moller.
Aporrhais occidentalis, Beck.
Eulima stenostoma, Jeffreys.
 **Bela Trevelyana*, Turton.
Buccinum ciliatum, Fab.
Chrysodomus (*Sipho*) *Islandicus*, Chemn.

Those species to which an * is attached were identified by Mr. Jeffreys, who also confirms the correctness of the naming of the rest.

In less than 100 fathoms many interesting species were obtained. Among the rarest of these are the following:—

Terebratella Spitzbergensis, Davidson. Ranges from thirty to 120 fathoms, but is most abundant in shallow water. *T. Labradorensis*, Sow, is a synonym of this species.

Astarte lactea, Brod. and Sow. Living in from thirty to seventy fathoms, in various localities.

Tellina (*Macoma*) new species. In eighty fathoms sand off Moisie Village.

Utriculus hyalinus, Turton. From twenty five fathoms sand, in Trinity Bay.

**Lacuna glacialis*, Moller. Ninety six fathoms sand, in Trinity Bay.

Rissoa (species undetermined). With the preceding.

**Margarita g'auca*, Moller. Thirty fathoms sand, off Sawhill Point.

Odostomia, new species. Seventy fathoms sand, off Moisie Village.

**Chrysodomus* (*Sipho*) *Spitzbergensis*, Reeve: or a new species. Gaspé Bay.

**Chrysodomus* (*Sipho*) *Sarsii*, Jeffreys. In several places, at depths ranging from fifty to ninety fathoms.

Twenty six species of shells, not previously known to inhabit the seas of the Province of Quebec, were collected during the two cruises. Of these, fifteen are new to the continent of America, and out of the fifteen two are new to science.

Fishes.

The only fishes brought up by the dredge were a young specimen each of the Norway Haddock (*Sebastes Norvegicus*), the Wolf fish (*Anarrhicas lupus*), and a small Gurnard of the genus *Agonus*.

When the material collected during the past summer has been carefully examined and studied, it is estimated that nearly 100 species of marine animals will be then known which belong almost exclusively to the deep sea in Canada. In depths of from low water mark down to fifty or sixty fathoms, sea-weeds both large and small are very numerous, and the animal life is abundant and prolific. In the deep sea mud, sea-weeds seem to be very rare, (a few frustules of diatoms were all that were collected), the animals are very different from those of shallow water, and seem to be not so numerous either in individuals or in species. Moreover, the deep sea fauna of the St. Lawrence is more Arctic and Scandinavian in its character than is that of the lesser depths. Those who are interested in the study of the fossils of the Canadian Post Pliocene deposits, will be glad to have an opportunity afforded of comparing them with the recent fauna of the deepest parts of the St. Lawrence.

PART III.

Practical Suggestions and Concluding Remarks.

The food fishes of the St. Lawrence may be divided into two groups, viz., those which feed at the surface, as the herring and mackerel; and those which feed at the bottom, such as the cod, halibut, and all the flat fishes. With regard to the surface feeders, no information about their food was collected. No opportunities were afforded of examining the contents of the stomachs of either mackerel or herrings. Four towing nets were provided with the view of capturing floating animals, but almost nothing was taken in these. No Medusæ and no Pteropods were collected, although considerable attention was paid to the use of these nets, especially when many whales were in sight.

I have examined the contents of the stomachs of more than 500 cod fishes, taken in Gaspé Bay, in many places on the north shore of the St. Lawrence, near the Magdalen Islands, &c. The following list will give an idea of the food of this fish, that which occurs most frequently being placed first. Of course, objects, such as sea anemones, which are entirely soft, cannot be readily identified,

1. Other fishes, such as sand launces, capelin, &c.: I have found a small sea-lamprey in a Cod's stomach.

2. Crabs, of the genus *Hyas* mostly.

3. Squid, at certain seasons.

4. Bivalve shells, especially the following: *Glycymeris siliqua*, *Cardium Islandicum*, *Serripes Groenlandicus*, *Yoldia myalis* and *Limatula*, and occasionally, other species.

5. Brittle stars, very rarely, generally *Ophiopholis aculeata*.

Judging from the contents of its stomach, it would appear that the cod very rarely feeds at greater depths than fifty or sixty fathoms. By dredging, in comparatively shallow water, one can often observe where cod have been feeding, by the presence in the dredge of empty shells of large cockles, which the cod have swallowed while living, and ejected all but the nutritious portions through the mouth. Cod banks, or as the Gaspé fishermen call them, "reefs," are submarine elevations of the bottom of the sea. One of these banks (between Capes Gaspé and Bon Ami) I examined in 1869, and was amazed at the extraordinary numbers of the minute shells of the foraminifera brought up in the sand from the bottom. It may be that in some cases the abundance on the banks of these microscopic creatures, upon which other marine animals feed, may be the primary cause of the presence of cod in such numbers at these places. Farther up the St. Lawrence, opposite Rivière du Loup, Principal Dawson informs me that cod feed largely on shrimps. Cod fishes are infested with parasites, both external and internal. In European seas no less than five species of parasitic crustaceans attach themselves to the outside of cod, but I have only noticed two kinds on cod from the St. Lawrence. Tape worms occurred in the intestinal canal of Gaspé examples of this fish, and nematoid (?) worms were observed encysted on the outside of the livers of cod caught off the St. John's River.

Halibuts and flounders feed largely upon molluscs, both bivalve and univalve, and they may obtain their food in deep water. At any rate flounders from Portland, Me., offered for sale in Montreal, frozen, have their stomachs full of shells of species exactly identical with those dredged in from 100 to 250 fathoms in the St. Lawrence.

In case Americans are allowed to fish in Canadian waters, the custom (said to be practiced by them) of splitting the fish caught at sea and throwing the offal overboard, on the fishing ground, should not be permitted.

A few words on the edible mollusca of the Dominion may not be out of place here. Some of these are found on both sides of the Atlantic, but about one-half are peculiar to the shores of North America. To the first of these groups belong the razor fish (*Solen ensis*); the two "soft shell clams," (*Mya arenaria* and *truncata*), and the common mussel, (*Mytilus edulis*). All of these inhabit the seas of Canada, and are largely used in Europe as articles of food. The whelk of the American shores, (*Buccinum undulatum*, Møller), may be only a variety of the common British species, and the same may be said of the Canadian oyster, of which the specific relations are still obscure. Of the edible species of molluscs found in Canada, but not in Europe, there are few of any economic importance. The two Canadian cockles are too difficult to obtain, the same is true of one of the two native scallops (which, however, is found on both sides of the Atlantic), *Macra polynema* is a little more feasible, but by far the best of all is the large scallop known to naturalists as *Pecten Magellanicus*. This species has everything in its favor as an article of food; it is of large size, specimens often measuring five to six inches in diameter, which prevents it being swallowed by fish; it lives in very shallow water, and is, therefore, easy to obtain; and lastly, it is delicious when cooked. I have eaten cooked examples of *Ceronia deaurata*, a bivalve which is common on the beach in many parts of the Gulf, but it makes a poor substitute for the cockles of the old country.

The dearth and scarcity of oysters in England has led to the formation of companies there, whose object is to import these molluscs from Nova Scotia and New Brunswick. In view of this circumstance, as well as in the interests of our own people, it is of practical importance that endeavors should be made to develop our resources in this direction. I take the liberty of offering a few suggestions on this point. It would be of value, I think, if a series of observations on the temperature of the bottom of the sea in various

parts of the coasts of Nova Scotia and New Brunswick were carefully made, with the latest appliances for that purpose. To these should be added a careful examination of the nature of the bottom, and in various localities, with special reference to the presence or absence of such microscopic vegetable and animal organisms as are known to form the bulk of the food of the oyster. Individuals or companies who might endeavor to make oyster beds artificially, would probably find these observations of value. Encouragement should be afforded to persons engaged in artificial oyster culture, or in making experiments with that end in view, by giving such legal protection to interests of this kind, as is done in Great Britain. It might be well to offer a reward for the best essay on artificial oyster culture in the Gulf of St. Lawrence, with special reference to the varieties best adapted for introduction into our waters. Attempts to acclimatize oysters in the seas of the Province of Quebec would, I think, be impracticable, unless (which is not likely to be the case) places should be found where the mean temperature of the bottom is exceptionally high. The northern limit of the oyster in Canada is the south side of the Bay of Chaleur, and in the north of New Brunswick oysters are usually of small size. The laws of New Brunswick and Nova Scotia with reference to oysters are defective, and require reconsideration and amendment.

In 1869, Principal Dawson dredged wood perforated by a species of ship worm, (probably *Teredo dilatata*, Stimpson,) in Gaspé Bay, and in the same year I dredged a piece of waterlogged wood riddled by and full of a small burrowing crustacean of the genus *Limnoria*, in the same locality. When it is remembered that so many ships have been lost at sea, through the ravages of the ship worm that it has been designated by Linneus the "calamitas navium," and when one reads of the damage done to dockyards in Europe and America, either by the *Limnoria* alone, or by it and the *Teredo*, it behoves us to be on our guard when we learn that these formidable creatures unfortunately inhabit our own shores. Principal Dawson informs me that great damages have already been done to the woodwork of wharves and harbours in Nova Scotia and New Brunswick, by this species of *Teredo*. Mr. Nelson Davis, of Montreal, tells me that the brigantine "Magdala," which was built at St. John, N. B., was completely riddled by this ship worm, some time ago, on her first voyage, from St. John to Liverpool. He kindly shewed me pieces of the timber of this unfortunate vessel, perforated in every direction with the burrows of this species, and containing the valves and pallets in situ. The whole of the ships bottom had to be renewed and covered with copper sheeting before she was again seaworthy.

If it is borne in mind that only five weeks were spent at sea altogether, and that during this time the ordinary duties upon which the schooners were engaged, often did not allow me to dredge, also that frequently, when opportunities were afforded, the weather was unfavorable, and that I was practically alone (so far as scientific help was concerned) nearly all the time; it is hoped that the results, both in a scientific and in a practical point of view, will be such as to be creditable alike to the Dominion Government and to the society which I have the honour of representing.

It may be mentioned that the cost of the outfit, and extra travelling expenses, amounted to about \$130, of which the Natural History Society of Montreal paid \$94 28, and myself the remainder.

My thanks are specially due, and are hereby gratefully acknowledged to Commander Lavoie, M.D., J.P., F. E. Gauthier Esq. B.A., Captain Leblanc and the officers of *La Canadienne*; also to Captain Lachance and the officers of the *Stella Maris*, for their unvarying kindness and valuable assistance to me while on board their vessels; to J. W. Gregory Esq., of Quebec, also to Mr. Joseph Eden, and other friends in Gaspé Basin, for much courtesy shown to me during a fortnight's stay at that picturesque little town.

MONTREAL, December 2th9, 1871.

APPENDIX

RETURN of Fishing Stations, Yield, Value, Number of Men employed, Number of

Divisions.	No. of Men employed.	Value of Boats, Nets, and Material employed.	Gill Nets, Rods.	No. of Scoop Nets.	No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, brls.	Trout, brls.	Herring, brls.
Brockville & Cornwall Division	27	\$ 1,064	340	...	4	2	...	35	...	...
Wolfe Island Division.										
Amherst Island	18	5,620	1,940	...	...	...	...	91	90	...
Pigeon Island	8		1,000	...	...	...	...	50	50	...
Desert Lake	2		80	...	...	...	...	...	3	3
Bear Point	5		600	...	...	...	...	30	30	...
Long Point	6		1,000	...	...	...	...	38	37	...
Barret's Bay	2		...	...	5	...	...	...	...	...
Wolfe Island	2		...	...	2	...	...	...	...	...
North Charity Shoal	5		1,000	...	...	...	...	40	40	...
Grape Island	4		400	...	...	...	...	20	20	...
Catarqui River	6		...	...	22	...	...	...	...	...
Big Island	2		100	...	...	...	...	5	5	...
Simcoe and Snake Islands	4		400	...	...	...	...	25	25	...
Bayfield Bay	2		...	...	4	...	...	...	...	...
P. Edward Division.										
Carrying Place to Salmon Point	69	2,511	4,105	...	2	...	...	171	20	75
Salmon Point to Point Peter	54	4,000	6,900	...	4	...	...	191	104	...
Point Peter to Petticoat Point	27	828	2,020	...	1	...	...	117	25	5
Petticoat Point to Black River	54	4,065	17,600	...	1	...	...	1,375	130	...
Black River to Bongard's Wharf	14	385	1,400	...	...	...	...	108	51	...
Bay of Quinte Division	126	10,000	15,250	...	12	...	...	135	...	2,457
Cobourg Division	35	4,300	3,018	...	...	...	...	40	590	150
Whitby Harbor	5	8,175	800	...	1	...	...	3	4	1
Shoal Point	4		491	...	1	...	...	10	3	2
Frenchman's Bay	11		3,454	...	1	...	...	23	137	1
The Rouge	4		...	...	1	...	...	5	...	...
Port Union	4		364	...	...	...	...	13½	1	...
Gate's Gully	2		509	...	1	...	...	18	14	...
Scarborough	8		3,091	...	1	...	...	34	73	7
Ashbridge's Bay	2		291	...	...	...	...	...	...	...
Toronto Island	10		3,527	...	4	...	...	108½	24	57½
Port Credit	6		1,436	...	1	...	...	2	26½	...
Bronte	5		1,127	...	...	...	...	10	10	...
Burlington Bay	98		3,182	...	15	...	...	63	10½	238½
Wynona	4	9,522	673	...	...	...	...	76	2	5
Jordan	3		145	...	1	...	...	6	...	...
Clinton	2		327	...	...	...	...	15	1	...
Port Dalhousie	2		654	...	1	...	...	3	5	5
Four Mile Creek	6		800	...	2	...	...	11	...	...
Two Mile Creek	4		145	...	1	...	...	23½	...	...
Niagara River	21		1,382	...	5	...	...	52½	5	4
Black Creek	4		...	...	1	...	...	...	...	110
Fort Erie	14		...	...	2	...	...	...	...	2
Port Maitland	2		...	...	2	...	...	...	...	12½
Dunville	20		...	...	9	6	...	...	...	3
Lake Erie.										
Wardell's Bay	8	3,078	691	...	...	...	...	29	...	...
Miller's Bay	5		542	...	...	...	...	32½	...	...
Sandusk Creek	2		145	...	1	...	...	5	...	...
Peacock's Point	4		327	...	...	...	...	14	...	...
Nauticoke	3		167	...	...	...	...	7	...	...
Woodhouse and Walpole.	9		1,054	...	...	...	...	45	...	...
Port Byers	4		436	...	...	...	...	10½	...	...

L.

Nets, and Yards of Gill Nets, in the Province of Ontario, during the year 1871.

Sciaenae, brls.	Maskinonge, brls.	Pike and Bass, brls.	Pickerei, brls.	Coarse fish, brls.	Total No. of Barrels of Fish.	Value.		Total Value.	Where Disposed of.	Remarks.
						Fresh.	Pickled.			
						\$	\$	\$		
.....	132				167	1,434	.....	1,434	Canada & U.S.	
.....					181	1,790	.....	1,790		
.....					100	1,000	.....	1,000	United States.	
.....					6	48	.....	48	Canada.....	
.....					60	600	.....	600	United States.	
.....					75	750	.....	750		
.....				30	30	150	.....	150	"	
.....				12	12	60	.....	60	"	
.....					80	800	.....	800	"	
.....					40	400	.....	400	"	
.....				110	110	550	.....	550	"	
.....					10	100	.....	100	"	
.....					50	500	.....	500	Canada.....	
.....				15	15	75	.....	75	United States.	
.....					266	1,278	575	1,853	Canada.....	
.....					295	1,450	1,500	2,950	Canada & U.S.	
.....					147	661	346	1,007	"	
.....				100	1,605	12,000	640	12,640	"	
.....	50				209	1,671	.....	1,671	United States.	
.....					2,592	825	9,114	9,939	Canada & U.S.	
.....					780	.....	.....	8,450		
.....	10				18	135	.....	135	Canada.....	
.....					15	144	.....	144	"	
.....	1				162	1,617	.....	1,617	"	
.....				2	7	60	.....	60	"	
.....					14½	152	.....	152	"	
.....					33	330	.....	330	"	
.....	10			2	126	1,220	.....	1,220	"	
.....	21				21	210	.....	210	"	
54½	16			57	317½	3,066	.....	3,066	"	
.....					28½	289	.....	289	"	
39					59	594	.....	594	"	
81	17½			57	467½	3,308	1,350	4,658	"	
.....				1	84	840	.....	840	"	
.....				12	18	180	.....	180	"	
.....					16	160	.....	160	"	
5				15	37	275	.....	275	"	
.....				4	15	150	.....	150	"	
.....				21½	54	504	.....	504	"	
.....	8			16	236½	2,354	.....	2,354	"	
.....				2	4	40	.....	40	"	
.....				62½	35	1,080	.....	1,080	United States.	
.....				10	9	224	.....	224	Canada.....	
.....				3	22	250	.....	250	"	
.....					29	290	.....	290	"	
.....					32½	327	.....	327	"	
.....					15	150	.....	150	"	
.....					14	140	.....	140	"	
.....					7	72	.....	72	"	
.....					45	450	.....	450	"	
.....					10½	105	.....	105	"	

RETURN of Fishing Stations, Yield, Value, Number of Men

Divisions.		No. of Men employed.	Value of Boats, Nets, and Material employed.	Gill Nets, Rods.	No. of Scoop Nets.	No. of Seines.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, brls.	Trout, brls.	Herrings, brls.					
Lake Erie.	Normandale and Turkey Point.....	4	6,549	73 109					20		60					
	Turkey Point.....	15							12		31					
	Secord's Bay.....	5														
	Long Point.....	11							4		2					
	Big Creek and Marsh.....	30														
	Port Burwell.....	3							1		10					
	Silver Creek.....	1														
	Port Bruce.....	9									6					
	Port Talbot.....	3							3	13	34					
	Morpeth.....	4							2	1	4					
	Gosfield.....	4								2	14					
	Sturgeon Creek.....	3								1	16					
	South Bay, Point Pelee Island.....	3								1	17					
	Point Pelee.....	6								4	50					
Mersea.....	6		4	31½												
Detroit River.	Belle Isle.....	24	21,850			12			70							
	Peach Island.....	6							3	30						
	Peach Point.....	12							6	19						
	Fighting Island.....	86							14	700						
	Bois Blanc Island.....	6							2	10						
	Grass Island.....	6							2	8						
	Turkey Island.....	9							3	12						
Detroit River.....	65		26		550											
Thames, Sydenham, and St. Clair Rivers.....		99	2,122		14	20										
Lake Huron.	Sarnia to Goderich.....															
	Port Elgin.....	3										545		30	50	
	Southampton.....	9										2,326	105	195		
	Jack Island.....	2										101	4		30	
	Kincardine.....	23										5,565	225	440		
	White Fish Island.....	15										675			360	
	Gigar Island.....	8										985			250	
	Main Station.....	19										4,574			376	
	Snake Island.....	5										308	127	177	170	
	Big Island.....	15										2,425			98	
	Burke's Island.....	18										2,324	37	280	240	
	Rowan's Island.....	3										230	90	80	50	
	River au Sable.....	23										2,968		17	86	687
	Red Bay.....	6										1,527		32	68	240
Georgian Bay.	Duncan's Bay.....	2	4,300													
	Lion's Head.....	4										145		10		
	Colpoys Bay.....	4										1,454		60		
	Vail's Point.....	2										182		15		
	Cape Rich.....	2										727				
	Meaford.....	10										4,545	40	40		
	Thornbury.....	2										727	200	200		
	Collingwood.....	8										2,909	30	25		
	Notawassaga River.....	12										3,636	100	75		
	Penetanguishene.....	3										1,273	125	175		
Lake Simcoe and Tributaries.	2		1,091		40	30										
Scugog, Sturgeon, and Balsam Lakes.....	26	497	245		1		6	4		15						

employed, &c., in the Province of Ontario, 1871.—*Continued.*

Sciacos, brls.	Maskinonge, brls.	Pike and Baas, brls.	Pickerel, brls.	Coarse fish, brls.	Total No. of Barrels of Fish.	Value.		Total Value.	Where Disposed of.	Remarks.
						Fresh.	Pickled.			
						\$	\$	\$		
	10	30	90	210	1,700			1,700	Canada	
		38	45	126	1,100			1,100	"	
		7	12	19	140			140	"	
		10	19½	34½	274			274	"	
		20	20	20	200			200	"	
		20	5	35½	336			336	"	
			8	14	140			140	"	
		35	26	108	1,068			1,068	"	
		10	2	16	152			152	"	
		10	35	50	156			315	United States.	
				14	140			140	"	
				16	160			160	"	
				17	171			171	"	
				50	354		135	489	"	
				31½	315			315	"	
				70	700			700		Returns incomplete.
				30	300			300	United States.	
				19	190			190	"	
				700	7,000			7,000		Returns incomplete.
				10	100			100	United States.	
				8	97			97	"	
				12	296			196	"	
				550	4,880			4,880	"	
					8,065			8,065	"	Pickerel, bass, mullet, suckers, and sunfish, were taken, but quantities not specified.
				80	535			535	United States.	No returns.
				300	1,806			1,806	"	
				24			104	104	Canada	
				665	4,315			4,315	United States.	
				360			1,440	1,440	Canada	
				250			1,000	1,000	"	
				680			3,669	3,669	"	
				170			680	680	"	
				415			2,520	2,520	"	
				410			2,125	2,125	"	
				50			225	225	"	
				790			3,564	3,564	"	
				340			1,584	1,584	"	
				10			50	50	"	
				60			300	300	"	
				15			75	75	"	
				80			480	480	"	
				400			2,000	2,000	Canada & U.S.	
				55			300	300	Canada	
				175			1,000	1,000	"	
				300			1,500	1,500	Canada & U.S.	
				70			175	350	Canada	
				10			25	50	"	
		0½		105½			1,214	1,214	"	
100	20			120	520	400		920	"	

RETURN of Fishing Stations, Yield, Value, Number of Men

Divisions.	No. of Men employed.	Value of Boats, Nets, and Material employed.	Gill Nets, Rods.	No. of Scoop Nets.	No. of Snares.	No. of Hoop Nets.	No. of Pound Nets.	White Fish, brls.	Trout, brls.	Herrings, brls.
Lake Huron.	French River	8	9					50	25	.....
	Point Grondine	7	7½					60	30	.....
	Shawanaga	18	18					80	40	.....
	Shishewaning and Cockburn Islands	35	56					288	160	.....
	Honora Bay	53	82					315	175	.....
	Lonely and Horse Islands	100	109					921	512	.....
	Byng Inlet	4	7					48	27	.....
	Christian Islands	10	36½					257	143	.....
	Mink Island	3	6					32	18	.....
	Gore Bay	6	11					225	125	.....
	Grand Ducks and Green Island	30	145½					900	500	.....
	Big Channel	10	22					257	143	.....
	Portage Bay	4	8					128	72	.....
	Yeo Island & Providence Bay	25	37					322	178	.....
	Thebo Island	15	22					193	107	.....
	South Bay	10	15					161	89	.....
	Cove Island	16	26					289	161	.....
	Collin's Inlet	2	2							.....
	For Islands	6	11					64	36	.....
	Bustard and French River	4	5					32	18	.....
	Killarney	14	11					161	89	.....
	Fraser's Bay	2	2					32	18	.....
	La Cloche	2	4					16	9	.....
	Spanish River	5	6					64	36	.....
	John's Island	3	8					64	36	.....
	Serpent River	6	9					96	54	.....
	Algoma Mills	6	11					96	54	.....
	Thessalon River	15	22					257	143	.....
Lake Superior.	St. Mary's Rapid	6		6				76		.....
	Gros Cap	3						52		.....
	Goulais Bay	2							70	.....
	Lizard Island	6						350	150	.....
	Dog River	7			2				62	.....
	Michipicoton Island	14						350	200	.....
	Echo Lake	4								.....
	Pic Island	12	10,131	16,000					80	.....
	Pays Plat	46						615	65	.....
	Grand Shaganash	8							170	.....
	Little	6							49	.....
	Thunder Bay	18						361		.....
	Point Meuron	4			1			16		.....
	Roche de Bout	6						80		.....
	Fort William	4			1			154		.....
Totals	1,959	127,398	116,737½	29	181	55	12	13,317	7,477	5,875½

employed, &c., in the Province of Ontario, 1871.—*Continued.*

Sciscon, brls.	Maskinonge, brls.	Pike and Bass, brls.	Pickereel, brls.	Coarse fish, brls.	Total No. of Barrels of Fish.	Value.		Total Value.	Where Disposed of.	Remarks.
						Fresh.	Pickled.			
						¢	\$	\$		
.....	75	.....	450	450	Canada.....	
.....	90	.....	540	540	"	
.....	120	.....	720	720	"	
.....	448	.....	2,688	2,688	"	
.....	490	.....	2,940	2,940	"	
.....	1,433	.....	8,598	8,598	"	
.....	73	.....	450	450	"	
.....	400	.....	2,400	2,400	"	
.....	50	.....	300	300	"	
.....	350	.....	2,100	2,100	"	
.....	1,400	.....	8,400	8,400	"	
.....	400	.....	2,400	2,400	"	
.....	200	.....	1,200	1,200	"	
.....	500	.....	3,000	3,000	"	
.....	300	.....	1,800	1,800	"	
.....	250	.....	1,500	1,500	"	
.....	450	.....	2,700	2,700	"	
.....	20	.....	20	.....	100	100	"	
.....	100	.....	600	600	"	
.....	50	.....	300	300	"	
.....	250	.....	1,500	1,500	"	
.....	50	.....	300	300	"	
.....	25	150	.....	150	"	
.....	100	600	.....	600	"	
.....	100	.....	600	600	"	
.....	150	.....	900	900	"	
.....	150	.....	900	900	"	
.....	400	.....	2,400	2,400	"	
.....	76	.....	468	468	Canada.....	
.....	52	.....	312	312	"	
.....	70	.....	280	280	"	
.....	500	.....	2,000	2,000	"	
.....	62	.....	350	350	"	
.....	550	.....	3,300	3,300	"	
.....	160	.....	160	.....	840	840	United States.	
.....	80	.....	320	320	Canada.....	
.....	680	3,075	355	3,430	"	
.....	170	.....	950	950	"	
.....	49	.....	205	205	"	
.....	361	.....	2,166	2,166	"	
.....	16	.....	96	96	"	
.....	80	.....	480	480	"	
.....	154	.....	924	924	"	
179½	110	295	521	785½	28,560½	88,721	96,353	193,524		

APPENDIX M.

SYNOPSIS OF FISHERY OVERSEERS' AND GUARDIANS' REPORTS IN THE PROVINCE OF ONTARIO FOR THE SEASON OF 1871.

BROCKVILLE AND CORNWALL DIVISION.

JOHN MOONEY, *Overseer*.
JOHN WALLACE, }
HENRY HUNT, } *Guardians*.

Mr. Mooney states that there has been a greater quantity of fish than usual caught his season within this district, and that the fishing is already much improved in other respects. Such improvement is ascribed to a better observance of the fishery laws.

Messrs. Wallace and Hunt, attend more particularly to the fishing carried on around Larue and Lindoe Islands, below Kingston. Mostly all the fish caught there are used for domestic purposes.

NEWCASTLE AND COBOURG DIVISIONS.

SAMUEL WILMOT, *Fishery Officer*.
JAS. K. CAMERON, *Overseer*.

Mr. Wilmot has charge of the Government Fish Breeding Establishment, at Newcastle. A special report of his operations will be found in Appendix I.

Mr. Cameron, whose limits extend from Cobourg to Brighton, reports that fishing was good in the spring but decreased during the summer months. Herring is apparently on the increase but white fish are becoming scarcer, only forty barrels being caught this year against 500 in 1870. Boisterous weather accounts for this failure. One fisherman lost all his nets, and boats, and narrowly escaped being drowned, while endeavouring to continue his fishing throughout the stormy weather.

PRINCE EDWARD COUNTY DIVISION.

JOHN G. HICKS, }
WM. PLEWS, }
W. A. PALEN, } *Overseers*.
PETER HUFF, Jr. }
JOSEPH PIERSON, }

This has been a very good season for fishermen and their fishing operations have been usually successful. The white fish fishery has yielded nearly a third more fish than last season, and 330 barrels trout were caught against 54 barrels in 1870. The herring fishery has fallen off about one half as compared with last year. The total value of the yield of fish in this division exceeds \$20,000, being about one quarter in excess of last year. The benefits of protection are generally appreciated.

BAY OF QUINTE DIVISION.

CHARLES WILKINS, *Overseer.*

Last year a great drawback was experienced by the fishermen, owing to the prevalent high winds and tempestuous weather. The present year has been much more favorable for fishing, and the quantity of herring taken was double that of last year, being about 2,457 barrels. There has been a decrease, however, in the yield of whitefish as compared with 1870. Considerable quantities of coarse fish have been taken during both winter and summer, and shipped to the United States, amounting to upwards of \$1,000 worth. The fishways in course of construction in 1870, on the Salmon and Moira Rivers, have nearly all been completed. The lakes in the county of Hastings in which large quantities of fish have been taken and secretly sent to the American markets where they command high prices, have been visited by Mr. Wilkins, and steps are being taken to put a stop to the destructive practices which are resorted to in order to sustain this traffic.

WOLFE AND AMHERST ISLANDS.

P. KIEL, *Overseer.*

Owing to the destruction of nets, &c., by the storms of last fall, many who had fished for years did not resume fishing, and on the whole the results of the fishery operations in this division have not been half so successful as last year. By reference to Appendix K it will be seen that only 767 barrels of fish were taken within Mr. Kiel's limits, while in 1870, 1,757 barrels were caught. The value of last year's yield was about \$13,000 while it only amounts to about \$7,000, this season. The very low price of the market militated considerably against the fishermen. Moreover white-fish did not as usual enter the bays or inlets of the islands, or coast of this division this fall, so that very few were taken. They were in abundance around the Duck Islands during summer, one fish dealer having exported to the American market 60,000 white-fish during the quarter ended 1st September. Salmon Trout being solitary in their habits are not taken in any great quantity except during the month of October. Mr. Kiel visited the fishery stations throughout his division several times during the year, and reports that the law is well observed, and the benefits of protection generally felt.

ERIE, NIAGARA AND PART OF LAKE ONTARIO DIVISION.

J. W. KERR, *Overseer.*

This large and important division extends from Whitby Harbor on Lake Ontario, to Long Point on Lake Erie: a distance of over 200 miles of lake shores. For greater clearness the tabular returns shewing the yield and value of fishing stations in these limits have been divided into five separate districts:—

- | | |
|------|--------------------------------|
| 1st. | From Whitby Harbor to Bronte; |
| 2nd. | „ Bronte „ Port Dalhousie; |
| 3rd. | „ Port Dalhousie „ Queenstown; |
| 4th. | „ Queenstown „ Port Ryerse; |
| 5th. | „ Port Ryerse „ Long Point. |

The local Fishery Overseer submits the following report on the state and improvement of fisheries in his division during the past season :—

"The first division, from Whitby Harbor to the village of Bronte, Lake Ontario, comprises the following salmon streams :—Lynn's or Lyon's, Duffin's, Highland and Twelve Miles Creeks, the Rouge and Credit Rivers, (all set apart for the natural and artificial propagation of fish in the year 1870,) and the Humber River. During the latter part of October and the beginning of November, Duffin's Creek was frequented by about one hundred salmon. The salmon beds in this stream number twenty one, and on two occasions, eggs were taken therefrom and impregnated in the usual way by Mr. Wilmot, who has charge of the Government Fish Breeding Establishment at Newcastle, where these eggs are laid down in the hatching boxes. Of the above stated number only three salmon were reported to have been carried away from Duffin's Creek, and the success of this ill advised and illegal poaching was undoubtedly due to the gross carelessness of the local fishery guardian. I feel under great obligation to Mr. Moses Smith, millowner, on Duffin's Creek, for his assistance in protecting the stream during October and November."

"A few salmon were seen by the guardian in Lynd's Creek, where good spawning beds are also met with."

"In the Rouge there are six spawning beds, but no fish were observed by the guardian there. Besides a local guardian engaged for this stream, I am under obligations for the kind assistance rendered by Messrs. W. Cowan, and R. W. Crew."

"Very few salmon were seen in Highland Creek. A large fish (a female) weighing twenty pounds and full of spawn was found dead in the fall, having evidently been killed in a timber jam."

"Some salmon were also observed by the local guardians in the Credit River and Twelve Miles Creek."

"These facts conclusively show to my mind, that salmon is again resorting to our Ontario waters; and that we may reasonably expect that in a few years, should the fish-breeding experiments begun at Newcastle be continued as successfully as heretofore, they will again have become as plentiful as in days past."

"I commenced last season enforcing the clauses of the *Fisheries Act* relating to saw-dust and mill rubbish on the upper branches of the Credit River, and in this work I was ably aided by Mr. Higgins, whom I engaged as guardian to protect the speckled trout ponds and small inland lakes of that locality. This became essential because of the wanton destruction heretofore perpetrated during close seasons against this delicious fish when they were caught by thousands through the ice. The printed notices sent me by the Department respecting the closed time for speckled trout, were circulated through that neighborhood last fall, and had a beneficial and desired effect. There were caught in the head waters of the River Credit during the present season about 2,500 pounds weight of speckled trout, worth about thirty cents a pound; say twelve and a half barrels, at \$60—equal to \$750."

"The catch of herring was a success in that part of my division between Whitby Harbor and Queenstown, on the Niagara River, during the fall of the year, the fish being of a superior quality, and in larger numbers than usual. The mesh of gill nets used in taking these fish was two years ago with the sanction of the Department somewhat increased in size, which may have had a tendency to produce this successful result."

"The whitefish seining at Niagara last fall was a complete failure, the fish having mostly all passed before seine hauling began there. No other reason can be given for this change than the mild warm weather which set in early in the spring and ripened the particular plants on which these fish feed, at an earlier date than usual. These being carried by the current of the Niagara River further out than usual in the lake and amongst the whitefish, prevented them from coming into the river at all, or on the seine hauling grounds, as was their wont to do in previous seasons. Mr. Thomas Elliott, licensee of the river fishing at Niagara, was, however, more successful during the fall in

"whitefish seining. I had asked him to procure me some spawn; but the fish that he caught up to the close time, the 20th November, had all spawned. Stormy weather intervening, the whitefish instantly left the river and betook itself to the outside deep water, which it invariably does on all stormy occasions; and although Mr. Elliott continued seining for herring, he caught no whitefish afterwards, except an odd one occasionally with the herring."

"Gill-net fishing for whitefish, although a fair catch in some places of this division, was by no means so large as everyone was led to expect in the beginning of the season; prevailing winds from wrong points being the reason of comparative failure. When, for instance, the wind blows heavily from the west, no fish are caught at the mouth of the Niagara River, nor is it safe to set gill-nets there at all. A good deal of gill-net fishing is carried on in American waters by our Niagara fishermen. All the fish caught are invariably landed by them in Niagara. The fishing at Fort Erie has been very much damaged by the building of the International Bridge, whereby the catch of fish dropped off considerably during the past two years. At the Old Fort, however, an extensive hook-and-line fishing is carried on during the winter season for pickerel, and farther on in the year for sturgeon. These fish are mostly disposed of in Buffalo."

"The fishing carried on for rough fish at Dunnville and Port Maitland was not so good as last year. The reason of this failure may be attributed to the low state of the water in Grand River."

"The catch of whitefish by gill-nets in Lake Erie, was not quite so good this fall as last; the reason of this decrease being found in the stormy weather which drove the fish away into deep water. I was compelled to put the law in force against several fishermen at Turkey and Long Points, and Big Creek, Lake Erie, last April for catching pickerel during close season. In this I was ably assisted by several of the people who gave me every possible aid in the performance of my duties. The details of fishing in the rest of my division comprised between Long Point and Port Talbot, on Lake Erie, will be found in the statistics annexed to this report."

"The total value of all fish caught by fishermen in this division during the past season is about \$3,655 less than last year. This is altogether to be attributed to unfavorable, stormy and boisterous weather, as for many years past there never was a better class of choice fish, nor a greater abundance of them in our waters."

"Cisco fishing has been greatly on the increase during the last seven years; a few years previous to this, these fish were unknown in Lake Ontario."

"Now with reference to the waters of Burlington Bay and the salmon rivers to which I have above alluded, I would submit that certain portions be determined on and set apart to be fished during one month of the year, in spring time, for pike with gill-nets. Besides being a boon to the fishermen of Lake Ontario, who will duly appreciate this permission, I am urged in making this suggestion by a desire to diminish the number of these fish as much as possible, in view of having the creeks on Lake Ontario and Burlington Bay restocked with salmon fry from the Government Fish Breeding Establishment at Newcastle. I shall require this season about 200,000 salmon fry to restock the rivers in every division in Lake Ontario, which I expect to be allowed to procure from the Government Fish Breeding Establishment. The River Credit is now free from sawdust. From Shaw's Lake and other small lakes and ponds in the Township of Caledon, I can procure and get in proper season a supply of speckled trout for restocking the spring water creeks and streams in the Ottawa district. We have these delicious fish here in great abundance, and good care is taken of them."

"There are at present four speckled trout breeding establishments in my division; one at Galt, one at Hillsburgh, and two near the village of Hillsburgh. In Mr. Lacey's establishment, at Hillsburg, there are about 8,000 trout, besides eggs and fry. Messrs. Willis and Hull, near the village of Erin, have each a small breeding establishment containing about 5,000 fish between them. The Galt establishment belonging to Messrs. Brown, Burnett & Allan has about 1,000 parent fish besides several thousands of young ones hatched during the past two years. I would respectfully submit and recommend

"that encouragement of some kind be given to fish breeders, so as to have fish ova and fry become a commodity for sale in our markets in the same manner as eggs and chickens. Scientific attention and study of this branch of industry will overcome the obstacles now presenting themselves as barriers to advancement and success."

"In conclusion, I am happy to state that the fishermen of my district seem to be in more comfortable circumstances, and fish are more plentiful than when I took charge of this division seven years ago; and that the law being better known and appreciated is more cheerfully and regularly complied with."

DETROIT RIVER AND LAKE ERIE DIVISION.

P. MARENTETTE, *Overseer.*

This has been a very favorable year to the fishermen in this division, the catch of white-fish being on the whole somewhat in excess of that of last year. The license fees received this season amounted to upwards of \$1,000. The law is generally observed.

SYDENHAM DIVISION.

F. McRAE, *Overseer.*

The details of fishing in this division, together with the value of fish caught &c., will be found in *Appendix L*. In addition to the issuing of fishery licenses to parties fishing on the St. Clair and Sydenham Rivers, and the preventing of foreigners from fishing in Canadian waters, this officer has notified millowners to build proper and efficient fish passes on the Sydenham River. He reports compliance with the law in this respect, and a general improvement in the fisheries of his division.

LAKE AND RIVER ST. CLAIR DIVISION.

S. A. MACVICAR, *Overseer.*

No returns were received from this officer either for 1870 or 1871.

SAUGEEN DIVISION.

JOHN EASTWOOD, *Overseer.*

The fisheries on that part of the coast of Lake Huron, extending from Goderich to Cape Hurd, have this year been to a great extent a failure, many of the fishermen having barely paid expenses besides having lost heavily in their nets being severely damaged, by the continuous rough weather, which also prevented any successful fishing. There were only 4,500 barrels of fish caught this season, being a decrease of about 1,600 barrels as compared with the yield of 1870. The decrease in the value of the fisheries amounts to the large sum of \$15,000.

INDIAN PENINSULA DIVISION.

GEORGE S. MILLER, *Overseer*.

This officer reports :—"The fishermen complain that this season's catch has been the most unsuccessful for a number of years, and the cause may be partly attributed to the very rough weather experienced during the fall of 1870, when many of the fishermen lost a large quantity of nets, which being full of dead fish have kept the white fish from their spawning grounds. Only 1,205 barrels of whitefish were taken with about 90,000 yards of gill nets. Owing to the boisterous weather one man was drowned."

LAKE HURON AND GEORGIAN BAY DIVISION.

WILLIAM PLUMMER, *Overseer*.

The fishing operations carried on the past season have been very successful, the total increase in all kinds of fish caught being about 1,600 barrels, and the value about \$10,000 in excess of that of last year. The money paid for licenses in this division amounts to \$450.

LAKE SUPERIOR DIVISION.

JOSEPH WILSON, *Overseer*.

This overseer reports as follows :—"I have visited all the stations at least once during the year, and when necessary more frequently. No cases of infractions of the fishery laws have come before me. I have issued twenty-three season licenses, being a decrease of eight as compared with last year. A good example has been shown by Mr. Griffiths, on Michipicoton Island, as well as by Messrs. Sharman, and Roussain, on Lizard Island, in the erection of permanent buildings. The latter fishery is the best arranged in my division. Mr. Griffiths is wintering his men on the Island, which will enable them to take advantage of the late fall and early spring fishing. A practice exists among the fishermen of leaving their nets three or four days in the water without lifting them, by which time (especially in the summer) a number of fish have begun to decay, and as a general rule these are thrown into the water or salted with sound fish, thus spoiling the whole barrel. The fishermen are not interested as they all fish on contract, the licensees furnishing the barrels and salt. To obviate this evil I would suggest that a regulation be made, to the effect that no nets remain longer than two days in the water without being lifted, except from stress of weather. The white-fish at the St. Mary's River Rapids, are decreasing annually, while on the American side they continue to be as numerous as ever. This is strange as on the American side the offal is all cast into the river, while on the Canadian side it is not. The Indians give as a reason that the fish go to the American side to feed on the offal. Of this I have not any proof; on the contrary from my own observation I am satisfied that white-fish live on a small shell fish, but at the spawning season they eat their own spawn. The close season for speckled trout having been extended to the first of May, continues to show good results in this neighbourhood. There has been a falling off in the yield of white-fish and trout as compared with that of 1870, being a decrease in the former of 600 barrels and of the latter of above 2,000 barrels."

SIMCOE AND PETERBORO DIVISIONS.

ALEX : MCKENZIE, WM. H. SHIPMAN, JAMES BIRD,	}	<i>Overseers.</i>
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Some of the fishermen of Lake Simcoe found employment on the Railway and did not fish ; otherwise, judging from the success of actual fishermen, the catch would have greatly exceeded that of last year. Poaching which has been carried on for years has been effectually stopped, owing to the activity of the Overseer Mr. McKenzie ; several convictions of violation of the fishery laws, were made, and fines imposed upon the offenders. The value of the yield of Sengog, Sturgeon, and Balsam Lakes, which consist chiefly of Maskinonge and Bass, was about \$1,000. Mr. Bird, who has charge of the lakes in Peterboro County, states that these fisheries are gradually increasing in commercial importance, the catch by trolling being greater than in 1870.

APPENDIX N.

REPORT OF W. H. VENNING, ESQ., INSPECTOR OF FISHERIES FOR NOVA SCOTIA AND NEW BRUNSWICK.

TO THE HON. P. MITCHELL,
Minister of Marine and Fisheries.

SIR,—In presenting my Annual Report on the Fisheries of Nova Scotia and New Brunswick, for the year 1871, I am happy to state that the reports and returns of the local officers of both Provinces continue to show a steady improvement in this important branch of industry.

While your department was being organized in the winter of 1868, the fishermen of Nova Scotia were suffering from want, consequent upon the almost total failure of the fisheries during the summer and autumn of that year, and subscriptions were being raised in almost all parts of the Dominion to alleviate their destitution.

During the summer of 1869, the machinery necessary to the working of the new Fishery Law was first set in motion, and since that time neither poverty nor suffering has been known among the hardy and industrious class who pursue the fisheries as a means of livelihood; a constant and steady increase has marked the returns, until during the past season, they sum up to the handsome total of \$5,103,000.

The increase has been more marked in Nova Scotia than in the sister Province, owing no doubt to the return of all kinds of sea-fish to the Nova Scotia shores, consequent upon the opening up of the numerous rivers which had been rendered impassable by dams in which no fish-ways had been provided, and which had for years shut out the several species of migratory fishes from their accustomed spawning grounds, and thus had prevented them from propagating their kinds in their old nurseries; the myriads of young fry, on their descent to the sea, furnishing abundance of food and attracting deep sea fishes into the bays and indentations for which these shores are so remarkable.

The feeling of hostility to the new law which was at first so generally manifested, and which rendered the duties of Fishery Officers so onerous and disagreeable, has, I am happy to say, almost disappeared, and lingers only in some localities where the inhabitants are not sufficiently intelligent to appreciate the benefits of that protection which is the main object of the law. In almost all counties of both Provinces, the inhabitants generally, as well as the fishermen themselves, begin to perceive that the law is for their own benefit, and that its enforcement has been attended with the best results. This improved state of public opinion will greatly aid the officers in the performance of their duties, and we may reasonably hope that the results of the past four years will continue to be seen in future, and that our fisheries will, ere long, prove to be one of the foremost, if not the most prominent of the resources of our country.

In *Restigouche County* the catch during the last season has been smaller than usual; but this falling off is to be accounted for by heavy freshets and a late spring. The Overseers report an increased number of fish going up the river, but the causes above mentioned have operated to prevent the fishermen profiting by this increase. Cod, mackerel, and herring fishing has not been followed as extensively as in former years; large numbers of men who used to pursue these fisheries found more remunerative employment on the Intercolonial Railroad, now being built adjacent to the coast of that county, and high wages with steady employment seduced them from their accustomed avocation. This will account for the small returns from that locality. Anglers on the *Restigouche River* and its tributaries, were very successful during the summer, as regards both numbers and weight of fish. The leases expired with the season. It is most desirable that in re-letting, attention should be given to securing as lessees, gentlemen

who would strive to promote the policy of protection of the fish and contribute to that object. Mere increase of rental, though to be desired, is of secondary importance as compared with the advantages which the public derive from the protection which sportsmen afford who will really take the trouble and bear the outlay to guard our salmon rivers. Netting on the New Brunswick side of the river is still excessive, compared with that on the Quebec side. It is desirable to reduce it as soon as can conveniently be done, and I would recommend the prohibition of all nets from the islands, middle lands and shoals at the head of the tide.

In *Gloucester County* the same causes have operated to produce the same result—a comparatively small catch for the season, as regards deep sea fishing, but Overseer Savoy, in his report, says:—"I am happy to note that our river fisheries have been successful, somewhat above the average of other years. The catch of gaspereau has been good. Our trout fishing is improving rapidly; the main Tracadie River is becoming quite a resort for anglers, and with the protection now afforded bids fair soon to rival the famous Tabusintac, or any other trout river in the Province. Salmon fishing has yielded about an average return. As regards deep sea fishing, I cannot report so favorably. Codfishing was somewhat below the average, and owing to the continuance of boisterous weather on the coast in August and September, herring fishing was very little better than a failure. I am happy, nevertheless, to note that the loss of life was insignificant, compared with former rough seasons; our fishermen say this was due to the efficient manner in which Escuminac and Miramichi entrances have been lighted by the Marine Department. The erection of beacon lights at Tracadie Big Gully would be a great boon to fishermen engaged on the banks between Miscou and Neguac, for while they would make life more secure, they would enable the fishermen to remain longer on the banks and catch more fish. At present they have to run for shelter in day time on the slightest appearance of stormy weather, which often turns out to be a sea breeze, but which causes much loss of time. Tracadie Gully is the safest shelter between Miscou and Miramichi, and with beacon lights would be a safe retreat to enter night or day."

Overseer Hickson reports that not so many salmon have been caught on the Nipisiquit as usual, owing to a large number of men having been employed on the river, quarrying stone for the railway bridges. These men offer a safe and ready market to poachers, and render it difficult to protect the river. Number One division was this season worthless to the lessee in consequence of the quarrying operations. A number of Indians were convicted for spearing, but immediately disappeared. I did not open the salmon pass on Tete-à-gauche River until late in the season, when the fall rains had swollen the river. By this means large numbers of fish passed up safely. The funds at my disposal are altogether insufficient to give this river the necessary protection. The coast and sea fisheries have not been so productive as usual; fewer persons were engaged in them; the high price given for men and horses on the railway works offered great inducements to engage in that employment, and the same cause has made the cost of protecting both coast and river fisheries greatly to exceed that of former years, and to be largely in excess of the allowance for that purpose."

In *Northumberland County* the several Overseers report a small catch of all kinds of fish, and attribute it to an unfavorable spring. The herring fishing was not pursued to as great an extent as formerly. Overseer Parley thinks the small catch of salmon in the main river was owing to excessive netting at the mouth, which prevented the fish from entering the river. He reports a light catch of gaspereau, but thinks this fish is increasing, as also are bass, but for several years the shad fishing has failed entirely. Overseer Hogan, writes to the same effect, but adds that a fine run of salmon ascended the river after the fishing season closed. He also reports an increase in the take of bass, and the fishing has been profitable. Large quantities of this fish and of smelt are sent in a frozen state to the United States, where they bring good prices. Overseer Parker reports that after the nets were taken up at the mouth of the river, a very large run of salmon ascended the south-west branch, Overseer Cameron writes that he has not known so large a number of salmon in the river above Boiestown for the last ten years, and he adds

that there has been comparatively little poaching in his district. I would again urge the necessity of making some regulations for Portage Island, as the present excessive netting at the mouth is no doubt the cause of the falling off in the fisheries of both branches of this important river.

In *Kent County* the returns show a large increase, although many who formerly pursued fishing for a livelihood, found last season, more remunerative employment on the railway works. Overseer Sutherland reports that alewives have been plentiful, and the catch has been much better than during the previous season. A large business has been done in trout and smelts, which are sent in a frozen state to the United States markets. A lucrative business, and one on a large scale comparatively new to this county, has been commenced in the canning of lobsters by the process of hermetical sealing. Large quantities have been put up by two new establishments, and preparations are being made for the erection of two others, which will have the effect of largely increasing the fishery business of this county. The supply of this shell-fish is unlimited, and great facilities are presented for the prosecution of the business. Overseer Cormier reports that the salmon fishery has considerably increased. He writes that from the best accounts he has been able to obtain, there has been an increase of about one fourth over the quantity caught the previous season, and the fishermen got an advance of ten cents on every salmon sold. Cod fish were also increasing both in quantity and quality, but the herring fishing has not been so good as during the previous season. Mackerel have been larger and more plentiful than formerly. Oysters have increased since the enforcement of the close time, but the restoration of this fishery will require the introduction of the system of culture adopted in other countries.

In *Westmoreland County*, since the almost total destruction of the once valuable oyster fisheries of Shediac Harbor, the principal fishing carried on has been that for shad at the head of the Bay of Fundy, and in Dorchester Bay, at the mouths of the Memramcook and Petitcodiac Rivers. The Overseers report about an average catch, but the size and quality of the fish are improving since the enforcement of the regulation requiring the nets to be four and a-half inches in the mesh. Salmon, alewives, trout, smelts and frost fish were, for many years completely shut out of the Shediac and its branches by an old and useless dam near its mouth; but the opening of a passage through it has allowed them to ascend the main river and its affluents, and there is now every prospect of this river becoming again a valuable nursery for these fish, and a source of sustenance to the settlers on its banks, and of those on its tributary streams. Salmon increase but slowly in the Petitcodiac and its tributaries; and I regret that the measure from which I anticipated such good results—viz: the setting of it apart for natural propagation has not been more successful. The great importance of restoring this river, the only one at the head of the Bay of Fundy to which salmon now resort to spawn, does not seem to be properly appreciated by the residents along its course, as I have reason to believe, that notwithstanding the best efforts of the officers, it has been constantly and persistently poached, and I almost despair of seeing it restored. This want of intelligence, utter carelessness of their best interests, and persistent violation of the law on the part of those who reside on the banks of this river and its affluents, are much to be regretted.

In *Albert County* the fishing season was a good one, the returns shewing considerable increase over those of the previous year. Overseer Alcorn informs me "that the past season has been one of much prosperity; the net fishing was above the average, both in quantity and quality. In Germantown Lake salmon are increasing, and gaspereau now ascend to it in large numbers since the abolition of the weir formerly at the mouth of the stream flowing from it. The salmon caught at the mouth of this stream were very large, some weighing from twenty-five to thirty pounds. The heavy rains in the fall served as a protection, the river being too much swollen to enable the poachers to capture them, and in October and November the spawning beds were well stocked. An excellent fish-pass has been put in the dam over Point Wolf River; salmon were seen above it in October, and there is every hope that this fine stream will be restored. The pro-

prietor of the mill, Mr. Vernon, is much interested in the result, and will give his assistance in protecting the fish. Upper Salmon River is improving somewhat, but the great facilities this river offers for poaching retard a rapid increase. The appointment of Mr. Cornier as Warden, with special instructions to prevent the deposition of gurry on the shad grounds, has already been attended with good effects, and I anticipate still better results in future. The only serious difficulty our fishery now has to contend with is the destruction of young shad by the brush weirs. I have already given you my opinions on this matter in former reports, and it rests with the Department to approve or reject them.

In *Victoria County* the principal rivers were set apart for natural propagation of fish, and no fishing has, by law, been permitted for the last three years. Overseer Mc Clusky writes as follows:—"In making my report on the state of the rivers in my district, I have no data on which to base any estimate of the increase of salmon during the past season, as all the rivers frequented by them are set apart for natural propagation, consequently no fishing is allowed except in the main River St. John, and I am not aware that any portion of it was under lease. During the summer I made an extended tour of the different rivers within my jurisdiction, especially over the Tobique, which is one of the best salmon rivers in the Province, and I think, with proper care and management for a few years more, will be the best supplied with fish. From all the information I was able to obtain from the settlers, and from my own personal observations, I am of opinion that salmon are increasing fast. I observed that young fry were very plentiful, but there is a species of fish called the pickerel which preys upon them. This fish has appeared in the Tobique since 1868, and may be accounted for by the increased quantity of food supplied by the salmon fry. Previous to the setting apart of this river, salmon fry were comparatively scarce, and did not probably attract this stranger. The last summer was very favorable for salmon on account of the high water all through the season, which enabled them to reach their spawning grounds in comparative safety. You are aware, from communications already forwarded, that there is still a determined opposition to the law on the part of some of the settlers on the Tobique, and generally a strong desire to evade the law, but I hope to be able within a legal time to bring some of these parties to a sense of their duty. With regard to Salmon River, once a great place for the resort of salmon, I beg again to call attention to the fact that a sand bar near its mouth so obstructs the passage of fish, that very few can pass it to reach the spawning grounds higher up the river. I was advised to open a channel through it last summer, but the orders of the Department were so strict, emphatically forbidding all fishery officers to incur any special expense without having first obtained authority to do so, that I thought it advisable to have nothing to do with it. A passage could be opened for about \$50 or \$60, and if the expenditure of such a sum is admissible for this purpose, I feel convinced it will be well invested. With regard to the Aroostook River, very little of it is in this Province; after a few miles it passes the boundary line of the State of Maine, consequently, any fish that pass this line are out of our jurisdiction, and it would seem useless to protect the fish in our borders for foreigners to destroy as soon as they pass the line. I would suggest the propriety of leasing the few miles of this river within our boundary, which will insure its efficient protection as far as the line."

From *Carleton County* Overseer Harrison writes:—"I am glad to report that the fishery laws have been generally respected, although fishermen have had a very poor chance the past season, on account of the large quantity of timber and logs running down the river all through the best fishing months, which made it all but impossible to set nets, and for this reason there have not been so many salmon and shad taken as in former years, but what have been caught were the largest I have ever seen from the river, one salmon weighing forty-seven pounds. There was a fine run in September, which were undisturbed in their ascent to the spawning beds. The people on Eel River have introduced the pickerel into its waters, and they are destroying all the other fish. They have got into the main river, and will, I fear, make great havoc among the salmon fry. They have not yet got into upper Eel River and its three lakes, and I hope they

will not, as in these and Skiff Lake there are fine fish. I have not been obliged to seize any nets for illegal setting, nor to impose any fines for violation of the regulations, as there is a disposition on the part of all to obey the laws."

In *York County* the causes mentioned above have operated in the same manner, but not to so great an extent. Overseer Macpherson reports:—"I have travelled extensively over my district, and as the result of my enquiries and observations, I am of opinion that salmon have increased considerably as compared with the previous two years, and I feel confident if proper protection is given to this branch of the fisheries, and the fish ways already constructed are properly kept open, a further increase may be looked for. I believe the fish will very soon find their way up the streams, and in large numbers frequent their old haunts. Saw-dust and rubbish from the mills is now the only serious obstacle."

In *Sunbury and Queens Counties* Overseer Hoben reports considerable improvement. He says:—"In visiting the different places where the largest number of salmon is taken, I found the law was generally observed, and no violations have come under my notice. It would appear from the statements of the principal fishermen that the catch of salmon has been rather more than an average; there has been an increase in a number of small stations, and it is extremely difficult to get the quantities taken at them. The gaspereau fishing has been a full average, but shad have been less plentiful than last year. A fish-way is needed in the dam across the north branch of the Oromocto River, and I hope next season will not pass without its being constructed. A Warden is much needed on this river, to which I called your attention in my last report."

In *King's County*, where the principal rivers and their tributaries are set apart for natural propagation, the Overseers report an increase in the number of salmon, and express strong hopes of the ultimate success of this measure. There have been but few violations of the law, and these almost entirely by white or red Indians, who on promise of abstaining in future, were leniently dealt with. Overseer Gosline, in his report, writes as follows:—"I regret that the funds at my disposal would not admit of a more vigorous prosecution of the good work of protecting our rivers. A circular from the Department limited my expense of travel, and my supervision has not been as thorough and satisfactory as I could wish. In visiting the several streams I noticed a marked improvement in the cleanliness of the water, and although some of the mills watch their opportunity and throw in their rubbish, yet this nuisance is considerably abated. Many salmon smolts are killed by anglers with the fly in the summer, and I could wish this practice prevented, but have no means of doing so. The rains of September and October made the rivers particularly favorable for the ascent of fish to the head waters, and larger numbers have reached their spawning grounds this season than for three years past. If their progeny are properly protected, I have little doubt that our rivers will, in a few years, be restored to their former productiveness, to which end I would strongly recommend that these rivers be set apart for a further term of three years, as the stock in them is too limited to stand the drain of general fishing."

In *St. John County* the principal fishing is carried on in the harbor, and along its eastern and western approaches, to the eastward as far as Quaco, and to the westward as far as Lepreaux. The principal fish taken are salmon, alewives, shad and herring, which is done mostly by drift nets. Cod, haddock, hake, pollock and halibut are taken to some extent by line fishing outside of Partridge Island. The Harbor Fisheries are controlled by the Common Council of the City, and excellent bye-laws have been enacted for their regulation. These are now generally observed, but fishing is carried on to such an excessive extent that the weekly close time, from Saturday night until Monday morning, is scarcely sufficient to allow a good stock of parent fish to ascend the river to propagate, which will, perhaps, account in a great measure for the small catch in the Counties of Sunbury, Queens, York and Carleton, which are all dependent upon the mouth of the St. John for their supply. As year by year the number of fishermen in and near St. John increases, of course the great bulk of the fish bred in the St. John River and its tributaries, are taken by them, and as a consequence, the inhabitants of the upper

counties, feeling jealous of this, adopt every device to secure their share of the spoils. On the whole, however, the laws are pretty well observed, but the upper country people complain of the comparatively small number of fish that fall to their share. The inland waters need careful protection, for on them depend entirely the whole bay and harbor fisheries. The appointment of an Overseer for St. John County, will, I have no doubt, be the means of affording this much needed protection in localities which have heretofore been without the services of an officer. Overseer Godard entered upon his duties early in the past summer, and has been active and attentive in their performance. In his report to me he writes:—"In the early part of the season I visited all the fishing stations on the river St. John within the County to the mouth of Bellisle Bay, and found places along the eastern shore where nets were very closely set, so that salmon could pass only in the middle of the river. These I regulated in accordance with the law, and returned along the western shore to the mouth of the Nerepis, and on to Indian-town. I had been informed that bag and trap nets were used on the river, but after diligent search I could find none, nor could I obtain any reliable information as to their being used. I next visited the eastern part of the county, Black River, Gardner's Creek, Quaco and Irish River, and found that it had been, and still is to some extent, the practice, when the mills are in operation, to cast the saw dust and rubbish into the rivers, thereby causing injury to the fisheries, not only in these rivers, but also to those on the coast near which they empty. I would particularly call attention to Irish River, and would strongly recommend that a fish-pass be ordered in the dam across it, which renders it impassable. Salmon come to the foot of the dam, and are taken in considerable numbers with scoop nets. I again visited these localities later in the season, as complaints were made that spearing salmon was practised by the residents on these rivers, but I did not see or learn anything to lead me to believe that this is done. The distance from St. John is thirty miles, and the absence of any wardens there prevents a proper supervision of the district, as parties residing on the river and near the lakes, can violate the law with impunity. The appointment of one or two wardens in this district would be advisable. I also visited several times the mills on the St. John River, in the Parish of Portland, and in that of Lancaster, to ascertain what disposition was made of saw-dust and refuse. In all cases but one, I found that ample means had been provided to dispose of these without injury to the fisheries, and in the exceptional case measures were at once taken to keep the rubbish out of the river."

In *Charlotte County* I have always taken an especial interest, for the vast lakes which feed both branches of the St. Croix River afford the best possible natural advantages for salmon, shad and gaspereau, and fully bear out the wonderful accounts given by old settlers of the great numbers of these fish which formerly resorted to it. The opening of the dams on this river, owned by the wealthiest mill-owners in this Province and the State of Maine, was a great undertaking, but with the valuable assistance of the active and intelligent Fishery Commissioner of that State, Charles G. Atkins, Esq., it was finally accomplished. I have watched the result with great and increasing interest, and it is with feelings of no ordinary pride and pleasure that I quote the following from Overseer Curran's report of the St. Croix district:—"I have the pleasure to inform you that there is quite an increase in the number of salmon that have passed up the St. Croix this season. In the month of August, when the water began to fall, numbers were seen going up the Milltown fish-way, but when the water became very low, there was a jam of logs that had come over the dam in freshet time and lodged below the fish-way, which prevented the ascent of large numbers of fish which were below. I put on a crew of six men, cleared a passage through the jam and the salmon passed up, but owing to extreme lowness of the river, could not pass the upper dam, as the water did not enter the fish-way. I was anxious to discover where the fish went, and I proceeded up the Mahonnes Stream to ascertain if they ascended it. At the head of the first dead water there was a gravel bed about four rods square, covered with salmon, and I have no doubt that large numbers went further up the stream. I did not go further lest I might disturb them, nor did I let any one know of it, for fear they might be disturbed. There

is now no doubt that salmon have gone up the St. Croix, for boys fishing for pickerel at Loon Lake have caught grise. I have visited the fish-ways at St. Croix and Forest City several times, and found them in good order. Alewives have been more numerous than last year, and passed the middle landing fishway in great numbers. Below Salmon Falls the water was alive with them, but the wing dams on the falls left them only one passage open, and the water being high and strong, I fear that not many have been able to get up, as I could not learn that any were seen above. Mr. Gilman, the warden on the American side, and myself, were at the falls several times, and were satisfied that with the freshet then in the river, it was impossible for alewives to get up. I would therefore recommend that a fish-way be erected on Salmon Falls. On the Deny's Stream, the water was alive with alewives going up. They passed the fishway at Moore's Mills, and the stream above was so full of them, that a man or a boy could step into the water and throw out dozens of them with his hands. The time for which this stream was set apart expires on the first of May next, and I would suggest that as it flows through a thickly settled country, a regulation be made limiting the fishing to three days in the week, and forbidding the setting of nets in the stream. In the fall, the water was full of young fish coming down the stream. There was no violation of the law this summer, as people are now aware that it is for their own benefit the fish should be protected. The half-tide brush weirs, five in number, at Oak Bay, and along the shores of the river, were kept open while the alewives were running. After they had passed up, there was quite a large run of herrings, haddock, and small cod-fish; no doubt these had been attracted by and followed the alewives. A regulation should now be made, requiring all weirs on the river to be kept open from Friday night till Monday morning, in order that the fish may have a free passage up. There has been more fish caught in the river this season than for many years past. I have visited frequently all parts of the district, and have found mill-owners more willing to comply with the law respecting mill refuse, but they have men and boys employed who still throw it into the river; it is hard to convict them, for it is done principally in the night. I have had but one conviction this season; the offender was fined \$20. On the American side there is now a law against throwing mill refuse into the river, and the State Warden is prepared to enforce it in future. If this is done, there can now be no doubt that the St. Croix and its two chains of splendid lakes, will soon be again well stocked with fish of all kinds."

Overseer Cunningham, of the inner Bay of Passamaquoddy, writes as follows:—"from the first of January, up to the tenth of March, there was an average catch of herrings; after that they struck into the Bay in large quantities, more than double the numbers of corresponding season of last year. The haddock fishery also has been nearly double that of last year, but there have been few mackerel caught. Lobster fishing has been good; a curing establishment at St. Andrews put up 50,000 cans this season."

Overseer W. B. McLaughlin, of Grand Manan District, reports that the large majority of fishermen in his jurisdiction, are in comfortable circumstances, and amply provided for the winter. The few that have been unsuccessful, were men of improvident and intemperate habits. He remarks as follows:—"The great complaint among our fishermen is the depreciation in value of our staple article—smoked and pickled herrings—in the markets of the United States. But an offset to this is the great augmentation of the Dominion markets, and the advantages arising from cash sales free from heavy duties. The principal part of the fish taken in my district this season, have found ready markets in St. John, Halifax, Yarmouth, Windsor, and other domestic ports. Our large "two-sail boats" go to St. John with full cargoes, and it is becoming a rare occurrence to ship a full load to the United States. This great change for the better in our own markets exerts a beneficial influence upon the minds of the fishermen, and gives them confidence in the future of the Dominion. Cod-fishing was unusually good during the past season. Hake have been abundant during the summer and autumn months, and the catch has been better than that of last year. Pollock have not been so plentiful. Some of our fishermen have turned more of their attention to halibut fishing than formerly. The fish is sold fresh, principally in the markets of Maine. The herring

fishing is steadily increasing. Netting has been constant and without interruption in Grand Manan for more than a year, and they have been abundant for bait and other purposes. Since the expiration of the close time at Southern Head, thousands of barrels have been taken. I have known as high as fifty barrels to a boat taken in a single night, and now, while I write, the waters of Seal Cove are swarming with herrings; in fact, the supply is greater than the demand. The quantity of smoked herrings put up this season, will about equal that of last year, but the quality is not quite so good, and they are not in as great demand."

For the first time, I am able to report that there have been but few cases of encroachment by American fishing vessels. Treaty stipulations have been generally observed, and they have, this season, purchased large quantities of bait, instead of catching it in our waters, as they formerly did. On the whole, the past season has been a prosperous one for the fisherman, and there is every inducement for a more extensive prosecution of this important branch of the country's industry.

The following report, compiled from letters and returns, furnished by the County Overseers of Nova Scotia, has been received from Mr. Rogers, the Fishery Officer for that Province. From it you will observe that the fisheries of Nova Scotia have been very cheering during the past season, and that among her fishermen plenty and prosperity have taken the places of want and adversity.

I am happy to be able to report, as you will see by the returns annexed, a very large increase in the quantities of almost all kinds of fish taken this year, and although prices have ruled much lower for most descriptions, the aggregate value is more than one million dollars over the previous year. Mackerel particularly, show a very large increase, but being mostly the early summer runs, they are inferior in quality. Some very severe storms during the fall months destroyed a large amount of the fishermen's outfits, as well as fish, as will be seen on reference to the reports of Overseers in the following pages; still the value realised by the fisheries is considerably in advance of last year, and this branch of industry may be considered among the most prosperous interests of the country.

In most of the counties there has been a decided improvement in the inland fisheries, where, by the proper construction of fish-ladders, under the direction of the Provincial Officer, salmon and all kinds of migratory fish are visiting their old haunts, and the rivers are being rapidly restored, which is having a beneficial effect on the coast fisheries.

In most of the counties, opposition to the Fishery Laws has entirely disappeared; the people are beginning to see that it is decidedly for their interest to have the law vigorously enforced. There are, however, a few places where the inhabitants seem determined to destroy every fish that makes its appearance. We hope, however, with proper management, this difficulty will in due time be overcome.

Cumberland County.—The principal river in this county, I am sorry to say, is still obstructed by a mill dam at Oxford, and the proprietor, I think, will have to suffer the penalty of the law before he learns wisdom. A ladder has been constructed on the Shinimicas River during the past summer, but as I was absent during the fishing season, I have not been able to inspect this structure yet. The fisheries generally, are about an average take, but salmon have been more plentiful than for some years past.

Colchester County.—Overseer Wm. Blair, in his report says:—"there are fewer violations of the Fishery Law than last year, although some parties fish in the night. Salmon are increasing rapidly in the river, and offer great temptations, but with two or three more Wardens, I think I could keep the stream clear of poachers. The Warden at Stewiacke, R. J. Pollock, a very efficient officer, will not act another year unless his salary is increased. He has a large amount of work to do, and it will be almost impossible to get a reliable person to act in his stead. The shad fishermen at Clifton and Black Rock complain of the great length of net used by the fishermen on the north side of the Bay; they also say that large quantities of young fish are destroyed by the weirs at and below Economy. It not being in my district, I had no means of ascertaining whether the complaints are well founded or not."

Hants County.—Overseer O'Brien reports:—"In reference to the fisheries of my section of the county, I have endeavoured to have the laws relating to them carried out to the best of my ability; as yet, however, I may say, it is impossible, for well known reasons, to have them carried into effect to the extent that is desirable, in order to afford full protection to the fish ascending the various rivers. The law preventing Saturday's drifting was regarded by some as entirely too stringent, but I have no doubt that ultimately all will see its utility. Every person with whom I have conversed since the close of the season, has agreed with me in the opinion, that this season has been better than any previous one, a much larger catch, both of shad and salmon having been made. This fact is indeed encouraging, and induces the belief that if the laws are properly carried into effect, our rivers will be as abundantly supplied with fish, as they were during the early years of the settlement of our country.

In regard to Walton River, very few salmon, but quite large number of gaspereaux ascend it. In August last, I was notified that the Honorable E. Churchill was closing it. I visited it, and found he had a number of men employed in building an aboiteau across it, but to my satisfaction he promised (and is now fulfilling that promise) to provide sufficient ways for the fish to ascend and descend. I feel it my duty to report regarding Hebert and Meander Rivers, that it is useless for me to enforce the laws, directing the building of suitable ways in those sections of them over which I have jurisdiction, in consequence of the inability of the western Overseer to have suitable ways placed in dams near the mouth of said rivers, it being utterly impossible for fish to ascend, and for me to carry the law into effect, would be only incurring useless expense. I caused all shad nets to be lifted at the mouth of the Shubenacadie River, and in consequence I believe more salmon ascended that river this summer, than for a number of years past.

I have been informed by some of our fishermen this season, that they would give more for the drift from Slater's Head to the mouth of Five Mile River, a distance of six miles, than for forty miles below the first named point. I have not the slightest doubt that salmon would ascend in great abundance, if properly protected, and as a consequence the occupation of the fishermen would prove much more remunerative than it does at present. I am fully persuaded that a much larger number has been taken than I have enumerated, as it is impossible to obtain complete and correct returns from the fishermen. Regarding the weirs on the shore from Maitland to Walton, proper gates were placed in them by the proprietors, so that fishing on the Sabbath was entirely done away with. These gates were opened on Saturday evening, and remained so until the following Monday morning.

In conclusion, I may state that much benefit has resulted from my labors last season, though not to the extent I would like, on account of the difficulty of enforcing the laws. I am in hopes that in succeeding years these difficulties will be lessened or altogether removed, and that ample protection being afforded to the fish, a great increase in numbers will result and the fisheries prove a much more lucrative branch of industry than they now are."

King's County.—Mr. J. E. Starr, the Overseer for this county, says:—"Enclosed please find returns of fish caught during the past season, which I am glad to be able to report is a small advance on those of 1870, amounting in value to twenty-one thousand five hundred and forty-three dollars. I attribute this increase partly to the fact that I have been able to obtain more correct returns. The fishermen are gradually being convinced, that the stories so industriously circulated of the deep laid schemes of the Government in asking for these returns are without any foundation. In some localities, the catch of fish has been the smallest ever known; this has been particularly the case in the herring fishery of Medford and Pereaux, where brush weirs are invariably used, the injurious effect of which, I have never failed to point out to the fishermen year after year. So apparent has been the effect of these piles of black brush, that I am convinced the fishermen (much as they are wedded to old habits and methods) would welcome a law abolishing the use of brush in the fishery along their coast. This done, and one half the number of seines only allowed, I should hope for some improvement in that

fishing. The fishermen generally, are disposed to respect the law; the only serious difficulty having occurred at Scott's Bay, which arose largely from the supposition that the parties who were attempting to enforce the law (not being fishery officers) had no right to do so. The inhabitants of Scott's Bay have petitioned for an addition to the regulations that would prohibit float and drift nets for herring in that Bay. I do not doubt that such a law is desirable, but I clearly foresee difficulty in enforcing it. It would deprive them, for the first time, of a privilege which they have hitherto enjoyed, and to which they suppose they have a good right, and as this drifting is done chiefly in the night, and far out upon the water, you may easily imagine some of the difficulties connected with its suppression. A new dam is being built across the Gaspereau River, on which to erect a saw mill. The fishermen on the river have had many fears that the fishery would be ruined thereby, but having visited the locality and conversed with the owners of the dam, I am satisfied that they are disposed to do everything required by law to facilitate the passage of fish up the river."

Annapolis County.—Overseer Carty in his report remarks:—"In making another tour through the county, I find that the greater portion of the fishermen have been amply rewarded for their industry. The Bay of Fundy fishery has succeeded beyond all calculation, as will be shown by my returns, but other localities have been less successful. Hake, which a few years ago were considered worthless, and were often thrown away, are now in good demand, and more attention is being paid to the fishery. A gentleman of Halifax purchased this season a cargo of one thousand eight hundred quintals, for which he paid three thousand one hundred dollars. These fish were caught by men living on the Bay Shore, a distance of three or four miles from Granville Ferry. The amount paid does not represent the whole value of the catch. Oil and sounds are both obtained from the fish in quantities worthy of note. One quintal will give one gallon of oil and one pound of sounds (dried); the oil is worth fifty cents per gallon, and the sounds thirty cents per pound, consequently one thousand eight hundred quintals will give five hundred and forty dollars worth of sounds, and nine hundred dollars worth of oil, making the total value of the one thousand eight hundred quintals the handsome sum of four thousand five hundred and forty dollars, to be distributed in a section of country not exceeding a distance of five miles. To know that they have become of so much value, and may be taken in such large quantities, is certainly very gratifying, and I hope this remunerative fishery may be a never-failing source of wealth to our Bay Shore population. The Annapolis Basin has not yielded a sufficient supply for the fishermen's own consumption. It appears the fish are all deserting that once bountiful fishing ground. Salmon have largely increased the last year. At Round Hill and Main River they have had access to their spawning grounds, and have been seen in the still waters above the dams as late as November. The Victoria River, I think, will require to be restocked. I would strongly recommend letting some fishing stands the ensuing summer on the Main River. Let them to the highest bidder, make them fish lawfully, and pay for their stand in advance. I believe it would be remunerative and help to protect the fish."

Digby County.—Overseer J. H. Morehouse in his report, says:—"You will observe by returns that at most of the stations the catch of cod and other deep sea-fish has been fully equal to last year, and although prices have ruled somewhat lower, still they have been fairly remunerative, so that "peace and plenty" still have their abodes in the houses of our fishermen. While I record with pleasure the success of this branch of our fishing interests, it is with great regret that I report the utter failure of the mackerel fishery at St. Mary's Bay, and of the herring in Digby Basin. Various causes are assigned for these failures, but in my opinion the throwing of large quantities of gurry into the shallow waters of this bay, which, as they become putrid, defile the water and render it distasteful to the fish, may be regarded as the only cause of the failure. If our fishermen learn wisdom by this, the lesson will not perhaps be too dearly bought. The failure of the herring fishery in Digby Basin arises probably from two causes, first from the wholesale destruction of the young fish, which for years have been taken in immense quantities and used for manure, and secondly, from permitting the Indians to shoot the porpoise.

These fish feed upon the herring, and drive them in from deep water to the shore; here they are drawn into the Digby and Annapolis Basin by the Digby Gut tide. This season the herring were very abundant in the Bay of Fundy, but none entered Digby Basin. The reason is believed to be the destruction of the porpoise. I would, therefore, respectfully recommend, as the only means of restoring this fishery, that weirs for the taking of herring within the Basins of Digby and Annapolis, be prohibited for one or two years, and also that the killing of porpoise within a distance of ten miles from Digby Gut be also prohibited; and I would also again respectfully recommend an order restricting the building of weirs at the head of St. Mary's Bay, until after twentieth of June in each year, that the spring shad might not be disturbed while depositing their spawn. By information received from men of experience, as well as from my own observation, I am fully convinced that unless this, or something else is done to protect this fishery, it will soon be a thing of the past. The river fisheries are doing well, particularly Salmon River, where two hundred salmon were taken this season. This is all of which we have any account. No doubt there were many more taken of which we were not informed. It is to be regretted that the splendid rivers Sissiboo and Metaghan should be allowed to remain unproductive, when the trifling sum of six or seven hundred dollars would make them contribute to the general good. I have been obliged, this year, to impose small fines on a few mill owners, to make them abate the saw-dust nuisance, and I hope this will have the desired effect. I may be again permitted to refer to the gurry nuisance; this evil must be prevented, or all our fisheries will be ruined. I have endeavoured, as far as possible, to stop it, but there are so many ways to evade the law, that I find it quite impossible to do so. I respectfully submit that it is highly necessary to enact a law rendering it obligatory on all masters of fishing vessels to show (on oath if required) what they have done with the offal from their fish, and making them directly responsible for any violation of law in this respect; especially is this necessary in view of the new treaty."

Yarmouth County.—Overseer T. B. Crosby writes:—"Upon examining the statistics of the catch of fish by residents of our county during the past year, you will find that the looked for increase in alewives does not appear. We had high freshets early in the spring, which enabled large quantities of alewives to get up the river to the back Lakes, which will ensure a continuance of the stock, and possibly a larger catch will happen next season. The quantity of salmon taken was double that of last year, and I am told by residents along the river, that they never saw more salmon spawning than this year. There has been a large mill built this season at the foot of Guril's falls. The dam extends across the river. In this dam I have had a large ladder built, with the foot in the dam, the length of it running above. I find, from trial, that ladders placed in dams on our rivers extending below, do not answer; the fish pass by the end of the ladder and go up the dam. I have had the ladders shifted, and hope that next year there will be less difficulty in fish going up the river. I find the three days close time to be of great advantage, as our rivers are so long, and in some places so contracted, that it is necessary to keep the regulation in force. The fishermen on the Bay shore tell me the season has been much against them, having been rough and windy.

There has been a request from some of the residents along the banks of the lakes, to make a regulation to allow land owners and occupiers the first privilege to set their nets adjoining and in front of their premises. It sometimes happens that a party from the opposite shore crosses the lake and takes up the best privilege near another man's door. The people of Argyle are going to prepare a regulation to take the place of the one now in force, and will also recommend a resident warden. They, as well as residents of other districts which are without wardens, are anxious that suitable men should be appointed. Persons do not care to act unless properly appointed. I have secured the assistance of Joseph M. White, of Eel Lake, for the last two seasons. He will perform the duty for ten dollars per annum, and I think this sum to each, would provide wardens for Argyle and Pubnico. I would also recommend that the Department dispense with the services of Warden Baker. Since brush weirs have been abolished, the duty to be

performed is light, and if Warden Hatfield's district was extended to mouth of river and islands, giving him Baker's salary, in addition to his own, he would be better paid than now, and the work better attended to. There have been a few violations of the regulations during the season, which have been attended to, a report of which will be duly submitted, together with my account, showing expenditure and cost of statistics, which will exceed my limit of thirty dollars. I have done the work as well as possible, and as cheaply, and hope the Department will approve the outlay."

Shelburne County.—Overseer William Muir, reports that he has not been able to collect any statistics of the fish taken in his district this year. I have, therefore, given the catch of last year, adding about the per-centage of increase shown in adjoining counties.

Queen's County.—Overseer S. T. N. Sellon says :—"The catch of fish in this county has been better than last year. An increased quantity of cod-fish has been taken in small boats, a reasonable cause is that these fish have followed after the alewives coming to spawn, and also when they came down the rivers, which includes the young fish when going to sea. Salmon have very largely increased in number, and the returns are less than the full catch. Alewives have been more abundant than for many years. This success is due to the Department having the rivers carefully watched in 1870, fish protected, and the rivers kept clear of obstructions. I cannot make any report regarding young salmon and alewives for this season, as your Department in May last directed me not to exceed thirty dollars for travelling expenses, unless I received special permission from them. I obeyed that order. I spent more than the sum named in discharge of my duty prior to the time named. From this cause much illegal fishing has occurred, for on Saturday and Sunday nights the narrow parts of Port Medway have been blocked up with nets, and when the waters are low, large numbers of salmon are taken, and very few fish can get up. The respectable part of the community regret this, and your officer should be allowed to attend to this duty at the proper time and place, without asking for and getting permission. I think the fines imposed and nets captured would pay a large part of the expenses.

Our River Fishery Laws can be improved. I recommend that salmon and alewife nets set in the harbors and rivers of this county be taken up on Saturday morning at six o'clock, and increased watchfulness for the protection of young fish, particularly the alewives."

Lunenburg County.—Overseer H. S. Jost reports as follows :—"The fisheries carried on by the people of this district have again been generally very successful in all branches. Although the yield of last year exceeded that of the previous year nearly one hundred thousand dollars in value, yet the increase has continued during the year 1871. The total value of the yield for this year, as shown in the returns, is three hundred and sixty-eight thousand, two hundred and seventy-three dollars; in 1870, the amount was two hundred and eighty-nine thousand, two hundred and seventy three dollars; and in 1869, one hundred and eighty-six thousand, four hundred and sixty-seven dollars, thus showing a steady increase. Should the returns from the Eastern District show a proportionate increase, the yield of the whole county must be well up to six hundred thousand dollars. The increase has been general, but that of herring, mackerel and salmon, is most marked in proportion to their former yield; the two former being about double, and salmon an increase of one half. The increase in herring and mackerel is largely due to seining, and in consequence of a larger catch of summer mackerel. The average value per barrel is lower than last year. The fearful gale and high tide of October 12th, caused much damage to some of the shore fishermen in the loss of their stages, stores, and nets, as well as their fish. One whole large cargo of Labrador fish, stored away ready for market, and half another cargo were lost by the swamping and destruction of the store in which they were placed at Martin's River. In Lunenburg, some four hundred barrels of pickled fish were carried into the harbor by the destruction of stores through the effects of wind and water. A large number of barrels, however, were recovered by spearing at favorable times during the following two or three weeks. With

reference to the inland Fisheries, I would say they are improving, although the improvement is not as great as it might be. The lumber business must interfere to some extent with the expansion of the fisheries, not only as respects the difficulties about the mill-dams, but also in some other ways. The Lahave River is sometimes, in certain places, so blocked up with logs that it is next to impossible for anything to pass. The new fishway put in Davison's lower dam the last spring, under your inspection and directions, will be a complete success when finished at the lower end, as recommended by you, and promised by Mr. Davison. As it is, we were all gratified to see the fish take so readily to the fishway, and pass into the pond above without any seeming difficulty. All who chose to look could see the fish passing up, but it was a hard thing to convince many of the inhabitants of the fact, unless by ocular demonstration. I have been informed by the wardens and others, that salmon have again made their appearance above, at places where they were most generally found formerly. I am of opinion we shall have a good account of them next year, especially if Mr. Davison completes the lower fishway as above mentioned, and improves the one in his second dam as directed, and as promised by him, which no doubt will be done. Some salmon, and large quantities of alewives have been taken this year in Petite Riviere, below, and there does not seem to be any reason why both should not be taken as they formerly were, as far as Hett's mills and above. I found on inspection this year, that the principal hindrance is the blockade of the river from sawdust and mill rubbish, about a mile below Conquerall Bridge, caused (as the millers of that place say) from mills above them, and causing them much annoyance. When I was there, the passage was open for fish through the dams at Conquerall Bridge, and Mr. Zenas Fancy has since informed me that the passage there is always open at the proper time, and that this year particular attention was paid to the passage as directed by me, but no fish came up, being prevented by the obstruction above mentioned. The mills were stopped from work for several weeks by the owners, but to no purpose. If I can receive any money to pay for removing the obstruction, I will have the work done, if not, I am afraid it will have to remain. It is difficult to deal with those who caused it, because it is the accumulation of years. Of course I will take care that the regulation shall be enforced in future.

Mush-a-Mush River emptying into Mahone Bay, has been somewhat improved this year at places inland; obstructions have been removed, and passes reopened, by which means the fish have passed up to their old haunts, from which they have been excluded for years. Both Petite Riviere and Mush-a-Mush River have only had the benefit of the services of a paid warden since January last."

Mr. Daniel Dimock, Overseer for the eastern district of Lunenburg, says:—"The shore fisheries in this district have been productive, more especially the mackerel, and had they realized the same prices as in former seasons, that branch of our fisheries would have amounted to some hundred and twenty seven thousand dollars. The average price this season was only three dollars ninety cents per barrel. Notwithstanding the low prices, our fishermen would have made a good voyage (as they call it), but for the destructive gale which visited our coast the last autumn, and swept away stages, fish-houses, and fish. Some of our fishermen lost all their summer catch. Our herring fishery was better than last year, as shown by the number of barrels returned as shipped. I should think that ten or twelve per cent. have been consumed by the inhabitants. Our river fisheries are about the same as last year. Salmon has not been in so great demand in the Boston market as last year. On account of the continued freshets through the season, it is judged by those who frequent our rivers, that more salmon found their way to the spawning grounds this season than in any previous; if so, we will reap the benefit hereafter."

Halifax County.—Mr. John Fitzgerald, Overseer for the Western District, says:—"I proceeded in my official capacity about the 14th of April last, to visit the salmon fisheries, and found that all the rivers were free from obstructions, with the exception of Ingram's River and Sackville River, where I have reason to believe the proprietors have, in my absence, violated the law, although I am not able to procure positive proof. The

mackerel was more productive this year than it has been for the last ten years, but the quality was very poor. The fall mackerel have been a total failure, and as this fish, if of first quality, would bring a high price, the loss has been seriously felt by the fishermen. The mackerel that have been caught this year have brought a very low price, but when the large quantity taken is considered, the fishermen have no reason to complain. The catch of salmon has been a little short, but the advance in price has brought the proceeds up to the average of former years. The returns forwarded will show that the total catch of fish in my district is over fifty per cent. greater than it was last year. The loss in my district in consequence of the gale of October, was twenty-five thousand dollars, the greater part of which fell upon Margaret's Bay."

Mr. Ezekiel Sibley, Overseer for East Halifax, says:—"I have visited each station three times during the season. I think the catch is at least one third below the quantity of fish taken last year."

Guysborough County.—Overseer James A. Tory says, with reference to his district:—"The fisheries, as a whole, have been good this season, especially for mackerel, and although prices have ruled low, they will compare favorably with the past. Some individuals have not done so well as last year, but the fisheries have been more general, and all have reaped a fair harvest from the ocean. The protection of the rivers, although inadequate, has proved beneficial, and I am happy to report that I have had only one complaint for violation in the whole county where the rivers are looked after by wardens. I am sorry to say that numerous complaints have been made to me from that portion of St. Mary's River (from Sherbrooke to the forks) where there are no wardens. Upon this portion of that river I have asked so often for a warden or two, that I am now tired, and have almost become disheartened in trying to have it protected. The violators are now the masters, and I have no doubt that to put them down will require more stringent measures than we have now upon our Statute Book, and even then it cannot be done unless wardens are appointed to look after it. If wardens are not appointed, I shall feel it my duty to ask for the removal of the restriction upon the other portions of the river, as it is not justice to the inhabitants, that they should be compelled to comply with the law and be deprived of privileges that they would otherwise enjoy, while the people who reside upon the open part of the river are allowed to take fish in any way they think proper. If this part of the river is not to be protected, what is the use of paying money for the protection of the other portions, when the fish there protected are destroyed as soon as they reach this? The wardens and other persons all over the country, report that salmon and other fish, both old and young, have been seen in large quantities ascending the rivers this season. This speaks well for the past, is auspicious for the future, and gives every reason to hope that the rivers of this county, where fish heretofore were scarcely to be seen, will become in a few years a profitable source of wealth to the people. To obtain this end, the protection should be strictly adhered to. I would also bring to your notice the necessity for an amendment to the Fishery Laws, giving to the fishery officers authority to arrest violators on the spot, and divest them of their disguise, that they (the officers) may be enabled to identify such persons; also that all implements used, or to be used for illegal catching or killing of fish, wherever and whenever found, should be seized and destroyed, and also that any person known to make any instrument for the illegal catching or killing of fish, should be fined, and the instrument destroyed. I think if such an act was passed by the Legislature, it would have the desired effect, in a great measure, if not in whole, of breaking up the use of the spear and other illegal means of fishing, and thereby save a vast amount of labor to fishery officers."

Richmond County.—Mr. John H. Ballam, Overseer of the Western District, reports as follows:—"There has been a large increase in the quantity of fish taken in my district this year. Considerable quantities of mackerel were taken by the hook during spring and summer season. The catch of fall mackerel proved a failure, a very small quantity having been taken. I have much satisfaction in informing you that the streams in the Island are not now interfered with, and netting and spearing salmon and trout in the

rivers on the mainland are not practised to anything like the extent they were a few years since. Black River and Moulin River, being on the mainland across the Lenox Passage, and there being no warden for either of these rivers, parties take advantage of the Overseer's absence to take fish illegally, and no proof can be had against them. For the protection of these two rivers, I would again recommend the appointment of wardens."

Mr. D. Cameron, Overseer for East Richmond, says:—"You will observe by my returns, a large increase over that of last year. The prosecution of the fisheries have proved very remunerative to the fishermen on this coast. I have taken every necessary precaution to ascertain the quantity of oil procured within my district, which, as you will see, appears to be a considerable amount."

Cape Breton County.—Mr. Francis Quinan, the officer in charge of this county, reports as follows:—"The total quantity of fish taken is considerably above that of former years. The run of mackerel was abundant, but of small size, the large brands were conspicuous by their absence; number threes ruled, and of their kind were good, but the price realized in our markets was less than in years past. Cod and herring did well, and what is special to them, held their prices firmly. I have been twice around the county this season, and find things to be moving in the direction of a proper observance of the law. No litigation of any kind. I am happy to be able to announce that the year has been a favorable one for the fishing interests, and I think we are entitled from the past to look forward to a steady increase in this branch of industry, and to its prosperity, not only from the increased number of fish taken but also from the improved market prices which all kinds command."

Victoria County.—Overseer Donald McRae, says:—"I have not had any violations of the Fishery Laws to report. On all our rivers, as a general thing, the people are inclined to respect the law, but in consequence of not having sufficient numbers of wardens, I have no doubt some fish have been unlawfully taken by Indians and others, out of those rivers where there are no wardens appointed, but I trust this difficulty will be remedied in the coming year. Salmon have increased considerably the last few years, and I have no hesitation in saying that with the machinery in complete order, by having more wardens appointed for those, viz.:—Ingonish River, Washabuck River, Middle and South Rivers, at Cape North, that the laws can be carried out to the letter. These rivers are generally frequented by salmon and large sea trout. You will discover a large increase in the coast fisheries, when compared with last season. The herring has not proved so successful as in former years; still the failure of the herring is more than made up by the increase of mackerel and cod, I mean in a commercial point of view, as herring are chiefly for home consumption, and other fish for exportation."

Inverness County.—Overseer Murdoch A. Ross, says:—"The catch of every kind of fish in my district (except alewives) was greater than last year. Although the price of fish at home and foreign markets was below last year's prices, still the fishermen are better satisfied and encouraged to pursue so valuable a trade. On account of the large catch this season I believe they are better paid than they have been within my recollection."

Pictou County.—Mr. Thomas Graham, Overseer of the Western part of this County, reports as follows:—"There has been this year a large increase in the herring fishery on the Gulf Shore, from Cape John to Pictou. There has been one thousand one hundred and fifty-six barrels of herring, and three hundred and five quintals of codfish caught, and six thousand pounds of salmon. Owing to the regulations from the Department last March, prohibiting the setting of nets for taking salmon inside the mouth of any of the rivers in my district, I have no account of the salmon taken in the rivers. There were a few nets set, and not knowing the owners, I took the nets and sold them as the law directs. There have been two persons fined for attempting to take salmon contrary to law; these are all that have come to my notice. I think the salmon are much more numerous in our rivers than last year, for I have seen much more of the salmon work on

the fords and spawning grounds than formerly. I think it would be well for the Department to define the mouths of the rivers by certain landmarks, for I find our people disposed to respect the laws. The several fish-ladders injured by the ice in the spring, were all repaired, and work well. On Middle River a new dam has been erected with a proper fish ladder. There may have been salmon killed in all the rivers unlawfully, and especially on those rivers where there are no wardens, such as Toney and Carriboo Rivers. I trust the Department will have good wardens appointed for those places, for it is expected that next season the salmon fishing will be largely prosecuted at Cape John Shore and Toney and Carriboo Rivers. Owing to their being no wardens at those places, my expenses have been more than I would have liked, but I leave the matter of the few dollars extra that I spent with the Department."

Mr. Walter Murray, the Overseer for East Picton, says:—"In closing the fishery season here, I beg to report that in the river fisheries there is evidence that the system of protection is working to advantage. The wardens discharge their duties well. Torching and night spearing is now seldom practised. A few instances of violations of the laws have been detected, and will be stringently dealt with. Salmon have been more plentiful in the rivers than for many years. The instructions in respect to net fishing in the mouths of the rivers in brackish waters have been enforced, and I have not known of a net being set contrary to the instructions given. Salmon have had free resort to spawning grounds. The rivers were low until late in the season; when the waters rose, the salmon rapidly ascended to their beds. The coast fisheries were disturbed this season by disputes as to berths. Some of these have been settled; one or two were not finally adjudicated upon, as already reported, but I hope to have all arranged, and a better understanding of conditions among fishermen by next season. A greater number of nets were out this season than ever before, and a larger quantity of salmon taken, showing that the system of protecting fish on their breeding beds is telling in favor of the coast fishing. The herring fishery along the coast here has increased, and had the dwellers on the sea shore been fully prepared, the returns would have shown at least double the quantity they do; many nets were so filled that they could not be drawn, and a few were entirely lost. Mackerel shoaled in the gulf this season in the eastern district, but the line fishing was not very successful, shoremen not being experienced or prepared. The catch is greater than last year. The cod fishery has not increased this year in this district. Eels have been taken in larger quantities than usual. Alewives do not resort here. Some fine trout ascended Barney's, French and Sutherland Rivers, in June and July. The system inaugurated in respect to the fisheries is working to advantage. In a few years the people will be schooled up to its requirements, and we may anticipate a decided advance, especially in our coast fisheries."

Antigonish County.—The officer for this county has not reported to me for two years, nor can I hear from him. The returns of this county are therefore based upon the take of last year, with the average per centage of adjoining counties added, which I hope will prove satisfactory.

Before closing this report, I beg to call your attention to some matters of considerable importance in their bearing upon the future prosperity of our fisheries, and to crave for my remarks and conclusions your favorable consideration. In many cases the allowance to Overseers for travelling expenses has been quite inadequate to enable them to attend properly to their duties. Many of the Counties in both Provinces have but one Overseer, and to keep a careful eye over a whole county, see that wardens are attentive to their duties, inspect fish-ways, and see that they are kept in order and open at proper times, prosecute offenders against the law, settle disputes among fishermen, and travel the whole district to get the returns of the fishing stations, necessarily involves considerable expense, and where these duties are properly attended to, the money is judiciously expended. When it is considered that these men pay the whole year's expenses out of

their own means, and get refunded only at the end of the year, it must be admitted that the office of overseer is no sinecure. The whole success of the Fishery Laws depends so much upon the activity and zeal of overseers, that it is highly desirable these qualities should be encouraged rather than repressed. From my own personal knowledge, I can say that in many instances the sums fixed by the schedule and circular of 1st May, 1871, are quite insufficient to enable the overseers to perform their duties properly, and the tendency is to lead to their non-performance. I would, therefore, respectfully urge that this schedule be revised, and that really active, intelligent, and efficient officers be allowed a larger sum to enable them to give the necessary supervision to their districts.

In view of the greatly reduced condition of a number of rivers in New Brunswick, and with the hope of improving them, they were, on the 1st May, 1869, set apart by Order in Council for a term of three years, for increase by natural propagation. In most of these the experiment has not been quite so successful as anticipated, owing in a great measure to persistent poaching in disregard of the law; but in several of them, where the facilities for its enforcement were of a more favorable character, the result has exceeded my most sanguine expectations. The rivers in the St. Croix district of Charlotte County prove beyond a doubt the beneficial effects of this measure, while in all others affected by this Order in Council, the improvement, though less marked, is very perceptible. When it is considered that most migratory fishes do not attain maturity until the third year, it will be admitted that no very great increase could reasonably be expected in that term, but that a further period of three years protection would be necessary for the full advantage of the measure. The term for which these rivers were set apart, will expire on the 1st day of May next ensuing, and I would respectfully, but most strongly recommend that the Order in Council be continued in force for another term of three years. If they are now thrown open to general and indiscriminate fishing, any advantage they may have gained from the measure will be lost in a single season, for the stock is not yet sufficiently numerous to stand the drain. The importance of restoring these exhausted streams, and the beneficial effects of doing so, are so apparent to every one at all acquainted with the subject, that I consider any further urging of the matter quite unnecessary. Some exceptional arrangements may be advisable in the case of the St. Croix, should the Maine authorities fail to protect their side of that river, but until I learn from the Commissioner of that State what action he proposes, I am not prepared to say what that arrangement should be. I indulge the hope, however, that the people of Calais will not be blind to their own interests, but will give hearty and vigorous assistance in the important work of restocking the best fish river in their State.

The destruction of young shad and herrings by the use of brush weirs, is also a subject for serious consideration. In former reports I have dwelt upon this matter at considerable length, and it is a question for your Department to decide, whether the public interest will not be best consulted by their total abolition, and by the fishing being confined entirely to the use of nets. There can be no question that the measure will greatly increase the quantity and quality of shad. Both in Nova Scotia and New Brunswick, the salmon, shad, herring, and gaspereau fisheries are pursued by means of brush weirs to a large extent, and no doubt their abolition would for a time cause great inconvenience, and perhaps loss, and it would be sure to cause very great and general dissatisfaction in all localities where their use has become an established mode of fishing. But my own conviction is that the destruction of young shad and herrings is operating injuriously on these fisheries, and the utmost vigilance of fishery officers is inadequate to its prevention.

On the subject of the restoration of the Oyster beds in New Brunswick, and the adoption of some means by which the production of this mollusk may be increased both in New Brunswick and Nova Scotia, by planting new beds in localities favorable to their growth, I have in former reports said so much, that I know not what further to say. The close time provided by law has been rigidly enforced, but excessive and indiscriminate raking of the same beds during the whole open season, year after year, not only prevents any increase, but must, necessarily, steadily and surely exhaust them, and if some more

effectual means are not adopted, every known bed in the Province will soon be destroyed. The simplest, wisest, and most effective means of increasing the production of Oysters in New Brunswick and Nova Scotia, is to lease all localities favorable to their growth, (whether old beds exist there or not,) on such terms as will induce practical men to invest capital in their cultivation. This is the means adopted in other countries, and no other will, in my opinion, ever succeed to any extent, because so long as natural beds are common property, they will be raked just as often and as long as any Oysters can be found to rake. The protection provided by the *Fisheries Act* has now been applied for four years, and the result is *nil*—in fact the beds are worse by just so many barrels as have been taken from them, until they are now not worth raking in most places where they were formerly abundant. These remarks apply more particularly to Shediac, Cocagne, Buctouche and Richibucto, but in other localities the same causes are fast producing the same results, for it is plain that no locality can stand this constant and unremitting drain, by primitive and clumsy implements, the use of which destroys as many oysters as are raised by them. To have any fair chance to increase, the beds should be raked but once every three or four years, and in the intervals they should not be disturbed; but of course those who have no particular interest in them care only for the present, utterly regardless of the future. Next to leasing, the most effectual mode of securing an increase in existing beds, will be setting them apart for a number of years—say twelve or fifteen—and prohibiting all disturbance of them during that time. If one of these modes is not adopted, a few years will see the last of the very best oysters in the world. In this connection I may state that the operations of Hon. A. Macfarlane, in Malagash Bay, in Colchester County, bid fair to be entirely successful. He has already planted new beds and the young oysters are growing rapidly, proving beyond a doubt that oysters can be cultivated on our coasts with as much certainty as a crop of grain can be sown and gathered. Considering the growing demand for this delicious luxury, and the large markets that will be open for it when the Intercolonial Railroad is completed, it is a subject of great regret that our unrivalled facilities for oyster production to any desired extent should not at once be utilized, by the adoption of any and all means which will secure that result. At present the existing beds are a source of profit to no one, and there is no reasonable prospect, under the present system, of their ever becoming such; on the contrary, there is an absolute certainty that their total extinction is not far distant. I respectfully urge the reconsideration of this matter, and the adoption of some means by which this valuable resource may be preserved and developed.

In view of the rapidly increasing business done in preserving lobsters, and the large numbers of these shell fish which are now yearly caught in both Provinces, I respectfully recommend that the lesson to be learned from the fate of our oyster beds be pondered in time, and means taken to prevent a like result in the case of the Lobster. Heretofore, this shell-fish has been so plentiful on some of our coasts, and until recently so little utilized, that no regulations have been made for the conduct of this fishery, consequently lobsters have been taken at all seasons, without much regard being paid to their quality or condition. As no supply, however large, can stand a ceaseless and increasing drain, unless means are taken to supply the waste, it is evident that the fate of the oyster now bids fair to overtake the lobster, viz.:—exhaustion from over fishing. To prevent this, I would urge that a close time from 15th August to 30th September, be provided by Order in Council, during which it shall be illegal to fish for, buy, sell or possess this shell-fish. Early in August the lobster begins to cast off its outer shell, and for the next two months is out of condition, unfit for food, and should not be taken.

Both in Nova Scotia and New Brunswick there are, in several good fish rivers, natural obstructions which prevent the ascent of fish. Overseer McCluskey reports that a sand bar near the mouth of Salmon River, in Victoria County, now obstructs the passage of salmon up this fine stream, and Overseer Morehouse regrets that the Sissabou River in Digby County, is impassable on account of an irregular fall. Overseer Jost reports an obstruction on Petite River, in Lunenburg, and Overseer Ballam one on Grand River, in Richmond County. If a small sum of money could be devoted to the removal

of these obstructions, these rivers would become valuable nurseries for salmon and other fish. Several other rivers in Nova Scotia might be opened with advantage, if the means can be provided; the most important are those above named, and the Avon in Hants County.

From the number of applications that have been made for leases of rivers and fishing stations, especially in Nova Scotia, I am led to believe that there is a growing desire on the part of fishermen to have the system of leasing that now obtains in Quebec and Ontario introduced in the Maritime Provinces. Constantly recurring disputes between fishermen and land owners, and between fishermen themselves, render this measure more necessary every year, and I am persuaded that it will eventually have to be adopted. In most cases the fishermen would prefer to pay a small rent to Government for his station and be protected in his holding, than to be year after year disputing with his neighbour as to their respective claims. In numerous cases, both in Nova Scotia and New Brunswick, the owners of land exact and receive a consideration from fishermen for allowing them to set their nets in front of private property, while in fact the land-owner has no exclusive rights beyond his boundary, which is the shore. If rents are to be paid for these privileges, it is clear they should be paid to Government and not to land-owners. In the former case the rent paid by the fisherman would be returned to him in the shape of protecting and fostering his means of livelihood; in the latter he derives no benefit, for the rent goes into the pocket of one who has no legal right to demand it. The adoption of this measure would ensure the best results as regards enforcement of the law and regulations for the protection of the fisheries. Numerous applications have also been made from Nova Scotia for leases of the upper waters of rivers for angling purposes, and I see no reason why, in most cases, these should not be granted. In Quebec and New Brunswick this is done with the best results, for the mere presence of anglers on a stream is a great protection against spearing and illegal netting, while the rents accruing would, to some extent, lessen the amount now drawn from the public treasury for the fisheries service. Until a uniform system is adopted in all the Provinces, the full benefit of the Fishery Laws cannot be secured. Applications have also been made for the exclusive use of nearly deserted rivers for artificial breeding. Fish culture has been so successful, and has produced such beneficial results in other places, that I cannot but recommend every facility and encouragement to its introduction in our Provinces. The complete success of Mr. Wilmot's operations in Ontario, and of Mr. Holliday's, on the Moisie, leads me to hope that similar establishments may be conducted in each of the Lower Provinces. The great benefits they would secure in restocking our rivers would more than counterbalance the outlay in their construction and maintenance, even if they did not become, as I feel assured they would, entirely self-supporting.

In every report I have had the honour to submit to you, I have endeavoured to show the great necessity that exists for a general Inspection Law, by means of which the quality of fish exported or sold at home could be guaranteed. With every passing year this necessity is becoming more apparent, as all kinds of frauds are practised, and our splendid fish, the best of their kinds produced in any country, instead of commanding, as they should do, the highest prices, are depreciated in foreign markets, owing to the careless manner in which they are cured, and the fraudulent manner in which they are often branded. This matter is of so great importance, that I hope the next Session of Parliament will not close until a rigid Inspection Law for fish and fish oils has been enacted. Until this is done, our fish will never secure that high character to which their admitted excellence justly entitles them.

W. H. VENNING,
Inspector of Fisheries for Nova Scotia and New Brunswick.

APPEN

RETURN of the number of Men and Nets employed in the Fisheries in the Pro
of Fish

Counties.	No. of Men.	Nets—fathoms.	Salmon, fresh—lbs.	Mackerel—lbs. ?	Mackerel—brls.	Herrings—brls.	Alewives—brls.	Codfish, Dry—cwt.	Codfish, Pickled—brls.	Shad—brls.	Hake—cwt.
Restigouche	72	7,970	298,407	248	.....	8,976	.....	860	.....	.....	.....
Gloucester	1,029	9,310	238,977	9,500	1,234	18,400	2,380	1,300	1,400	.....	.....
Northumberland	980	36,791	452,612	14,480	211	9,864	970	2,020	90	.....	.....
Kent	654	30,021	133,000	.....	2,500	2,300	1,450	1,876	76	.....	.....
Westmorland and Al- bert	280	29,285	.....	.....	560	125	5,320	.....	.....	6,356	160
Carleton .....	.....	.....	15,000	.....	.....	.....	.....	.....	.....	80	.....
York .....	.....	.....	5,500	.....	.....	.....	.....	.....	.....	400	.....
King's, Queen's, and Sunbury	102	.....	30,000	.....	.....	.....	750	.....	.....	500	.....
St. John	685	102,894	435,000	.....	.....	3,460	14,300	.....	.....	2,300	.....
Charlotte	1,359	23,375	.....	.....	.....	107,746	.....	1,300	.....	50	20,020
	5,161	239,646	1,608,496	24,228	4,515	150,871	25,170	6,496	1,566	9,686	20,180

DEPARTMENT OF MARINE AND FISHERIES,

Fisheries Branch, Ottawa, 1871.

(Certified) W. F. WHITCHER.

DIX O.

vince of New Brunswick during the year 1871, together with the yield and value caught.

Hadlock—cwt.	Halibut—cwt.	Pollock—cwt.	Bass—lbs.	Trout—lbs.	Smelt—lbs.	Eels—lbs.	Mixed Fish—brls.	Loobsters—cans.	Oysters—bushels.	Oil—gallons.	Pumice—brls.	Value.
				11,560			768					\$
					160,300			19,000	18,000	2,280		51,688
			93,931	9,570	9,200		879	2,500	1,900	530		151,648
			48,000	5,340	315,600	30,000	45,500	120,000	19,550	930		92,772
												227,527
												89,328
				2,500								3,700
												5,700
							2,100					11,950
2,763	2,600		1,800				300	13,000				136,955
1,050	11,000	1,050					10,503	70,000		62,816	900	413,765
3,813	13,600	1,050	143,731	23,970	485,100	30,000	60,050	224,500	39,450	66,556	900	1,185,033

P. MITCHELL,

Minister of Marine and Fisheries.

APPEN

RETURN of the Number of Men, Nets, and Seines employed in the Fisheries in
Value of

Locality.	Number of Men.	Nets and Seines.	KINDS OF							
			Salmon, brls.	Salmon in cans, No.	Salmon, fresh, lbs.	Salmon, smoked, No.	Mackerel, brls.	Herring, brls.	Herring, smoked, boxes.	Alewives, brls.
<i>Counties.</i>										
Cumberland	120	110	75	.....	3,250	300	25	1,475	.....	1,293
Colchester	295	210	225	.....	.....	.....	.....	275	.....	230
Hants	175	370	49	.....	2,460	.....	.....	.....	.....	250
Kings	285	340	142	.....	4,150	.....	.....	3,221	.....	.....
Annapolis	280	575	32	.....	7,000	.....	.....	6,735	4,500	22
Digby	1,265	552	15	.....	2,050	.....	30	5,590	5,700	.....
Yarmouth	1,392	867	83	.....	11,894	.....	955	3,566	.....	2,700
Shelburne	1,892	8,340	43	.....	.....	.....	31,896	24,398	.....	250
Queen's	750	565	506	.....	49,820	.....	3,857	7,494	.....	.....
Lunenburg	1,878	4,016	20	.....	30,448	240	25,545	17,787	.....	970
Halifax	2,239	9,665	77	.....	172,902	.....	70,308	37,857	.....	178
Pictou	416	243	74	.....	125,014	.....	100	1,806	.....	.....
Antigonish	750	800	380	75,450	.....	.....	6,720	4,750	.....	.....
Guysboro	2,796	14,558	1,220	.....	.....	.....	39,490	47,680	.....	1,340
Richmond	1,875	3,744	170	.....	.....	.....	20,182	22,210	.....	1,220
Cape Breton	1,472	5,631	377	.....	.....	.....	6,681	5,789	.....	277
Victoria	769	1,140	168	.....	.....	.....	7,528	1,621	.....	.....
Inverness	1,664	1,386	229	25,541	.....	.....	14,835	9,446	.....	1,325
Total	20,313	53,112	3,885	100,991	408,988	540	228,152	201,600	10,200	10,055

DIX P.

the Province of Nova Scotia during the year 1871, together with the Yield and Fish caught.

Fish.

Eels, brls.	Trout, brls.	Halibut, brls.	Codfish, cwt.	Scalefish, cwt.	Shad, brls.	Smelts, brls.	Tongues & Sounds, brls.	Lobsters, cans.	Haddock, No.	Fish used fresh. Value in Dollars.	Cod Roes.	Dogfish, No.	Finnan Haddy, cwt.	Oil, gallons.	Total Value of Fish and Oil.
										\$					\$ cts.
...	5	...	320	...	975	...	...	...	...	2,600	...	...	...	...	25,664 50
...	...	...	250	...	1,407	75	...	...	...	3,500	...	...	...	...	21,566 00
...	...	...	...	...	2,350	...	...	...	...	3,750	...	...	...	...	24,752 00
...	...	...	705	...	1,285	...	...	...	...	4,250	...	...	...	...	32,774 00
...	...	...	5,960	1,850	...	...	...	...	...	5,250	...	...	...	...	67,859 00
60	...	230	12,086	11,662	150	...	...	25,000	...	6,750	...	...	300	10,285	135,595 00
89	7	...	61,641	2,051	3	...	46	50,000	...	10,350	40	...	...	24,809	315,919 30
...	...	...	58,273	9,874	7	175	...	...	...	11,600	...	...	...	34,250	584,445 00
10	...	38	702	1,275	...	...	...	25,000	...	7,250	44	...	...	33,736	234,295 90
...	...	...	55,512	13,878	...	...	...	306,000	...	12,400	...	370,000	...	57,724	590,873 20
...	...	350	41,714	465	...	...	...	432,500	...	20,300	...	...	...	57,500	877,758 40
40	...	...	1,120	...	...	100	...	...	...	4,200	...	...	...	2,500	44,336 80
...	...	...	4,891	2,470	...	...	...	...	...	5,400	...	...	...	3,600	118,931 50
172	127	1,829	44,619	11,789	...	...	...	142,000	...	13,500	1,510	...	...	52,067	743,210 30
245	5	...	34,865	57,820	...	...	...	...	...	10,750	...	...	...	24,230	582,244 00
190	...	...	17,520	5,015	...	...	...	...	...	9,650	...	...	...	10,110	172,990 00
...	...	101	20,942	...	...	...	...	...	...	6,300	...	...	...	14,280	150,558 00
...	...	...	52,948	1,390	...	...	...	...	...	8,900	...	...	...	26,005	377,258 00
806	144	2,548	447,168	119,539	6,177	350	46	905,500	75,000	146,700	1,594	370,000	300	351,096	5,101,030 90

APPENDIX Q.

GOVERNMENT S.S. "LADY HEAD," HALIFAX, N.S., 31st December, 1871.

Sir,—I have the honour to enclose the following extracts from the journal of the Government S.S. "Lady Head" for the year ended 31st December, 1871.

During the months of January and February the carpenter and engineers were employed making repairs.

On the *15th of March*, having partially completed the repairs, the ship proceeded to sea bound to Sable Island, in charge of the first officer, the Commander being on duty at Ottawa.

On the 16th, made the Island. Blowing hard from the northward could not anchor in consequence. Stood off and on the land.

On the 17th the weather moderating anchored off the main station. No wrecks having occurred left the Island at 2-15 p.m.

On the 18th, arrived at Halifax, landed stores and paid off the crew.

During the remainder of the month and the early part of April the carpenters were employed sheathing the upper decks.

On the *10th of April*, embarked stores and proceeded to sea, the weather proving unfavorable returned to port.

On the 11th, the weather moderating proceeded to sea, bound to Sable Island.

On the 12th, at 8 a.m., made the land, and at 9 a.m., anchored off the Main station. No wrecks having occurred, left the Island at 3 p.m., for Halifax with a strong south easterly gale.

On the 13th, strong westerly gale. At 9 a.m., made Sambro lighthouse. At 1 p.m. made fast to the wharf and discharged the crew.

During the latter part of April and beginning of May, the ship was under repairs.

On the *26th of May*, the ship was placed on the marine railway at Dartmouth to clean and paint the bottom.

On the 31st, the ship came off the slip, and was moored to the wharf at Halifax.

On the *3rd of June*, proceeded to the investigation of the loss of the ship "Star of the West." After receiving stores, and loaded up the Government Schooner "S. G. Marshall" with supplies for Sable Island. Cast off from the wharf at noon and proceeded to sea with the "S. G. Marshall" in tow.

On the 4th, made the Island, cast off the schooner and landed part of the cargo at the Main station. At 6 shifted both to the anchorage off the Eastend station.

On the 5th, having landed the stores at 2 p.m. proceeded to sea standing to the northward. Blowing hard from the westward down masts and yards and in brats.

On the 6th, at 9 a.m., came to in Louisburg; the weather moderating in the afternoon proceeded to the scene of the wreck of the "Star of the West" and after making every enquiry on the spot proceeded to Cow Bay, for further information.

On the 8th, proceeded to Scattari and returned to Cow Bay in a fog.

On the 9th, thick fog prevailing. Cast off at 10 a.m., and stood to the northward. At six p.m., rounded Cape St. Lawrence and stood to the southward. Midnight passed Margaree.

On the 10th, at 7 a.m., anchored in Port Hawkesbury. At noon proceeded to sea and after passing through Little Canso standing to the westward and anchored off Green Island Country harbor to examine the site for a lighthouse. At 4 p.m. proceeded to sea.

On the 11th, at 1 a.m., sighted Sambro light. At 4 moored to the wharf in Halifax.

On the 14th, Captain Scott went to St. John to hold an examination of masters and mates. The ship taking in stores for Sable Island.

On the 15th, at 10 a.m., cast off and proceeded to sea, at 11 a.m., shaped course for Sable Island.

On the 16th, at three, made the Island. At five, anchored and landed the stores. At eight p.m., left the Island and proceeded to Cranberry Island for a fog trumpet.

On the 17th, at three a.m., made Cranberry Island at six a.m., and embarked the fog trumpet. At one p.m., weighed and stood to the westward.

On the 18th, a.m., thick fog. At four, made Sambro. At 5-30, moored to the wharf in Halifax.

On the 24th, the repairs being completed, and having embarked all the necessary stores, we proceeded to sea.

On the 25th, passed through the Straits of Canso, and anchored in the morning at Port Hood, Cape Breton. Found H. M. S. "Niobe," the Government cruisers "S. G. Marshall," and "Ella G. McLean" in port: after communicating with the latter proceeded to sea at eleven a.m., for Pictou where we anchored at four p.m.

On the 30th, after coaling ship left the port for Charlottetown P. E. Id. at ten a.m., and anchored there at four p.m. At five the same afternoon proceeded to sea, and at midnight anchored in Pictou Harbor.

On the 5th of July proceeded to sea, standing to the eastward.

On the 6th, at four a.m., anchored in Port Hawkesbury. Swung ship for the deviation of the compasses, at ten left the port for Sydney.

On the 7th, coaled at the Victoria Wharf. At two p.m., left the port, and at 6-30 anchored in south Ingonish for the night.

On the 8th, Calm and foggy. At seven a.m., weighed and ran for St. Paul's Island.

At 10-30 anchored, off the Main station, and landed to examine the establishment. At 1-30 p.m., weighed and stood to the westward, and at four p.m., anchored in St. Lawrence Bay for the night.

On the 9th, the wind having hauled to the northward and a heavy swell setting in, we left the Bay at 2-30 a.m., and ran for Georgetown P. E. Id. At one p.m., anchored there, and at 2-30 p.m. weighed and proceeded to Charlottetown arriving there at eight p.m.

On the 11th, at daylight weighed and proceeded to sea. At 11 a.m. anchored in Shediac harbor.

On the 12th, proceeded to Miramichi, and having embarked Sandford Fleming, Esq., and a staff of Engineers, weighed and stood down the river. The weather threatening, anchored off Chatham for the night.

On the 13th. At 3-30 a.m., weighed, and stood down the river, standing to the northward. At 1 p.m. rounded Miscon, and stood up the Bay des Chaleur. At 7 p.m., anchored off Bathurst, found there H. M. S. "Raccoon." Landed the Engineers.

On the 14th. At 1 p.m., weighed and proceeded to Dalhousie. At 6 p.m., anchored off the town.

On the 15th. Sent a boat to examine the shoals.

On the 16th. Blowing strong from the N.E. Weighed and proceeded down the Bay. At 2 p.m., rounded Miscou and stood to the southward. At 3 p.m., spoke an American fisherman fishing twelve miles off shore.

On the 17th. a.m., standing through the Northumberland straits. At 11 a.m., anchored in Pictou.

On the 19th. At 4-30 p.m., weighed and proceeded to St. Paul's Island having heard that a wreck had occurred there.

On the 20th. At 7-30 hove too off St. Paul's Island, the superintendent and Captain Torrance of the ship "Minerva" came on board; the latter having lost his ship

on the south side of the Island, finding that we could render no assistance left at 9 a.m., for Aspey Bay, to telegraph to her owners. At noon anchored near the telegraph station.

On the 21st. At 5 a.m., weighed and ran for St. Paul's Island, communicated with the wreck and returned to Ingonish for a safe anchorage.

On the 22nd. The Government schooner "Sweepstake" arrived.

On the 24th. At 4-30 a.m., weighed and stood for St. Paul's Island. Noon anchored off the Main Station, found there the Government schooner "S. G. Marshall," At 4 p.m., observed the Allan S.S. "Peruvian" approaching the Island. At 6 p.m., left the Island and stood to the westward.

On the 25th. a.m., standing to the southward and at 10-30 a.m., anchored in Pictou.

On the 26th. At 4 p.m., arrived H. M. S. "Raccoon."

On the 28th. At noon weighed and proceeded to sea. At 7 p.m., anchored in Charlottetown P. E. Id.

On the 30th. At 6 a.m., weighed and proceeded to sea. At 10 a.m., observed several American schooners at anchor under the west end of Pictou Island boarded them. (See appendix). At noon anchored in Pictou and after sending for letters proceeded to sea. At 8 p.m., rounded the East Cape P. E. Id.

On the 31st. Standing for Miscou. At 10-30 a.m., rounded Miscou, and at 4 p.m., came to in Bathurst roads.

On the 1st August. At 2 p.m., embarked the Railway commissioners and proceeded to sea. At 10 p.m., rounded Miscou light.

On the 2nd. At 5 a.m., a thick fog settling down, anchored in five fathoms. At 10 a.m., fog lifting, weighed to look for the land. At 2 p.m., made Escumencac lighthouse, and hauled up the Bay. At 7 p.m. anchored off Newcastle.

On the 3rd. At 10 a.m., weighed and proceeded down the river. At 2 p.m., rounded Escumencac point. At 8-30 p.m., anchored in Shediac roads and landed the Railway Commissioners.

On the 4th. At 5 a.m., weighed and ran into the harbor, found the Government schooner "Water Lily" in port.

On the 5th. Captain Scott left for St. John, N.B., to attend a Board of Examiners of "Masters and Mates."

On the 10th. At noon Captain Scott returned and at 1 p.m., weighed and proceeded to sea. At 4 p.m., anchored off Cape Jourmain and landed to examine the light. At 5 p.m., proceeded down the straits of Northumberland. At 10 p.m., a thick fog coming on anchored off Wood Island in eleven fathoms.

On the 11th. At 4 a.m., weighed and ran for Pictou.

On the 16th. At noon weighed and ran for Port Hood.

On the 17th. At 5 a.m., weighed and proceeded to sea, standing to the northward looking for the "S. G. Marshall." At 8 a.m., observed her under the land, ordered her to follow. At 11 a.m., anchored in Chiticamp Bay and landed to select a site for a light-house. At 2 p.m., the "S. G. Marshall" having arrived, the commander of that vessel was ordered on board the "Lady Head" to account for his disobedience to the instructions he had received from the Hon. Minister of Marine and Fisheries. After the investigation had taken place he concluded to tender his resignation which was accepted and the "S. G. Marshall" was placed in charge of her first officer. At 7 p.m., weighed and stood to the southward.

On the 18th. At 5 a.m., anchored in Pictou, filled up coal and proceeded to sea.

On the 19th. At 7 a.m., rounded Cape St. Lawrence, and proceeded to Ingonish.

On the 20th. At 5 a.m., weighed and ran for Sydney, found H. M. S. "Danae" in port. Blowing hard from the northward.

On the 21st. At 9 a.m., weighed and proceeded to Ingonish.

On the 22nd. At 3-30 a.m., weighed and stood to the northward. At 8 a.m., rounded Cape St. Lawrence. At 2 p.m., made Cape East P. E. I., observed twenty-seven schooners fishing under the land. At 9 p.m., anchored in Pictou harbor,

On the 23rd. At 4 p.m., weighed and proceeded to sea. At 11 p.m., anchored in Port Hawkesbury.

On the 24th. At 6 a.m., swung ship for the deviation of the compasses. At 9 a.m., proceeded to sea and at 1 p.m., rounded Cape Canso, a heavy sea running, anchored in Whitehaven, for the night.

On the 25th. At 4 p.m., weighed and proceeded to sea, standing to the S.W., very thick weather.

On the 26th. Continued thick weather. At 2 a.m., sounded and hauled in for the land. At 5 a.m., made Chebucto Head and ran into Halifax harbour.

On the 1st of September. Filled up coal and proceeded to sea. Midnight passed Beaver Island light.

On the 2nd. At 8 a.m., passed Canso lighthouse. At 3 p.m., entered Mainadieu passage. At 7 p.m., anchored off Low point lighthouse in a fog.

On the 3rd. At 4 a.m., blowing hard from the S.W. weighed and run under Point Edward Sydney harbor. H. M. S. "Danae" in port.

On the 4th. Filled up coal at the Victoria wharf, and at 4 p.m., weighed and proceeded to sea.

On the 5th. At 6 a.m., sighted the Magdalen Islands. At 6 p.m., rounded the north cape of Prince Edward Island, and at 10 p.m., anchored outside Miramichi Bar.

On the 6th. At 5 a.m., weighed and proceeded up the river.

On the 8th. At 8 a.m., weighed and proceeded down the river anchoring off Chatham.

On the 9th. At 5 a.m., weighed and proceeded down the river. At 10 a.m., communicated with the Government Schooner "New England" off Portage Island. At noon rounded Escumeneac point and stood to the southward anchoring in Shediac Bay for the night.

On the 10th. At 5 a.m., weighed and ran through Northumberland straits and at 4 p.m., anchored in Picton.

On the 12th. At 6 a.m., left the harbor and stood to the Northward and at 4 p.m., anchored in Shediac.

On the 13th. Captain Scott proceeded to St. John, N.B., by rail to hold an examination of "Masters and Mates."

On the 18th. At noon Captain Scott returned, weighed and proceeded to sea, and anchored in Bedeque Bay, P. E. Id., for the night.

On the 19th. At 5 a.m., weighed and stood to the southward. At 9 a.m., observing a disabled schooner standing in for the land bore down to her assistance, our services not being required proceeded to Picton.

On the 20th. Having taken in coal and water, at 4 p.m., weighed and proceeded to the Straits of Canso. At midnight passed Eddy point light.

On the 21st. At 2 a.m., fog settling down rounded Cape Canso and stood to the westward. At 5 p.m., rounded the Thrum Cap Buoy. At 6 p.m., moored to the wharf in Halifax.

On the 22nd. Employed taking in stores for Sable Island.

On the 23rd. Having heard that the "Napoleon III" was ashore near Cape Ray, Newfoundland, embarked divers and apparatus, steam pump, boiler, and other stores to go to her assistance. At 6 p.m., ship ready for sea, barometer falling rapidly, concluded to remain in port for the night.

On the 24th. At 6 a.m., cast off and proceeded to sea. At noon passed Beaver Island. At 8 p.m., rounded Cranberry Island. At midnight passed Port Hawkesbury.

On the 25th. At 8 a.m., passed Margaree Island. At 4 p.m., anchored off St. Paul's Island and landed provisions.

On the 26th. At 1 a.m., weighed and stood for Cape Ray. At 7 a.m., spoke several fishermen off Port aux Basque who reported that the "Napoleon III" had repaired and sailed for Quebec two days previously, stood to the westward. At 4 p.m., rounded Cape St. Lawrence and stood to the southward.

On the 27th. At 7 a.m., anchored in Pictou harbor and landed the divers,

On the 28th. At 10 a.m., weighed and proceeded to sea bound to Halifax. At midnight anchored in Whitehaven.

On the 30th. At 5 a.m., weighed and stood to the westward. At noon passed Beaver Island. At 7 p.m., moored to the wharf in Halifax.

On the 1st October. Arrived the Government Schooners "S. G. Marshall," and "Sweepstake."

On the 2nd. Employed landing the steam pump and boiler, and taking in stores for Sable Island.

On the 3rd. At 3 p.m., cast off and proceeded to sea. At 11 p.m., passed Beaver Island light.

On the 4th. At 7 a.m., anchored in Whitehaven waiting for fine weather to go to Sable Island. Boarded several American fishermen.

On the 9th. The schooner "Ocean Belle" arrived and having received material damage to her rudder casing whilst at sea, sent the carpenter on board to repair it.

On the 10th. At 4 p.m., the weather improving weighed and stood for Sable Island.

On the 11th. At 2 a.m., fog settling down sounded and hove to till daylight. At 6 a.m., proceeded, and at 10 a.m., made the Island. At 11-30 a.m., anchored and discharged the stores. At 8 p.m., weighed and proceeded to sea.

On the 12th. The wind freshening from the southward, increasing to a gale. At 3 p.m., made Sambro Island lighthouse. At 4-20 p.m., anchored off the town with both anchors, and kept the steam up. At 5 p.m., the gale had increased to a hurricane from the S.E. veering to S.W., several barges and schooners driving up the harbor unable to hold on.

On the 13th. The weather moderating. At 6 a.m., weighed and stood up the Basin and down the harbor to render assistance, our services not being required make fast to the wharf.

On the 16th. Captain Scott proceeded to St John, N.B., to attend the Board of Examiners of "Masters and Mates."

On the 21st. Captain Scott returned.

On the 23rd. Employed refitting rigging and boats.

On the 25th. The Government schooners "S. G. Marshall" and "Sweepstake" arrived to pay off.

On the 26th. The Government schooner "Water Lily" arrived and returned the "New England's" government stores.

On the 29th. The Government schooner "Water Lily" sailed for St. John, to pay off.

On the 30th. Ships company employed mooring the "S. G. Marshall" in Dartmouth Cove for the winter.

On the 31st. Embarked stores for Scattarie Island. At 2 p.m., cast off from the wharf and proceeded to sea. At 9 p.m., passed Beaver Island light.

On the 1st November. At 6 a.m., rounded Cranberry Island. At noon rounded Cape George. At 4 p.m., anchored in Picton.

On the 2nd. Blowing a gale at N.W., with snow at times. At noon weighed and proceeded to the Intercolonial wharf for coal. At 5 p.m., anchored off the Battery.

On the 5th. At 6-30 a.m., embarked eighteen navvies for passage to Cape Breton, and proceeded to sea. At noon anchored in Port Hood and landed the navvies.

On the 6th. At 7 a.m., weighed and stood to the southward, while standing through the straits observed the barque "Searnew," of London, ashore, sent boat to offer assistance which was declined. At 3 p.m., passed Eddy Point. Anchoring in Arichat for the night.

On the 7th. At 6 a.m., weighed and stood to the eastward. At noon passed Louisburg. At 2 p.m., anchored off Scattarie lighthouse, landed stores, and proceeded to Cow Bay for the night.

On the 8th. At 5-30 a.m., cast off and proceeded to sea. At 8 a.m., passed Louisburg. At 3 p.m., a snow storm commencing ran for Whitehaven.

On the 9th. At 5-30 a.m., weighed and proceeded to sea. At noon passed the White Islands. At 7 p.m., rounded the Thrum Cap Buoy. At 8 p.m., moored to the wharf in Halifax.

On the 15th. Landed the powder.

On the 18th. Captain Scott left for St. John, N.B., and Quebec, to attend the Board of Examiners of "Masters and Mates."

On the 29th. The ship proceeded to sea in charge of the first officer bound to Sable Island. She landed the stores on the 4th of December, and embarked Captain Lander, the Mate, and five of the crew of the schooner "Black Duck" of Quebec, laden with lumber, bound to Bermuda, wrecked on Sable Island, the first of November; she then returned to Halifax on the 6th, and after mooring the ship for the winter, paid the crew off on the 9th Inst.

I have the honor to be, Sir

Your obedient servant,

P. A. SCOTT,

Captain R.N., Commanding the Marine Police.

To the Hon. P. MITCHELL,

Minister of Marine and Fisheries,

Ottawa.

APPENDIX R.

GOVERNMENT S. S. "LADY HEAD,"

HALIFAX N. S., December 31st, 1871.

SIR,—I have the honor to report for your information the movements of the vessels, comprising the *Marine Police* during the past season.

The *Water Lily* was employed protecting the fisheries in the Bay of Fundy, under the command of Albert Betts, Esquire, until the 15th of March, 1871, when she was paid off. She was recommissioned by Commander G. V. Story, late R. N., on the 1st April, and after reporting at Halifax, was stationed on the north coast of New Brunswick, between Shediac and Gaspé, including the Bay of Chaleurs. She continued to cruise there until the 1st of September, when she was ordered to the west coast of Cape Breton for the rest of the season, and was put out of commission at St. John, N. B., on the 7th of November.

The *Ella G. M. Lean* was recommissioned by Commander H. E. Betts, R. N. R., at the Port of St. John, N. B., on the 1st of May; after a short cruise in the Bay of Fundy, was ordered to the west coast of Cape Breton for the protection of the fisheries. Her station began at the Straits of Canso and ended at St. Paul's Island. She continued on that station until the 14th of August, when Commander Betts resigned the command. She was then transferred to the Lighthouse service.

The *Sweepstake* was recommissioned at Halifax by Commander Jas. A. Tory, J. P., on the first of May, and when ready for sea, was ordered to cruise between Cape Canso and Saint Paul's, on the east side of Cape Breton. On the 1st of September, 1871, Commander Tory, while in Antigonish Bay, seized the American schooner *E. A. Horton*, of Gloucester, Mass., for a violation of the Fishery Laws; carried her into the Port of Guys-bro', and placed her in charge of the sub-Collector of H. M. Customs. The *Sweepstake* continued to cruise on the east side of Cape Breton for the rest of the season, and was paid off at Halifax on the 28th of October.

The *New England* was commissioned by Navigating Lieutenant D. M. Browne, R. N. at the Port of Chatham, Miramichi, N. B., on the 25th of April; when ready for sea, she proceeded to Pictou for stores. Her station extended from Shediac to Gaspé. On the 16th of August, while in Paspébiac, Commander Browne seized the American schooner *Franklin S. Schenck*, of Gloucester, for a violation of Fishery Laws, and sent her to Quebec for adjudication. The *New England* cruised upon her station until the middle of September, when she visited the Magdalen Islands, and on the 26th of that month she was ordered to the west side of Cape Breton for the remainder of the season, and was put out of commission at Miramichi, N. B., on the 28th of October.

The Government schooner, *S. G. Marshall*, was commissioned by G. W. Creighton, Esquire, on the 1st of May, and after carrying stores to Sable Island in company with the *Lady Head*, proceeded to her station on the west side of Cape Breton, extending from the Straits of Canso to St. Paul's Island. She continued under the command of this officer until the 18th of August, when he resigned. She continued to cruise upon that station under the temporary command of Mr. James A. Nickerson, her first officer, and was paid off at Halifax on the 28th of October.

In closing the report of the cruisers employed in the protection of the fisheries, I would beg to remark, that during the past season but few American fishermen have been seen in our waters, consequently few trespassers have been seized.

The Government of Prince Edward Island had at an early period accepted the Treaty with the United States, and as the Americans could fish there without molestation, they confined themselves generally to the coast and harbors of that island, as well as the Magdalen Islands, where they have long enjoyed special treaty rights. Since but few

Americans passed through the Straits of Canso, as compared to former years, I am led to believe that only a small portion of the American fleet fished in the gulf during the past season. The vigilance of the Canadian Government cruisers in the previous year, together with the small price obtainable for mackerel no doubt induced many to seek other employment.

In conclusion, I would venture to hope that the conduct of all under my orders has been such as to merit your approval.

I have the honor to be, Sir,

Your obedient servant,

P. A. SCOTT, Capt. R. N.,
Commanding the Marine Police.

To the Hon. P. MITCHELL,
Minister of Marine and Fisheries,
Ottawa.

APPENDIX S.

MARINE POLICE SCHOONER "SWEEPSTAKE,"
HALIFAX, October 29th, 1871.

SIR,—In accordance with your instructions, I beg leave to tender my report, while in command of the Dominion Marine Police schooner *Sweepstake*.

During the latter part of April last, I had the honor to receive official information from your Department that I had been assigned to the command of that vessel, which was detailed for the protection of the fisheries, and, a few days after, received notice from Captain P. A. Scott, to be at Halifax on the 1st of May, for the purpose of taking charge. In obedience to that command, I immediately left Guysborough for that place; arrived there and reported myself to him on the same day. The vessel being detained at Lunenburg by head winds, did not arrive at Halifax until the evening of the 4th, and on the following day I took charge of her, and commenced making preparations for sea, which occupied my time until the 11th, when I set sail for the station allotted to me on the fishing grounds beginning at Cape North, and extending along the eastern and southern coasts of Cape Breton Island and Cape Canso, with instructions to cruise around that island, when my presence was not required within the limits assigned to me. On my departure, I was instructed by Captain Scott, to proceed to Creinuish, for the purpose of enquiring respecting a complaint made by the inhabitants of that place, in a petition sent by them to the House of Commons, against foreign and other fishermen, at which place I arrived on the 18th, made the enquiry, and reported the result to him. I then proceeded along the western and northern coasts of Cape Breton, arriving at my own station on the 23rd, upon which I kept cruising until the 21st of August, being then ordered by Captain Scott to proceed in search of the schooner *Lillian*, for a violation of the Customs' Laws. I immediately left the Straits of Canso, passed through to the northward on the 23rd, and finding a number of foreign fishing vessels lurking about the shores of St. George's Bay and Port Hood, I cruised about there until the 26th, when I fell in with the *Lillian*, seized and took her to the Port of Arichat, and on the 28th, delivered her to the Customs Department. I then returned to St. George's Bay and Port Hood, remaining there until the 1st of September, and captured the United States' fishing schooner *Edward A. Horton*, for a violation of the Treaty of 1818. The seizure of this vessel detained me a few days in taking her into port, &c., and on the 6th, I again returned to the same place, and there remained until the 18th, when I ascertained that the *Water Lily* had arrived upon that station. I then left for my own station, and continued cruising upon it until the 27th, when I received orders from S. L. Shannon, Esq., to proceed to Halifax on business in connection with the schooner *Horton*, at which place I arrived on the 1st of October, and there remained awaiting that gentleman's orders until the 10th, when I received notice that the *Horton* had been rescued from the Port of Guysborough. I remained at Halifax during the gale of the 12th and 13th, and on the 14th, sailed eastward, arriving at Port Hawkesbury on the 17th, for the purpose of taking on board some supplies, which had been landed there for Cranberry Island fog whistle. I was detained here for a few days by head winds, but having received orders to be at Halifax on the 25th, for the purpose of paying off the vessel under my command, I found the time so short that it would be useless to proceed further west. I then returned to this port on the 25th, and on that, and the following day, I landed the Government stores and paid of and discharged my crew. The owners of the vessel not having arrived to take charge of her, I delivered her to Captain Scott on the 28th. A detailed statement of each day's proceedings from the 1st of May to the present date has been forwarded to your Department.

During my stay on the Port Hood station, in addition to the seizure of the *Horton*, I caught the American schooner *Olis D. Davy* in the position of fishing, about half a mile off the north end of Henry Island, and on my approaching her, she made sail and stood off

the land which prevented me from boarding her, in consequence of which, I cannot say that she had fished. The American schooners *Island Queen* and *Laura A. Mangum* sprung up to their cables in Port Hood harbor, fishing, and I am credibly informed that they caught on that occasion about fifty barrels of mackerel each, but on my approaching that harbor by the southern entrance, they also made sail and escaped by the northern entrance. I pursued them till they were beyond the three miles limit, and then gave up the chase, intending to wait their return through the Straits of Canso, but in that I was frustrated by a member of the Local House of Assembly, who watched my movements and gave them notice on their arrival of my whereabouts; in consequence of which, they were enabled to make their exit from the coast and finally escaped seizure.

While on my own station, I did not see or hear of a violation of the Treaty or Fishery Laws, excepting one case of the latter by setting a couple of nets across the mouth of a river, which I removed and cautioned the owners against further violations. There was also one complaint made to me respecting the misconduct of an American crew on shore, by interfering with the property of some of the inhabitants, but too late for me to take action against them as the vessel had departed several hours before for the Grand Bank, and I heard no more of her during the remainder of the season.

I am unable to give a detailed statement of the catch of fish by our people upon my station for the past season, the fishermen being strewed along the whole coast, and, in many instances beyond my reach, and the fisheries not being over when I left, it was impossible to obtain the required information, but from what I have received, and from my own observation, I am happy to report that the season's catch has been, with all kinds of fish, in excess of that of last year, and particularly with respect to codfish and mackerel, and although those two species of fish, have been so plentiful along our coasts, and so profitable to our people; the reverse is plainly to be seen in connection with foreign fishermen, who have this season resorted to the coasts of the Dominion. This fact, in connection with the Cod fishery is, I think, fairly attributable to the prevention of procuring fresh bait and ice on our coast last year, as these people, this spring, supposing that the same restrictions would be fully carried out, fitted their vessels principally for the Grand Bank, where they could prosecute the fishery without those articles, which has diminished the usual quantity of bait used upon the inshore banks, and caused the fish resorting there to follow their natural food to the shores and thus become within reach of the boat fishermen.

The mackerel fishery is far more comprehensible, for during the existence of the Reciprocity Treaty, and while foreign fishermen had the right of fishing inshore, and fish not so plentiful as they were this season, it was quite common for American vessels to make their third trip and to procure from 1000 to 1500 barrels of mackerel each in one season. See the contrast this year; when not allowed to fish inshore, (and here I will say that the prohibition has not been as thorough as it ought to have been) it has been but an odd vessel that has made a second trip, or caught even 400 barrels, and I think I am safe in saying that the average catch of the American fleet upon our coast will not exceed 150 barrels, and had it not been for the withdrawal of the protection from the shores of Prince Edward Island, their voyages would have been almost a total failure.

The inspection of pickled fish, calls, I think, for some action of the Legislature, in reference to an uniform law, and the carrying out of the same. In many instances I find that parties, who deal in that article, pay no attention to the law now upon our Provincial Statute Book in the culling of fish, especially mackerel. Some still try to put their fish up in accordance with the law, while others make a different and very inferior cull, thereby giving to themselves an undue advantage in the American market where most of our fat mackerel are exported to, and depreciating the value of those fish which are put up in accordance with the law, and of a superior cull. This may appear to some of very small importance, but if one man makes a number one, of what another and the law would make number two, and the difference of price in those numbers is equal to three and four dollars and oftentimes higher, per barrel, I think I may be pardoned for calling attention to it, and in asking for a law, and the carrying of it out, which will place all upon an equal footing, and raise the character of our inspection both at home and abroad.

Illicit trade, I have every reason to believe, is still carried on to a pretty large extent in various ways, although a check has been given to it by the presence of the cutters, and only a few cases came under my notice in which I was able to act, viz. :—The schooner *Antelope* I caught trading with a large amount of dutiable goods on board, without papers of any description to show where the goods were from, or whether they had been legally imported; this vessel I seized and placed in the hands of the Customs at North Sydney, also the schooners *Sarah*, *Unity*, and *Snow Squall*, with dutiable goods on board, which were not enumerated in their clearances. As there seemed to be no disposition on the part of the masters of these vessels to commit a fraud upon the Revenue, I did not seize, but placed the master of the first named vessel in the hands of the Customs' Officer at Cape Canso, and I endorsed the goods found in the two latter upon their papers and allowed them to proceed upon their voyages, and cautioning them at the same time for the future. I have every reason to believe that large quantities of goods are taken out of bond at Halifax and cleared for St. Pierre, Labrador, and Newfoundland, which never reach those places, but are disposed of along the coast of the Dominion, and illegal certificates carried to cancel their bonds. There is a species of illicit trade carried on by the American fishermen, which it is almost impossible to prevent, while they have the privilege of entering and remaining in our harbors and loitering about the coast when and as long as they please, under the plea of getting supplies, &c. In many cases, while so doing, they are disposing of more dutiable goods in value that never pay a cent into the Revenue, than the purchase. Hence the secret of some of our people calling so loud for the American fishermen. There is also another trade carried on from St. Pierre. Large quantities of goods, and especially liquors are clandestinely imported from that place and strewed along the coast, which has a threefold tendency to evil; first the Revenue is robbed; secondly the honest importer cannot compete with the smuggler; thirdly it is destroying the moral character of our people, and leading them on to poverty and crime; for in mostly all cases those who are in the trade are building up dens of iniquity upon our shores.

I would respectfully bring to your notice that the calling in of the cutters at so early a date in my opinion, is not advantageous to the business in which they have been employed, for when I left Port Hawksbury, on the 21st instant, there were then from forty to fifty sail of American vessels still remaining in the north bay, and I would ask what is to prevent them, after the cutters have gone, from completing their voyages inshore, and thereby defeating the object for which we have been laboring this season. In fact, the early withdrawal of the cutters is an inducement to those fishermen to hold the fishing grounds until the coast is clear for them, and the same reasoning applies to the misconduct of their crews and to the smuggler, as no doubt all who are interested, will take the advantage thus opened to them. Annexed is a list of foreign vessels boarded by me during the season, and comprises all the information I could obtain from them.

Hoping sir, that my services, although inadequate, but performed to the best of my ability, will meet with your approval.

I beg leave to remain, Sir,

Your obedient servant,

JAMES A. TORY,

Commander of schooner "*Sweepstake*."

To the Honorable P. MITCHELL,

Minister of Marine and Fisheries, Ottawa.

APPENDIX T.

MARINE POLICE SCHOONER "WATER LILY,"

PICTOU, November 27th, 1871.

Sir,—I have the honor to make the following report to you of the "*Water Lily*," employed under my command in the protection of the fisheries, for the season of 1871.

In obedience to your order of the 29th March, I left Quebec on the 1st April, and arrived at St. John on the 4th. On the following day I commissioned the "*Water Lily*," and commenced to ship the crew, and get the guns, stores, &c., on board. Bad weather prevented me from leaving before Thursday, 13th April, on which day I proceeded for a cruise in the Bay of Fundy. I visited Digby, Sandy Cove, Westport, Yarmouth, and the Tusket Islands; it being so early in the season no foreign vessels were out fishing on the coast but the small schooners from Westport and the other ports round the Bay, were actively employed in the Cod and Halibut fisheries; some of the small boats follow this occupation during the whole year, but no fresh fish is exported by them during the winter months. Before closing these general remarks, I would beg to draw your attention to the smuggling that is carried on to a large extent by vessels clearing out from St. John with goods in bond, bound for St. Pierre Miquelon, but instead of being carried there, they are landed all along the coast both east and west, that is to say, from Westport to Cape Sable; but the Tusket Islands are their great rendezvous. How they are enabled to bring back the proper papers to cancel their bonds in the Customs house it is impossible to say with certainty, but they do so and yet the vessel seldom or never goes to St. Pierre; in fact some of the vessels are of too small a tonnage and the risk too great for them to attempt a voyage to Newfoundland at this tempestuous season of the year; besides, the goods they carry are of such a character that they can be bought as cheap if not cheaper at St. Pierre than they can at St. John.

CODFISH.

The Codfishing is carried on throughout the Bay of Fundy by numerous small schooners of about 35 tons, and open boats, and for the whole year the catch has been above the average. These fish are all dry salted, and in the fall of the year they are sent to St. John, where, as a general rule they are nearly all consumed, very few of them being exported for foreign market, but this year some of the largest sized fish have been kept for the Boston market in the hopes that the duty will be taken off during the winter. Most of these fish are caught by hand line, but some schooners from Cape St. Mary and the westward, use nothing but trawls. In my opinion, this manner of catching this fish, is not to be so entirely condemned as it is by some people, but I think that it ought to be forbidden during the spawning season, because during that time the mother fish will not take a hook from a hand line, but they lay among the rocks and feed there on anything that is lying quiet on the bottom. What is more hurtful than anything else to these fishing grounds, is the cleaning of the fish afloat and throwing the gurry overboard, as the fish will feed on it, and from some reason or other it makes them sick. I would recommend a heavier fine being imposed for this offence and some means being found of obtaining a summary conviction in case of it being clearly proved that the offence has been committed. Another great reason for this branch of the business being on the decrease, is the *Herring brush-weirs* on Grand Manan and the West Isles. The shoals of young herring which are taken in these weirs are what the codfish feed on, and being deprived of them by these means they at once go back into deep water. Cod fishing is carried on to a large extent all over the Gulf of St. Lawrence, but more particularly from Point Escuminac to Gaspé, including the Bay des Chaleurs. Some American vessels also came on to Miscou Banks, trawling for the same purpose but as it

is only the large fish that they require for their market, they are generally to be found about 30 miles off the coast, except when they require bait, there are also some few English schooners that are employed in the same manner; the remainder fish in open boats by the hand line at various distances from the shore. As a general rule there are two men in each boat, and they bring their fish in and sell them to the various firms along the coasts, the principal of which are; Messrs. Le Bontillier, and C. Robin & Co. This branch of the fishery is not so good as it used to be for the same reason as in the Bay of Fundy; (scarcity of bait) the Caplin on which the Cod feeds make their appearance in the spring and are immediately netted in immense quantities, for no other use than to be laid on the fields for manure. Several gentlemen largely engaged in the fishing business have told me that is ruining the Cod fishery and that it will continue to do so until a law is passed forbidding the taking of Caplin by means of nets for manure. The proof of this is in the fact that on the North shore of the St. Lawrence where this wholesale destruction is not carried on, they catch with ease as many Codfish as they can cure. On the whole the Cod fishing this season may be regarded as having been good.

HALIBUT.

These fish generally strike on this shore in the month of February and remain till November, but are not so plentiful as they used to be, they are caught by hand line and trawling, but principally by the latter method; they are mostly to be found in places where the tide runs strong. These fish are very delicate in their feeding and very easily frightened, perhaps that is one of the reasons that they have diminished in number. The Gurry laws in this branch of the fishery are easily carried out, as the fishermen find that the fish leave the instant that any gurry is thrown overboard. They are a very valuable fish, as the average market price is about ten cents a pound fresh. Great numbers of American vessels are employed in this fishery, each vessel has an icehouse built in her, and by that means they are enabled to carry their fish fresh to market. Their principle grounds for fishing on this coast are from the Southward of Grand Manan to Cape Sable and from there to Sable Island, some few go to the Grand Banks and Gulf of St. Lawrence. Six of these vessels went to Greenland this year in search of this fish, but there being no means of preserving them fresh for such a long voyage, they had to be salted, it was however a failure.

POLLOCK AND HADDOCK.

Pollock and Haddock are found here in large quantities, and are cured in the same manner as cod. The same decrease is to be found in both these branches of fishing, and is to be traced to the destructive effects of the *Brush Weirs* before mentioned; in the Pollock more particularly, as they feed almost entirely on the young herring. It may easily be imagined what a fearful destruction of these small fish takes place, when you take into consideration that they are utterly useless, except for the oil they give out when pressed, and that it takes, as a rule, four barrels of fish for one gallon of oil. Such wholesale destruction is much to be deplored, not only for the damage that it does to the other fisheries, but also to the herring themselves, which of course would be much more numerous were they left alone. These weirs are in the hands of a limited number of persons, on account of the localities required for building them, so that, it is simply enriching a comparative few at the cost of the whole community.

Being ordered by Captain Scott to meet him at Halifax, I left this part of the coast on the 23rd April and arrived at Halifax on the 26th, where I received orders to proceed to the Magdalen Islands for the protection of the herring fishery. I left Halifax on the 1st May, but was detained in the Gut of Canso by ice, and in Port Hood by bad weather, so that I did not reach my destination till the 8th May. I found here a large number of vessels awaiting the arrival of the herring, which were later than usual in making their appearance, and among them twelve American vessels, some of whom were in for bait, being employed in the codfishery round the Island of St. Paul's and North Cape, Cape

Breton. The fish struck in about the 9th, of the month, and during the short time that I was in charge of that station, immense quantities were taken by means of seines and nets. I cannot believe that it can be conducive to the good of this fishery that the herring are allowed to be taken at this time, the fish when taken out of the nets are quite sick with spawning and when in that state cannot be good for food, as can be seen by the market price which is seldom as much as \$2 a barrel. Most of the English part of the catch go to Halifax and from there they are exported to the West Indies; the American part are generally smoked and then they go to market under another name, as there would be no sale for them in the States were they known to be Magdalen Islands Spring herring. Of course large quantities are consumed on the Island. Whilst on this part of the station I visited the Bird Rocks and inspected the lighthouse, a report of which I forwarded at the time to the Department. On the 11th May, "La Canadienne" arrived from Quebec, and in compliance with Captain Scott's orders I at once handed the station over to Dr. Lavoie, and left the same day for Shediac, arriving there on the 14th. From that date, till the 4th June, I was refitting, the vessel having received some damage during the heavy weather that I encountered on my way from St. John to the Magdalen Islands. On the 5th June, I sailed for my station which was from Shediac to Gaspé. For my proceedings from that time until the 26th August, I beg to refer you to my weekly reports. On that day I had the misfortune to lose my foremast which necessitated my going to Pictou for a new mast. I arrived on the 19th, and whilst there, I received orders from Captain Scott to cruise on the station between Pictou and Cape Breton. I left Pictou on the 4th Sept., and continued on that station till 25th October, when I received orders to be at Halifax by the end of the month. I arrived there on the night of the 26th, and left for St. John after landing the "New England's" government stores, on the 29th. I ran into Westport, Brier Island, on the 1st November, for shelter from a heavy S.E. gale and was detained there by gales of wind from the northward, until the 7th, on which day I left and arrived at St. John the next morning, and in accordance with your orders I paid the vessel off on the 10th.

MACKEREL.

These fish struck in our shores about the middle of June in large quantities and the first catches were taken in a very short time; some vessels taking 200 barrels in three weeks, but the fish were poor, not making more than *threes* when culled, after that the catch was moderate and I do not think that more than 30,000 barrels of Mackerel were taken by the whole fleet. It has been a bad year for Mackerel, the market prices as a rule being one half below the average prices, and great numbers of American vessels were laid up by their owners, for the reason that the outlay required for fitting the vessel out for fishing, being more than the proceeds of the summer work.—These fish, as a general rule, are to be found close in shore during the month of June and part of July, they then go off into deep water, their favorite resorts being on the Orphan and Bradley banks and from Point Miscou to North Cape P. E. Island; there are some always to be found in shore, but the best fish are in deep water. From the middle of August till the end of September, they are to be found more off the P. E. Island, that is to say from North Cape to East Point, and in the Bay formed by Cape George and Cape Jack, on the Nova Scotia shore. In October, at which time the Mackerel are at their prime, they again strike in shore and are to be found in great numbers on the Cape Breton coast from Cheticam to the Judique shoals, but their position depends a great deal on the weather in the fall of the year, as heavy gales of wind drive them off into deep waters. The regular succession of gales this fall was very bad for the fishing and the catch was small, and the fish that were caught, though fat were not of the usual size; the water however was alive with small Mackerel of about six inches long which gives promise of better success another year. Towards the beginning of November the fish begin to make off the coast, and they are then to be seen in large shoals moving very fast in a southerly direction, they are then lost sight of as, I believe it has never been actually decided where they go during the winter months.

As may be seen by the annexed report of vessels boarded, it is a general rule among the foreign fisherman to use the British Ports for packing their fish, Charlottetown and the Gut of Canso being the most favorite resorts.

Before closing this report I would beg to draw your attention to the state of the harbour of Port Hood, the entrance to this place is difficult and the dangers inside are more complicated still, the only guide to it is a light on the southern entrance; if the approach and the harbor inside could be well buoyed it would confer a good benefit on the fishing community as it is the only harbor on this side of Cape Breton from Canso to Cape North; as it is, it can only be run for as a place of refuge in heavy weather during daylight and several vessels that had sighted the port in the gale of the 12th of October last, had to remain outside for the want of buoys to point out the position of the different sand bars.

I have the honor to be, Sir,
Your obedient Servant,

To the HON. P. MITCHELL,
Minister of Marine and Fisheries, Ottawa.

G. V. STORY,
Commander schooner "Water Lily."

APPENDIX U.

MARINE POLICE SCHOONER "NEW ENGLAND,"

CHATHAM, N.E., 12th November, 1871.

SIR,—I beg to submit the following report of the proceedings of the marine police vessel *New England*, engaged under my command in protecting the Canadian fisheries in the gulf of St. Lawrence during the past season. Having received my commission and instructions at Ottawa on the 15th April, I left for Chatham, Miramichi, where the *New England* was being fitted for service. Owing to the backward state of the season, it was impossible to get the vessel ready for sea till the 26th May, when, in compliance with directions received from Captain P. A. Scott, R.N., commanding the marine police force, I sailed for Pictou, N. S., for the purpose of there taking on board the vessel's armament and other Government stores. On the 11th June, I left Pictou for my station, which comprised that part of the coast extending from Gaspé to Shediac, including Bay des Chaleurs. I then cruised in Miramichi Bay and to the southward till the 16th, when I anchored in Shediac harbor. On the 21st, hearing that you were expected at Newcastle shortly, I stood to the northward, and on the 23rd, proceeded up the Miramichi and remained till Monday morning, the 26th, when after you had been on board to inspect the vessel, I again proceeded down the river to sea. After communicating with the salmon fishing establishments at Portage Island and Preston, I stood to the northward for Bay des Chaleurs, and on the afternoon of the 30th, boarded two United States' fishing schooners at anchor in Port Daniel. These vessels had put in for wood and water and left the following day. They reported having being very successful in mackerel fishing, and all vessels that I spoke seemed much pleased at the prospect of a remunerative season. Salmon fishing at the mouth of the Miramichi, which owing I presume, to the backward state of the weather during the early part of the month, was not giving satisfaction to those engaged in it, had lately very much improved, and, although but few fish of this kind had been caught at Port Daniel, those taken were of remarkably large size. I remained in Bay des Chaleurs till the 4th July, and then stood to the southward. Observing the United States schooner *Prima Donna*, of Southport, at anchor two miles from the shore between Pokemouche and Tracadie I boarded her. The master stated that he had anchored for the purpose of striking down his cargo, but as I had no doubt in my own mind, from what I saw, that he had been fishing (although no evidence could be brought to prove it), and considering that he was lying off a lee shore where the anchorage was equally good farther off shore, I thought it right to order him beyond the three miles limit. Finding very few United States vessels in Miramichi bay, I returned on the 6th to Bay des Chaleurs and cruised off Miscou and across the Bay to Paspebiac till the 10th, when I again stood to southward and watched that part of my station lying between Pokemouche and Richibucto till the 18th. On the 13th I met the Government steamer *Lady Head*, and called on Captain Scott. On the 19th I again stood to the northward and anchored off Paspebiac in the evening. Off Miscou were twelve United States' schooners fishing outside the limits. These vessels all anchored in Paspebiac roadstead the same evening, and left the following morning at daylight. The place was perfectly quiet, very few men from the fishing schooners landing, and those who did so, behaved in an orderly manner. I cruised in the bay till the 31st, boarding all the foreign vessels seen within the limit. On the 22nd, the *Yo-Semite*, of Gloucester, was lying at anchor two and a half miles from the shore off Miscou. On boarding her, the master stated that he had come into the bay for the purpose of buying bait, and that he was bound for the west coast of Newfoundland for halibut fishing. He asked permission to set his herring nets in shore, which of course, I told him could not be allowed. I then anchored alongside this vessel for the night. On the following morning the United States schooner *Willie Sercy*, of Portland, came out of Shippegan harbor, and when only two and a half miles from the shore, heve to and com-

menced fishing. I immediately boarded her, and told the master that he was trespassing and had laid himself open to seizure. He admitted having been fishing, but said he considered the vessel three miles off the shore before he did so. On this assurance, and taking into consideration the peculiar character of the land we were off, which is low and deceiving as to distance, and also considering that the shoal soundings on Miscou flats extend considerably beyond three miles from the shore, and are consequently no indication of a vessel being within the prohibited limits, I felt that I should be carrying out the wishes of the Government by refraining from seizure, and I therefore warned the master and ordered him off. Another United States' schooner, which I afterwards ascertained was the *Oronoco*, of Portsmouth, was also fishing at the same distance (two and a half miles) from shore, but on seeing me board the *Willie Segey*, she immediately filled and stood out. On the 31st and two following days, I cruised to the southward. On August 3rd, having received permission from Captain Scott to take my vessel to Pictou for the purpose of having her placed on the Marine Railway to be cleaned and copper painted, I proceeded to that place, and arrived there on the 4th. On the 10th, being again ready for sea, I left Pictou and anchored off Shediac the following day. While lying there I boarded the United States' schooner *Georgiana*, of Gloucester. This vessel had on board a cargo of pogies (used for bait), produce of the United States' fisheries, and which the master stated he had been selling to colonial and foreign fishermen in the waters and ports of the Dominion. Considering this to be contrary to our coasting trade regulations, I requested the master to accompany me to Mr. Harrington, Collector of Customs at Shediac, who pointed out to him that he could not proceed from one of our ports to another for the purpose of selling his bait, and also refused him a clearance for the port of Richibucto, which he asked for. This vessel was afterwards cleared for Cascumpeque, Prince Edward Island. I am of opinion that a foreign vessel on this coast can easily avoid our coasting trade regulations in this way, for she need only cross Northumberland Straits and touch at a place on the Prince Edward Island shore when she would be again quite free to enter one of our ports. On the 13th, I left Shediac for the northward, and on the 15th stood up the Bay des Chaleurs. Early on the morning of the 16th, I anchored in Faspébiac roadstead and seized the United States' schooner *Franklin S. Schenck*, of Rockport, for fishing with nets within 295 fathoms from the shore. The nets were set by the United States' crew on the previous evening, and when I entered the roadstead they were being examined by them in the large skiffs or dories belonging to the *Franklin S. Schenck*. The master at first persistently denied the ownership of the nets and only admitted that they were his after I told him that I had seen the buoys or net-floats marked with the name of his vessel. Full particulars respecting this seizure were at the time forwarded to the Department. Having received information that the Government steamer *Napoleon III*, would shortly leave Gaspé for Quebec, when she would tow the prize to the latter place, I left with her on the 18th and anchored in Caspé Basin on the following day. Finding H. M. S. *Raccoon* lying there, I called on Captain Howard. The *Napoleon III* being ready for sea on the 25th, I placed the capture in charge of Captain Gourdeau, with a prize crew of one officer and three men from my own vessel. On the 26th, I left for Bay des Chaleurs and cruised there till September 1st. Very few foreign fishing vessels were now seen in the bay; they had evidently gone to the Cape Breton coast. On the 2nd, I stood up the Miramichi River and anchored off Chatham. After provisioning and refitting the ship, I left again on the 7th and cruised in Miramichi Bay till the 13th, when in compliance with directions received from you, I again went up to Chatham for the purpose of embarking a lighthouse keeper and two assistants, with their stores and effects, and conveying them to the Bird Rocks. I left Chatham when ready, and arrived off Amherst Harbor on the 21st. After landing His Honor Judge Maguire on my way thither, I went on to Bird Rocks and arrived off them the next forenoon. As it was blowing a strong breeze from the north west with a heavy sea on, landing was quite impracticable. I therefore stood off and on under easy sail till the morning of the 24th, when the wind and sea having moderated, I succeeded in landing the men and taking on board those who had been in charge. Before leaving I took an inventory of all stores, &c., remaining, and

placed them in charge of the new keeper. Everything at the establishment was in proper order, and I found the light a very good one. These dangerous rocks lie almost directly in the track of vessels passing through the gulf, and the fact that their position is now marked by this light may be an inducement for masters of vessels to approach them nearer than has hitherto been the general custom. It is well known that in this part of the gulf dense fogs come on very suddenly, therefore, if it is not the intention of the Government to place a fog whistle on the rocks, I beg respectfully to suggest that if two thirty-two pounder signal guns were sent there, to be fired at intervals during thick weather, it would in a great measure supply the deficiency. I am of opinion that such light pieces of ordnance would not affect the rock, especially if they were worked on a small platform built of 3½ inch planking. The same afternoon I met the Government steamer *Napoleon III* on her way to Quebec; I therefore sent the light keepers I had on board to her for passage. The following morning I anchored off Amherst, Magdalen Islands, and called on Mr. Fox, Collector of Customs, to inform him of certain signals which I had arranged with the keeper at Bird Rocks should be made at intervals during the winter months, as an indication that all was going well. I offered to take Judge Maguire to Pictou, but as the term was not yet over, he was unable to avail himself of the opportunity. Having been directed by Captain Scott to cruise for the remainder of the season on the west coast of Cape Breton, and the lighthouse service I have to perform being now completed, I left immediately for Port Hood and arrived there on the 26th. H. M. S. *Philomel*, Commander Walker, and the Dominion cruiser *Water Lily*, were in port. The three following days it blew heavily, first from south east till noon of the 28th, when it suddenly shifted to the opposite quarter. Nearly all the fishing schooners on the coast came in for shelter. On the morning of the 30th, I sailed for the Gut of Canso, and anchored in Port Hawkesbury. On the 2nd October, after boarding all the United States' vessels met with in the Gut, I stood to the northward and continued cruising in this direction till the 4th, when I rounded St. Paul Island and again stood to the southward. The weather during the next three days was very boisterous, compelling me to lie the vessel to most of the time under close reefed sails. On the 8th, it having moderated, and being compelled to put into port for the purpose of repairing damages caused by heavy weather on the 5th, I bore up for Pictou. On the 12th, being again ready for sea, I left in the forenoon for Port Hood, and arrived there at 5.30 p.m. About half an hour after anchoring, the wind which had been blowing fresh from S.S.W., shifted suddenly to south east and increased in force till eight o'clock, when it blew a perfect hurricane. All the vessels in port, including the *New England* and *Water Lily*, dragged both anchors. The weather continued most unsettled, compelling the fishing fleet to remain in harbor till the morning of the 17th, when a favorable change occurring, we all put to sea. As most of the foreign fishing fleet were now returning home through the Gut of Canso, I thought the presence of a cruiser in the Gut would have a good effect, and, therefore, proceeded to Plaster Cove; remained there till the 19th, and then went on to Port Hawkesbury, where my vessel could be seen from Port Mulgrave on the opposite shore. I am therefore enabled to report, that although a large number of schooners touched at different places on their way through the Gut I heard of no disturbances. I had received orders from Captain Scott to pay the vessel off at Chatham on the 25th, and should have left for that place after visiting Port Hawkesbury on the 19th, but strong north winds with rain and hail rendered it impossible to do so till the 22nd. On the 26th, I arrived at Chatham, and on the 28th paid off the crew and delivered up the *New England* to her owners.

From what information I could gather from fishermen along the coast and from masters of colonial and foreign vessels boarded, as well as from my own observations, I should say that the result of the season's fishing has been most satisfactory. Mackerel were first seen this year in Miramichi Bay and Bay des Chaleurs about the end of June; they came in large numbers, but at first were rather lean. Towards the middle of July, however, the quality of fish had much improved, and in August and September they were remarkably fine and plentiful. Cod were very plentiful all over the gulf and gave an abundant harvest to those engaged in this fishery. The catch of herring about Miscou and

in Miramichi Bay, was, I think, the only exception to the general success of the season. At the latter place, this may be attributed in a great measure, to the boisterous state of the weather during September as it is in the early part of that month that the herring fleet resort there and are to be seen in large numbers off Escumencac. Every precaution should be taken to prevent herring offal being thrown overboard on Miscou and other banks where the fish spawn. I am of opinion it would be a great advantage if a law were passed compelling those who fish for herring on these banks to have their nets so floated as to prevent the catching of more than a certain number of fish at one time; for I hear it frequently occurs that nets get overloaded and break, leaving large quantities of dead fish at the bottom to decay, the destructive effect of which must be apparent to all. Boat fishermen always bring their offal to the shore, but the difficulty is with the small schooners.

While the United States send every year to the shores of the Dominion a magnificent fleet, numbering several hundred schooners, colonial fishermen prosecute their calling principally by means of inshore fishing with nets and seines, and in large open boats. This may in a large measure account for the great value our fishermen set on their inshore fisheries, for I found it was principally amongst these poor people that the protection policy of the Government was the more fully appreciated. Not only these fishermen, but all residents along the coast and in the ports and roadsteads of the Dominion express much satisfaction at the existence of a Marine Police Force, as they feel its presence will be the means of preventing those lawless disturbances which frequently occurred whenever any number of United States' fishermen landed. I boarded all foreign vessels met with in our waters, and in every case was treated with the utmost civility. I was often questioned as to the action the Government and Legislature of the Dominion were likely to take with regard to the proposed fishery clauses of the late Treaty, and I always found American fishermen most anxious to participate in the great advantages of our inshore fisheries. It may not be out of place here to remark, that although the fishery question was much discussed by these men, it appeared to be very little understood. According to their idea, the only question at issue is whether or not, they shall be allowed to fish within the three miles' limit; but the much more important consideration involved in the "head-land dispute" they seemed to consider as settled in their favor, because they were permitted to enjoy it on sufferance, and quite ignore the fact that they have been admitted to the invaluable fisheries of our large bays for the last two seasons, solely through the liberal policy of the Dominion Government, but not as a matter of right.

Before closing my report, I beg to say that I experienced a great deal of difficulty during the summer's cruise with both colonial and foreign vessels in getting them to show their colors; and in the case of the former, I respectfully suggest that the Customs' authorities be requested to issue instructions in the matter.

Annexed will be found a list of vessels boarded.

I have the honor to be, Sir,

Your most obedient Servant,

D. M. BROWNE,

Navigating Lieutenant R. N.

Commander of Canadian Marine Police vessel "New England."

To the HON. P. MITCHELL,
Minister of Marine and Fisheries,
Ottawa.

APPENDIX X.

MARINE POLICE SCHOONER "LA CANADIENNE,"

QUEBEC, January 5th, 1872.

Sir,—According to your instructions "*La Canadienne*" sailed on the 22nd of April, for the Magdalen Islands to fulfil the double duty of protecting our fishermen and putting into force the "Fisheries Act." We arrived at the Islands on the 8th of May, and heard that the Government schooner "*Water Lily*," Commander Story, had already been there on the same errand. The fleet of fishing schooners, numbering ninety-eight, of which twenty-three were American, had been waiting for the herring, which soon made their appearance and afforded a most abundant harvest. After a stay of twelve days in the waters of these Islands, the Government schooner "*Stella Maris*," Commander Lachance, whose cruise I was to direct, having meanwhile joined us, and good order prevailing everywhere, we left Amherst on the 19th May, for Bay des Chaleurs and the coast of Gaspé where our presence was needed. Before leaving, I drew out for Commander Lachance, the course of his cruise during the season of 1871, and I am happy to say that his vigilance together with that of Commander Browne, was so efficient that there has only been one infraction of the Fisheries Act in the Bay des Chaleurs and along the Gaspé coast, where these gentlemen had special orders to cruise, and this infraction was punished by the seizure of the vessel and her cargo. After leaving the Magdalen Islands we had but little occasion to put in force the Fisheries Act relative to foreign vessels, for we were frequently called out of the track of American schooners; but on the 24th July, we fell upon the American schooner "*Samuel Gilbert*," Captain Hanan, from Gloucester, anchored near Perroquets Island, between the north shore and the Island of Anticosti: her boats were at the time fishing about 400 yards from the shore. This breach of the law was so glaring that I was obliged to seize the vessel and her cargo of 400 quintals of green cod. I experienced no difficulty in doing this, and with all possible consideration for the poor men who were losing there property, I declared her forfeited to the Crown. After collecting our evidence so as to justify our proceedings, we sailed for Gaspé, and then to Quebec where we were ordered to take our prize. We reached Quebec in the beginning of August, and on arriving I delivered the "*Samuel Gilbert*" into the custody of the agent of the Department, in obedience to your orders. After having sworn to the affidavits relative to this case, and having given Hon. Mr. Irvine, who had charge of the suit, all the necessary details, we again left Quebec on the 16th of August for the coast of Labrador. Continual contrary winds and storms, caused our cruise on these shores to last till the end of September; when we returned to the Bay des Chaleurs all foreign schooners had left. Having been prevented from visiting the Bay des Chaleurs during the season of Mackerel fishing I only ascertained by hearsay the number of foreign vessels which fished in these waters, supplied themselves with provisions or came into the different harbors through stress of weather. If the crews of these vessels had the liberty to come ashore, the need of a police will be greatly needed, unless the municipalities organise one themselves so as to protect their interests, but this is hardly possible or even probable. The service such as it was, before the season of 1870, when "*La Canadienne*" alone was employed in the protection of the immense extent of coast which borders the Gulf of St. Lawrence, was not and could not be effectively performed, notwithstanding all the activity and the best will in the world. This want has, however, been well understood, and there is no doubt that whatever may be the regulations hereafter adopted, the Government will always keep on the different stations a sufficient police force to ensure good order and tranquility, without which, no durable prosperity is possible.

I have the honor to be, Sir,

Your most obedient servant,

N. LAVOIE,

Government schooner "*La Canadienne*."

to the HON. P. MITCHELL,

Minister of Marine and Fisheries, Ottawa.

APPENDIX Y.

MARINE POLICE SCHOONER "STELLA MARIS,"

ST. MICHEL, 18th December, 1871.

SIR,—In obedience to your instructions, I have the honor to transmit the following report :—

On the 15th of April last, I had the honor to receive official information from your Department that you had been pleased to reappoint me to the command of the Government Marine Police schooner *Stella Maris*, for the season of 1871. I lost no time in shipping my crew, getting stores on board, and preparing for sea, as I understood that the presence of my vessel was required as early as possible at Amherst, Magdalen Islands, during the time of the herring fishing at that place.

On the morning of the 2nd May, we sailed from Quebec, with a favorable wind, which soon changed to a strong north east breeze. The wind blew from that direction, till the 7th, and we were obliged to put back from St. Michel to Patrick's Hole to seek shelter there, the wind being too strong to work down the river.

On the morning of the 8th, we sailed from Patrick's Hole, and had head wind most of the way down to Father Point, where I anchored on the morning of the 10th, having received instructions to call there before leaving Quebec. After a short stay of a few hours, we sailed for Magdalen Islands, my first destination, where we arrived on the morning of the 11th May. I found there *La Canadienne*, and called at once on Commander Lavoie, with whom I consulted about the fisheries, and received from him my instructions. I was told that herring had been so plentiful in Pleasant Bay since the 11th May, that as many as 400 barrels were caught in one haul of a seine. Mostly all the schooners were already loaded ; some had left for home. So much herring had not been seen for many years, and it has been certainly a godsend for many of the inhabitants who were really starving. On account of the scarcity of hay, to keep their cattle alive, they gave them potatoes, and they ran so short of them, that they had none left even to plant in the spring. On my arrival at Magdalen Islands, I found everything in order.

On the 16th May, I boarded an American vessel in for bait.

On the 17th, it blew a gale from the south west. I boarded three vessels at anchor in Pleasant Bay. I also boarded a brigantine, the *Typhy*, from Jersey, which left a few days after, with over one hundred fishermen to carry on codfishing on the coast of Labrador.

On the 18th, I boarded a vessel from Prince Edward Island, engaged in herring fishing.

On the 19th, we sailed across to House Harbor to obtain water.

On the morning of the 21st, two mackereling schooners entered Amherst Harbor.

Early on the morning of the 22nd, I noticed from my schooner, several vessels at anchor at the entrance of Amherst Harbor. Suspecting that some of them had not paid the harbor dues, though they were ready to sail, I boarded them all, and gave their names to J. J. Fox, Esq., Collector of Customs, who discovered that four of them had not yet paid their harbor dues, and suspecting that they intended to sail without paying, I took on board of my boat Mr. J. J. Fox, boarded the vessels, and ordered the masters to go ashore and settle with the Collector, which they did at once.

On the 24th, it blew so hard from the north west, that I had to let go both anchors to keep my vessel from drifting ashore.

On the 29th, I set sail to go down to Entry Island, five miles below Amherst Harbor. There are four families living on Entry Island, which is very fertile. Last spring, many of the inhabitants of Amherst were supplied with hay from that place, but as in many other parts of Magdalen Islands, firewood is scarce. In the afternoon, I sailed back to Amherst.

On the 31st, I went inside of Amherst Harbor and boarded twelve vessels engaged in mackerel fishing.

On the 1st June, I sent one of my men to Mr. Fox to enable him to raise a buoy making the limits where it is allowed to set nets and where it is not. I also took a cruise down Pleasant Bay and found nets laid in contravention to the law.

On the 3rd, I boarded an American vessel at anchor in Pleasant Bay ; she had called there for shelter.

On the 5th, fishermen began to set their nets for mackerel.

On the 6th, I sailed across to House Harbor to obtain water, and found everything in order. Hearing that there was something wrong with the light on Bird Rock, I decided to take a cruise down there as soon as possible.

On the 10th, I received news of the codfishing around Deadman's Island. It proved to be excellent ; barges catching from nine to ten drafts per day.

On the 11th, I sailed from Amherst to Bird Rocks, where we arrived in the evening ; but on account of the heavy surf breaking around the rocks, we could not land, and made for Bryon Island for shelter. I anchored in company with about fifty vessels from the Maritime Provinces, employed in codfishing. I could not board them on account of the wind.

On the 13th, the wind died away, and the schooners left for the fishing grounds. Towards evening, I landed on Bryon Island, where I found all well. About fifteen barges from Grosse Isle (Magdalen Islands), where fishing there,—they were doing well. Bryon Island is by far the most fertile of the group of the Magdalen Islands, and strangers are astonished to see such splendid farms on an island four and a half miles long by one mile broad, situated in the middle of the Gulf of St. Lawrence. I received the following information from Mr. Dingwell, the principal inhabitant of the place. Bird Rocks' light was clearly seen at a distance of twelve and a half miles since the first day it was lit. A good many young seals were found floating on the ice around the island ; but as the banks did not near the shores, none of them were killed. For many years the inhabitants never experienced such rough weather as they did in the spring.

On the morning of the 14th, I set sail for Amherst Harbor, where I anchored on the morning of the 15th. On my way up between Entry Island, and Amherst, I raised nine nets laid there in contravention to the law. During my temporary absence mackerel had been so abundant that many of the owners of nets being unable to heave all their fish, engaged some men to fish on shares.

On the morning of the 16th, after a good warning, and directions to strictly comply with the law, I returned the nets seized the day before to their owners. At the west point of Amherst Island, some forty or fifty barrels of eels were caught in one day.

On the morning of the 17th, two large beacons as a mark to the vessels not to anchor below them, were laid in the entrance of Amherst Harbor.

On the 19th, I gave Mr. Fox the help of some of my men to raise the buoy laid some days before as marks for the channel and the setting of nets.

On the 20th, mackerel fishing being nearly over, and presuming that my presence was no more required at Magdalen Island, I set sail for Gaspé to replace *La Canadienne*, during her absence on the coast of Labrador.

On the evening of the 22nd, we anchored at Perce, and found everything in perfect order. No American vessels had called there since the opening of navigation. Codfishing was very good ; barges averaging from seventy to eighty drafts daily.

On the 23rd I left for Gaspé, where I anchored on the morning of the 24th. I found there H.M.S. *Raccoon*, Captain Howard, with whom I consulted about the fisheries. The much needed light ship that you had determined to place on the north west extremity of Sandy Beach, was being prepared with all possible speed, under the superintendence of Jos. Eden, Esq. This light ship will be very useful to the numerous steamers and sailing vessels frequenting the harbor of Gaspé.

During the night of the 26th I left Gaspé Basin, and anchored at Grand River on the morning of the 27th. No American vessels had been seen off that place since spring. On the afternoon I sailed for Perce and found there the *Water Lily*, Commander Story.

On the morning of the 28th, I sailed from Perce to Point St. Peter. Cod fishing poor

No American vessels reported since spring. From Point St. Peter, I set sail for Chien Blanc, and from Chien Blanc to Gaspé Basin, where I anchored in the evening.

On the 30th, I received instructions from your Department to take a man on board to replace one of the lighthouse keepers at Bird Rocks. I sailed at once and arrived there on the 1st of July; landed the new keeper with great difficulty, and took back the other man. During a short stay of about two hours on the rocks, I visited the lighthouse and buildings, and found everything in order. I understood from the keeper, that some extra work had to be done for the safety of the keepers, and at my request, Mr. Carter was sent with men to do the necessary repairs. The day before I landed on Bird Rocks, the head keeper told me that during thick weather, a bark went ashore on the south east of the Little Bird Rocks; she got off, but had to be abandoned a short time after. A steam fog alarm would have saved that vessel. In the afternoon I left Bird Rocks for Perce, where I anchored on the 2nd. I boarded an American vessel in for shelter.

On the 3rd, I left Perce for a cruise up the Bay des Chaleurs. On my way up to Paspébiac, I noticed fifteen vessels, supposed to be American, standing well out of the limits. Very few American fishing vessels had visited Paspébiac since spring. In the afternoon I set sail for a cruise down Bay des Chaleurs. Off Point Maquereau, I noticed some twenty fishing schooners standing in the middle of the bay, well out of the limits. I saw no other fishing schooners on my way down to Gaspé, where I anchored on the 7th. On my arrival, I received instructions from your Department to repair a second time to Bird Rocks, and convey there a man appointed to replace one of the keepers.

On the 8th, we set sail for Bird Rocks, 155 miles distant, and after a very rough passage, but favorable winds, we reached there at five o'clock next morning, but on account of the surf breaking around the island, could not land, and had to steer for Bryon Island to seek shelter.

On the 10th, I vainly endeavoured to land on the Rocks, the wind was so strong that it was with the greatest difficulty we reached the anchoring ground at Bryon Island.

On the 11th, I landed safely the new keeper on Bird Rocks, found everything in perfect order, took on board the other keeper, and sailed at once for Gaspé, where I arrived on the afternoon of the 12th. On my way up to Gaspé Basin, during the night, I was pleased to see that a floating light, with a temporary lantern had been placed on Sandy Beach. This floating light may be considered as absolutely necessary in such a place.

On the morning of the 14th, I set sail for Seven Islands, where I heard that some American vessels were fishing inside the limits.

On the 15th, I anchored in the Bay of Seven Islands. I saw no American fishing vessels during the two days I cruised around those islands.

On the morning of the 16th, *La Canadienne* anchored near the *Stella Maris*, in the Bay of Seven Islands. I called on Commander Lavoie, who gave me my instructions. In the afternoon both *La Canadienne* and the *Stella Maris* set sail for their destinations.

On the morning of the 18th, I anchored in Gaspé Basin.

On the 19th, I set sail for Perce. H. M. S. *Raccoon*, Commander Howard, passed us on her way up to Gaspé Basin.

On the 20th, I returned to Gaspé Basin to get an anchor repaired.

On the morning of the 24th, I left Gaspé Basin for a cruise up the Bay des Chaleurs, having communicated with Commander Howard, H. M. S. *Raccoon*, who told me he had only met two American fishing schooners in his last cruise in Bay des Chaleurs.

On the morning of the 25th, when off Grand River, I spoke to a fisherman who told me that cod and mackerel fishing was very abundant. No American fishing vessels had called there since the spring. I noticed some very large shoals of mackerel.

On the 26th, when off Point Maquereau, I noticed a good many fishing schooners standing well out of the limits. In the afternoon I anchored at Port Daniel. Cod and salmon fishing was poor at that place. Only two American fishing vessels had anchored there since spring.

On the 27th, I sailed from Port Daniel to Paspébiac, where I anchored on the 28th.

I found here two Government cutters, the *New England* and the *Water Lily*. Very few American vessels had visited Paspébiac since spring. After a short stay, I set sail for Magdalen Islands, where I anchored on the 30th.

On the 31st I landed on Amherst Island, where everything was well; cod and mackerel fishing very good. Mackerel had been so abundant that barges were catching daily as many as ten barrels, for which they received two dollars per barrel. Barges were averaging from sixty to seventy drafts of codfish each since spring. A good many American fishing vessels had already visited Magdalen Islands, and they had done very well.

On the 1st of August, I set sail for House Harbor to obtain water and went back to Amherst in the evening.

On the 2nd, I boarded two American vessels in for water. Towards evening, I received a letter from Mr. Felix Painchaud, requesting me to stop at Amherst until the 4th, to be present and assist the authorities in case of any trouble in the Court House, in an action brought against one of the inhabitants for disturbing the public peace. Everything went on quietly, though there was a large crowd present.

On the 5th, I set sail for Bryon Island. When off the east end of Magdalen Islands I passed a large fleet of American vessels anchored there for shelter, but the wind was too strong to board any of them. After a short stay at Bryon Island, I set sail for Perce, where after a very rough passage, I anchored on the morning of the 8th. All was well at Perce. No American vessel had called there since my last visit. I left for Gaspé, where I anchored in the afternoon. On my arrival at Gaspé, I received instructions from Commander Lavoie to take on board Mr. J. F. Whiteaves, sent on behalf of the Natural History of Montreal, to endeavour to ascertain by dredging, the nature of the mineral and vegetable life of the greater depths of the River and Gulf of St. Lawrence, &c.

On the 9th, I boarded an American vessel in Gaspé Basin for shelter.

On the 11th, Mr. Whiteaves came on board, and I left Gaspé Basin to go on with my usual cruising with the intention to give as much chance as possible to the dredging without neglecting my duty in regard to the protection of the fisheries.

On the 12th, we threw the dredge half way between Gaspé and the West point of Anticosti.

On the 15th, I landed at Griffin's Cove. All was well there. Summer codfishing had been very good. I left again for Anticosti.

On the 17th, I anchored at Mingan for water. No American vessels had been seen fishing off that place since spring. I left again towards evening for a cruise towards the East end of Anticosti.

On the morning of the 18th, we anchored at Esquimaux Point. All was well. Fifteen schooners were at anchor there preparing to go herring fishing. The population of Esquimaux Point is about 600 or 700 souls, all emigrated from Magdalen Islands. I left Esquimaux Point to continue cruising towards the end of Anticosti.

On the evening of the 19th, from the east of Anticosti, we took our departure to go on dredging in 313 fathoms, the deepest place known in the Gulf of St. Lawrence, about thirty miles south of the east end of Anticosti lighthouse. We had hardly time to throw the dredge twice, when the wind suddenly sprung up from the north west with such a violence that we had to steer for Bryon Island, sixty miles distant, to seek shelter there. In the evening we anchored at Bryon Island.

On the 20th, I boarded seven American vessels at anchor there for shelter.

On the 21st, I landed on Bryon Island, where all was well. No complaint against any of the fishing schooners was made before me this year by the inhabitants of Bryon Island. I settled a dispute between two fishermen before leaving. At 10.30 a.m., I set sail for Gaspé with a strong breeze of head wind, and after a very rough passage, I anchored in Gaspé Basin on the 23rd. Mr. J. F. Whiteaves left Gaspé for Quebec on the 24th.

On the 25th, having received instructions to proceed with the Government cutter to

the Bird Rocks, with material and men under the superintendence of Mr. Carter, I immediately put the vessel at his disposal. On the afternoon, I sent my two boats down the Peninsula, some four miles below Gaspé Basin, to get some twenty bags of sand to take to the Bird Rocks.

On the 25th, I hove anchor and took my vessel alongside the wharf, and by sundown the whole cargo consisting of deals, planks, kegs of nails, lime, sand, &c., was on board.

On the 27th, I set sail for Bird Rocks, where I arrived on the morning of the 29th. We immediately set to work to land the materials which were taken ashore in less than three hours, in spite of all dangers and difficulties. Before leaving I boarded six American vessels at anchor there for shelter. Mackerel was reported very abundant. In the afternoon I set sail for Gaspé, leaving Mr. Carter and his men to do the necessary repairs for the comfort and safety of the keepers.

On the 30th, I arrived at Gaspé. The vessel was under repairs up to the 1st of September, when I set sail for a cruise round the east end of Anticosti.

On the 2nd, we made Chaloupe Creek. During the night we noticed the new light erected on the south point of Anticosti; that light shows very well, and was certainly needed at such a dangerous place. It makes the fourth light on Anticosti.

On the 3rd, the wind veered round to the north west, we made for Bryon Island to seek shelter. Early in the morning, I sailed down to Bird Rocks, in case the carpenters might have finished their work. I landed without any difficulty, but the carpenters had not done. While there I boarded five American vessels. In the afternoon I left for Bay des Chaleurs.

On the 6th, I anchored at Paspebiac. Very few American fishing vessels were in Bay des Chaleurs at the time. Most of the fleet were fishing around Magdalen Islands, where mackerel was abundant.

On the 7th, I left Paspebiac for a cruise down the Bay des Chaleurs. I saw no American fishing vessel on my way down to Gaspé Basin, where I anchored on the 9th. In the afternoon I left again for Perce, where I anchored on the 10th.

On the 10th, I left for Bird Rocks, from which I had to take Mr. Carter and his men.

On the evening of the 11th, I got the men off the Rocks with great difficulty, and sailed again for Gaspé at 7 p.m. On leaving Bird Rocks, I made sure by the patent log that the light could be seen plainly from the deck of a schooner at a distance of twenty miles.

On the 13th, I anchored in Gaspé Basin, where I landed Mr. Carter and his men.

On the 15th, I set sail for Magdalen Islands, where I anchored on the 16th. In the afternoon I boarded two American fishing vessels in for water.

On the 17th, I boarded two American fishing vessels in for shelter. The master of one of them told me he had taken 750 brls. of mackerel with the hook up to the present time; he added that many of their vessels were on their third trip. Pleasant Bay was full of mackerel at the time. In the afternoon I went to House Harbor, where the news about the fishing was as good as at Amherst. On the same evening I sailed back to Amherst Harbor.

On the morning of the 21st, I set sail for Gaspé, where I arrived on the 25th. On my arrival at Gaspé I received instructions to return to Amherst with a supply of coal oil for that light. I was prevented from going on that day by a gale of north east wind, which delayed my departure up to the 29th, when I set sail for Amherst, where I arrived on the night of the 30th; landed the coal oil, and set sail a few hours after for Gaspé.

On the 1st of October, when about thirty-seven miles from the west point of Amherst Island, in a strong breeze of wind, our main mast broke at the deck and fell down with a great crash. With great difficulty, and at the risk of our lives, we saved the mizen mast, and after four hours hard work set everything as right as our position would permit. A bark bound to Miramichi, the *Eva*, came near us, and asked if we required any assistance. I thanked the Captain for his kindness, but did not avail myself of his kind offer. We

arrived safely at Gaspé on the 3rd. I lost no time in getting the vessel repaired. I had to go ten miles in the wood to get a new main mast.

On the 11th, the repairs were completed, but on account of bad weather, I was kept up to the 14th, when I set sail for a cruise up the Bay des Chaleurs. On my way up to Paspébiac I experienced a very strong gale from the north west.

On the 17th, we anchored at Paspébiac, where all was well. American fishing vessels had all left Bay des Chaleurs. In the afternoon I set sail for Gaspé, where I arrived on the 20th. and after taking a supply of firewood and water and having settled my accounts, I sailed for Quebec on the 21st. After a very rough passage, I anchored at Quebec on the morning of the 29th; landed the stores, discharged the crew, and gave up the vessel to the owner on the 30th October.

I have the honor to be, Sir,

Your obedient servant,

L. H. LACHANCE.

APPEN

GENERAL STATEMENT of Vessels boarded during the Season

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessels.	Owners.	Master.	Tons.	Men.	
Edward Stanley	T. E. Daniels	Alfred Hall	59	13	Welfleet.....
P. L. Whiton	Whiton Bros.	E. G. Rich.....	77	14	Hingham....
Fannie L. Nye	Atkinson, Nye & Co.	Alexander Olson....	70	15	„
John A. Taylor.....	Moses B. Town....	B. H. Lombard.....	44	13	Boston
Thomas Hunt	Benjamin H. Collis.	N. Parsons	63	15	Gloucester.....
Cora Greenwood....	S. Riggs.....	James Daunton....	38	12	Georgetown, Me.....
P. D. Smith.....	Smith & Oakes.	A. Burnham.....	69	12	Gloucester.....
Messenger.....	John F. Wonson....	Edgar Baxter.....	66	15	„
George Peabody	C. C. Pettinger.....	Daniel Gray	68	12	Salem
Navada	Wm. H. Friend	William Lawrence..	62	14	Gloucester.....
D. M. Hilton.....	Callahan & Co.....	Thomas Callahan ...	66	12	„
Tragabigzanda.....	Wonson & Co.....	E. F. Wotton.....	68	12	„
A. H. Wonson	McKenzie & Co.....	Webber	63	16	„
Profit	Clark, Finney & Co.	D. L. Marsters	50	6	Plymouth
Orinoco	J. D. Churchill.....	Goodwin	60	10	„
Southern Cross .....	.....	McInnis.....	72	12	Gloucester.....
White Eagle .....	.....	N. Goodwin	71	12	„
Allen Dale	Doane.....	Willson	69	10	Harwich
Mary Carlisle .....	.....	W. Thompson	76	12	Gloucester.....
John Wesley .....	.....	.....	50	4	Roch Port.....
Profit	Clark, Finney & Co.	D. L. Marsters	50	6	Plymouth
B. F. Rich	F. Halliard	Neil Campbell	67	13	Provincetown.....
Exchange	Whalen & Allen	M. McInnis	54	10	Gloucester.....
Gutro	H. Pitman	M. McDonald	75	14	Marble Head
Seychell.....	Cook & Co.	Dillin	47	10	Provincetown.....
Georgia	J. Parker	J. Parker	52	4	Gloucester.....
E. A. Horton.....	McKenzie & Co.....	W. H. Gray	66	15	„
Freedom	W. Danes & Co.....	Thomas Groves	34	9	Newbury Port.....
Tally Ho.....	R. Ford	R. Ford	20	5	Gloucester.....
W. H. Lovett	H. Pitman	Joseph Goodwin	58	13	Marble Head

DIX Z.

of 1871, by Officers in command of the Marine Police.

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1871.			
July 30	S.W. side Pictou Isl'd	Capt. P. A. Scott, Com., Steamer <i>Lady Head</i> ..	Fishing off the East Cape of Prince Edward Island. Catch, 50 brls. mackerel. Not fishing inside limits.
" 30	"	"	Was fishing in George's Bay. Catch, 100 brls. mackerel this week.
" 30	"	"	Fishing off Prince Edward Island. Catch, 70 brls. during past week.
" 30	"	"	Fishing along shore. Catch, 120 brls. in 12 days. Was in Georgetown on the 27th July.
" 30	"	"	Fishing in George's Bay. Catch, 85 brls. of mackerel. Left the Straits a week ago.
" 30	"	"	Came from Canso last. Fishing in George's Bay. Catch, 50 brls. mackerel in a week.
Aug. 16	Port Hood.....	"	From St. Peter's Bank, with halibut. Catch, 20,000 lbs., and 10,000 lbs. codfish. Six weeks from home.
" 24	Whitehaven	"	Returning home; put in for a harbor. Six weeks from home; 240 brls. mackerel. Fishermen leaving the bay; nothing to be had on west shore; more to be had around the Magdalen Islands.
" 25	"	"	From Grand Bank, Newfoundland; 7 weeks from home. Catch, 1,100 qntls. codfish; put in for a harbor.
Sept. 29	"	"	From North Bay, bound home with 300 brls. mackerel; mackerel very scarce; 2½ months from home. Reports very few fishermen in the bay.
Oct. 5	"	"	From Gloucester, bound to Grand Bank; put in for bait.
" 5	"	"	From Western Banks, seeking bait; returning to Western Banks. Catch, 3,000 lbs. halibut; 9,000 lbs. codfish.
" 9	"	"	Had been fishing at the Magdalen Islands, round Prince Edward Island, Miscou, and Escuminac. Catch, 200 brls. mackerel. Returning home.
June 12	Ingonish	James A. Tory, Com., Schooner <i>Ida E.</i>	Fishing supplies; just arrived upon the coast.
" 27	Sydney	"	250 qntls. codfish; from Grand Banks.
" 29	Cow Bay	"	1,500 lbs. cod and halibut; from Scattarie Banks.
July 6	Cape Canso	"	500 qntls. codfish; from St. Peter's Bank.
" 6	"	"	Fishing supplies; in for bait.
" 9	Louisburg	"	80,000 lbs. halibut; in for ice.
" 21	Strait of Canso	"	Ballast; had discharged cargo at Halifax and Strait of Canso.
" 25	Aspy Bay	"	200 qntls. codfish; was purchasing cargo.
" 29	Sydney	"	800 " from Grand Bank; wanted bait.
" 31	Cow Bay	"	900 " bound home.
Aug. 19	"	"	1,400 " from Grand Bank; bound home.
" 26	Strait of Canso	"	800 " from Bank Bradley.
" 31	Port Hood.....	"	387 brls. bait; sold cargo at Port Mulgrave, Prince Edward Island, and Port Hood.
Sept. 1	St. George's Bay....	"	240 brls. mackerel; in shore and seized her.
" 8	Strait of Canso	"	209 brls. mackerel; caught cargo at Prince Edward Island and Magdalene Islands.
" 11	Port Hood.....	"	45 brls. mackerel; Prince Edward Island and St. George's Bay.
" 12	"	"	Fishing supplies; just arrived upon the coast.

GENERAL STATEMENT of Vessels boarded during the Season of 1871,

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessels.	Owners.	Master.	Tons.	Men.	
Emma Browne.....	S. B. Moray & others	J. Greenlow	48	11	Deer Isle
Wild Fire	B. Berce	B. Berce	109	16	Gloucester.....
Sunshine	John Pugh	G. Rogers	66	15	"
G. Clark	G. Clark & Co	A. Gray	65	15	"
Lorra Seward.....	Seward	A. McPherson.....	60	14	"
Baracouta.....	D. Brown	B. Cook	68	16	"
Lillian Gertrude ...	D. Salem	J. Hurst	58	16	"
W. T. Smith	Sayward	S. Smith	83	18	"
O, Eldridge	B. Collins	H. Smith	65	17	"
A. H. Wonson.....	McKenzie & Oulton.	B. Webber	54	16	"
Electric Flash	Daus & Air.....	J. McDonald	80	17	"
W. V. Hutchings..	Somes & Friends....	T. W. Gray	62	16	"
John Smith	Smith & Oakes	Charles Clafford ...	64	14	"
Alfafa.....	Parkins	John Drora.....	56	13	"
Collector	Webb & Whitman..	A. Webb	64	11	Deer Isle
H. C. McKay	Parsons	W. Whitman	63	15	Gloucester.....
General Grant.....	McDougall & others.	Farnham	50	10	Booth Bay
Bonaventure.....	Montgomery & Co.	W. Knight	50	11	"
Old Chad	McKewan	McElenton	70	16	"
S. McKewan	Parsons	Parsons	74	18	"
Sciota.....	D. Allan	A. Tarr	33	8	Gloucester.....
Tidal Wave	R. Pew	Goslin.....	65	16	"
Syren	J. Pichet	Charles Hines	57	11	Beverly
Good Templar	Samuel Lane	Nason.....	57	15	Gloucester.....
Laura A. Dood	Layton & Co.	P. Malady	94	20	"
J. W. Roberts	J. W. Bradley	J. C. Thompson	75	13	Lockport.....
General Grant	John Pew & Co.	James Bowie	86	16	Gloucester
Prima Donna.....	E. L. Marr.....	J. Spofford	55	14	Southport
Rebecca J. Evans..	W. H. Morgan	W. H. Morgan	78	16	Newburyport
Messenger.....	J. F. Wanson	E. Barter	66	15	Gloucester.....
Wiona	McDougall & Race ..	M. Adams.....	61	15	Boothbay.....
Yo Semite.....	George Brown & Co.	L. Latham	76	12	Gloucester.....
Willie Seavy	Trefethen	Tarlton.....	33	11	Portland
Georgiana	Baker	Baker	55	4	Gloucester
Franklin S. Schenck.	Bradley & Co.	A. Grimes	46	10	Rockport.....
Challenge.....	Maddocks & Knowles	E. McGuire	56	14	Gloucester.....

by Officers in command of the Marine Police.—*Continued.*

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1871.			
Sept. 12	Port Hood.....	James A. Tory, Com., Schooner <i>Ida E.</i>	130 brls mackerel; Prince Edward Island and Magdalen Islands.
" 12	"	"	200 brls. mackerel; Magdalen Islands.
" 12	"	"	93 " "
" 12	"	"	90 " "
" 12	"	"	180 " "
" 12	"	"	100 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	175 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	350 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	400 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	125 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	225 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	160 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	90 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	100 brls. mackerel; Magdalen Islands and Bay Chaleur.
" 12	"	"	115 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 12	"	"	190 brls. mackerel; Magdalen Islands.
" 12	"	"	200 " "
" 12	"	"	110 " "
" 12	"	"	Fishing supplies; just arrived upon the coast.
" 12	"	"	"
" 13	"	"	90 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 13	"	"	170 brls. mackerel; Magdalen Islands and Prince Edward Island.
" 22	Louisburg	"	700 qntls. codfish; Bank Quero.
" 29	Cape Canso	"	140 brls. mackerel; Magdalen Islands and Prince Edward Island.
Oct. 16	Guysborough	"	400 brls. mackerel; Magdalen Islands and Prince Edward Island.
June 30	Port Daniel	D. M. Browne, Com., Schooner <i>New England</i>	Caught 250 brls. mackerel in a fortnight, prin- cipally off Miscou.
July	4 2' off shore to South of Pocomouche	"	Had been successful.
" 19	14' off Miscou	"	Suspected of fishing. Ordered further off the coast.
" 20	Bay Chaleur, Paspe- biac	"	65 brls. mackerel in one week off Miscou.
" 20	Paspebiac	"	Appeared not satisfied with catch.
" 22	24' off Miscou	"	Fair catch, but fish very lean.
" 23	24' off Miscou	"	Come to Bay Chaleur for purpose of purchasing bait. Bound to Newfoundland for halibut fishing.
Aug. 12	Shediac	"	Fishing 24' from shore. Warned and ordered off.
" 16	Paspebiac	"	Intended to sell a cargo of pogies along the coast. Warned that this would be a breach of our coasting regulations.
" 16	"	"	Seized for fishing with nets within 295 fathoms from the shore off Paspebiac. Had on board 19,000 lbs. of codfish, caught principally on the Orphan Bank.
" 16	"	"	Just arrived.

GENERAL STATEMENT of Vessels boarded during the Season of 1871

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessel.	Owner.	Master.	Tons.	Men.	
Chanticleer.....	Whalen	J. Connell.....	36	11	Boston
G. W. Brown.....	Thurlow.....	Thurlow.....	65	15	Newburyport
Clara S. Chapman ..	Dennis Nair	David Stinson	68	14	Gloucester.....
Lizzie Thompson ..	Burrell & Co.....	A. Roaf	70	14	Newburyport
James G. Tarr.....	Dadd, Tarr & Co. .	R. Reaves	82	18	Gloucester.....
Annie Lewis.....	Warren & Colman .	L. Knight.....	52	12	Deer Island, Maine
Samie McKown	McKown & Parsons.	Parsons	73	18	Booth Bay.....
Ellen Frances	Knowles & Maddocks	G. A. Emery	55	13	Gloucester.....
Typhoon	Eldridge & Stetson..	S. Frost	51	14	Chatham, Cape Ann
Ruth Groves	J. T. Clark	W. Gould	68	16	Gloucester.....
Jennie Armstrong..	Jewett & Co	A. McCullam	69	14	Westport, Maine
Frank Treat.....	F. Treat.....	A. Sawyer.....	109	21	Winterport.....
Barracouta.....	Brown, Bros.....	B. Cook	68	16	Gloucester.....
Sultana	Leighton & Co.....	J. Scott	69	14	"
Bay State	Leighton & Co.....	A. Thomas	52	12	"
Elona C.....	Smith & Galt	R. Finningham	65	14	"
Electric Flash	Ayers & Co.....	J. McDonald	82	16	"
Sunshine	John Pew & Son, .	George Rogers	66	15	"
T. L. Mayo	Dodd & Tarr	J. Pritchett	62	12	"
Fannie R.....	D. Allen	N. Gardner	55	11	"
Fish Hawk.....	Pew & Co.....	L. McLean	48	12	"
White Eagle.....	Row, Jordan & Co.	N. Godwin	70	15	"
Gleaner	Wanson & Co.....	E. McLellan	65	13	"
D. E. Woodbury....	Fernald & Serjeant..	J. M. Gray.....	65	15	"
Montana	J. Row & Co.....	J. Welsh	62	14	"
Fitz. J. Babson.....	J. Cusheon	E. Stapleton	70	16	"
Cioto.....	D. G. Allen	A. Tarr	33	10	"
Restless	Clarke & Soames....	George Bayley	64	16	"
T. W. Homan	"	G. Murphy	66	15	"
Wildfire	Bearse & Co.....	G. Bearse	109	16	"
Pathfinder.....	J. Cushing	J. Cushing	65	16	"
Alfaepha	Charles Parkhurst ..	J. Drury	55	14	"
Fanny R.....	William Allen	H. Gardner	69	15	"
Typhoon	Eldridge & Stitson ..	S. Frost	51	13	Chatham
Mary Edwards	W. Lennox	S. Greenleaf	69	16	Booth Bay
T. J. Babson	J. Cushing	E. Stapleton	70	16	Gloucester.....
Enola C.....	Smith & Gott	E. Cunningham	65	14	"
Gleaner	W. C. Wanson	McCleam	65	14	"
Franklin Treat.....	Frank Treat.....	A. G. Sawyer.....	109	21	Winterport.....
E. Crowell.....	Whelan & Co.....	- Greenleaf	67	15	Gloucester.....
C. B. Chapman	Denis Ayer	D. Stinson	68	15	"
Laura A. Dodd	Leighton & Co.....	P. Malady	94	20	"
Lady Franklin	Olson	- Olson	60	12	"
Montana	Roe & Jordan	J. Welch	62	13	"
James G. Tarr.....	Tarr & Co.....	R. Reeves	85	18	"
Pathfinder.....	J. Cushing	J. Cushing	65	16	"
White Eagle.....	Roe & Jordan	N. Goodwin	70	14	"
Barracouta.....	Brown Bros.....	B. C. Cook	68	16	"
Annie Hooper	Merrick & Davis	R. Beeton	69	18	"
H. A. Johnson	W. Parsons	J. Gardner	63	16	"
W. H. Loritt	Pitman & Son	J. Goodwin	54	14	Marble Head.....
J. W. Roberts	J. W. Bradley & Co.	Thomson	75	18	Gloucester.....
M. C. Roe.....	David Lowe & Co....	Edward Cash	78	18	"

by Officers in command of the Marine Police.—*Continued.*

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1871.			
Sept. 8	Off Portage Island..	D. M. Browne, Com., Schooner <i>New England</i>	190 brls. in Bay Chaleur and Miramichi Bay.
" 8	"	"	420 brls. in eight weeks, principally between Miscoou and North Cape.
" 29	Port Hood.....	"	Very good catch. Fished in all parts of the Gulf. Landed 125 brls. at Canso.
Oct. 14	"	"	283 brls. in six weeks. Escuminac and Miscoou.
" 14	"	"	460 brls. since 20th July. Landed at Canso.
" 14	"	"	130 brls. since middle of August. Landed 140 brls. at Canso.
" 14	"	"	200 brls. in two weeks, principally Prince Ed. I.
" 14	"	"	50 brls. in five weeks, principally Prince Ed. I.
" 14	"	"	Poor luck. Been in Bay three weeks only.
" 14	"	"	400 brls. in 12 weeks. Landed 150 brls. at Canso.
" 14	"	"	300 brls. in seven weeks on Bradley Bank.
" 14	"	"	330 brls. in seven weeks, principally North Cape.
" 15	"	"	Landed portion at Charlottetown, Prince Ed. I.
" 15	"	"	180 brls. in nine weeks. Second trip.
" 15	"	"	250 brls. in seven weeks on Bradley.
" 15	"	"	160 brls. in seven weeks, from North Cape to Bradley
" 15	"	"	230 brls., North Cape and Bradley.
" 15	"	"	350 brls. since August 1st, principally at Magda- len and Miscoou.
" 15	"	"	165 brls. in seven weeks.
" 15	"	"	270 brls. in eight weeks, principally Magdalen and East Point.
" 15	"	"	50 brls. in three weeks. Second trip, East Point.
" 15	"	"	30 brls. in five weeks, principally Magdalen.
" 17	"	"	150 brls. in four weeks, principally Prince Ed. I.
"	"	"	130 brls. in five weeks. Second trip, principally East Point.
Oct. 18	Plaster Cove.....	"	230 brls. in eight weeks, principally North Cape.
" 21	Point Hawkesbury ..	"	150 brls. in eight weeks, principally East Point.
" 21	"	"	470 brls. in ten weeks, principally Magdalen Islands.
Sept. 8	Port Hood	G. V. Story, Com., Schr. <i>Ellie G. McLean</i>	80 brls. mckrl, caught at St. George's Bay, P.E.I.
" 10	Canso	"	190 " Bird Rocks.
" 10	"	"	180 " "
" 13	Port Hood.....	"	200 " "
" 14	"	"	625 " "
" 21	"	"	round Prince Edward I.
" 21	"	"	Miscoou & P. Edward I.
" 22	"	"	round Prince Edward I.
" 22	"	"	Just arrived.
" 22	"	"	160 brls. mckrl, caught round Prince Edward Island
" 22	"	"	160 " at Magdalen Islands.
" 22	"	"	160 " round Prince Edward Island
" 22	"	"	287 " at Magdalen Islands.
" 29	"	"	330 " Bradley Banks & P.E.I.
Oct. 5	"	"	200 " P.E.I. & Magdalen Isles.
" 5	"	"	300 " round Prince Edward I.
" 5	"	"	400 " Magdalen and P.E.I.
" 5	"	"	250 " "
" 5	"	"	150 " "
" 5	"	"	200 " "
" 8	"	"	100 " Cape Breton & P.E.I.
" 8	"	"	100 " "
" 8	"	"	170 " (2nd trip.) "
" 8	"	"	320 " "
" 8	"	"	220 " "
" 8	"	"	30 " "
" 8	"	"	320 " (2nd trip.) "
" 8	"	"	320 " "

GENERAL STATEMENT of Vessels boarded during the Season of 1871,

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessel.	Owner.	Master.	Tons.	Men.	
Annie Lewis.....	Warren & Coleman.	L. Knight.....	52	12	Deer Island, Main.....
Samie B. McKeon..	McKeon & Parsons.	— Parsons.....	73	18	Booth Bay.....
Ellen Frances.....	Knowles & Madden.	G. Emery.....	55	13	Gloucester.....
Isath Groves.....	J. J. Clarke.....	W. Gould.....	68	16	Westport, Maine.....
Jeanie Armstrong..	Jewitt & Co.....	A. McCullum.....	69	14	Gloucester.....
Satana.....	A. Leighton & Co.	J. Scott.....	69	14	Gloucester.....
Bay State.....	—	A. Thomas.....	52	12	—
Electric Flash.....	Ayers & Co.....	J. McDonald.....	82	16	—
Steeple.....	Pugh & Son.....	G. Rogers.....	66	15	—
J. L. Mayo.....	Dodd & Tarr.....	J. Pritchard.....	62	12	—
Rich Hawk.....	Pugh & Son.....	L. McLean.....	48	12	—
Mary S. Hard.....	Eldridge & Stitson	S. Frost.....	54	12	Chatham, Cape Cod.....
William Porter.....	J. Dilling.....	C. Rolly.....	103	16	Kingston, Mass.....
Vesta.....	C. & D. F. Weekes	C. L. Ireland.....	36	9	Dennis, Mass.....
Mary E. Daniels.....	Whelan & Wanson.	E. Joyce.....	68	12	Gloucester.....
William F. Smith.....	D. Sayward.....	Sidney Smith.....	83	16	—
Colonel Ellsworth..	L. Owen.....	L. Owen.....	82	10	—
Edwards.....	D. Rich.....	G. Parsons.....	74	9	Boston.....
Charles Haskell.....	S. Haskell.....	G. H. Davis.....	65	8	Gloucester.....
M. J. Benson.....	James Cushing.....	G. Stapleton.....	59	12	—
General Grant.....	J. Pugh & Son.....	S. Bowie.....	86	12	—
Emercy.....	Charles Parkhurst	V. Jays.....	75	18	Rockport, Maine.....
J. W. Roberts.....	J. W. Brady & Co.	J. E. Thomson.....	75	12	Gloucester.....
Stephen S. Day.....	H. Hardy.....	H. Hardy.....	86	18	—
General Grant.....	D. Lowe.....	— Burch.....	86	18	—
Orinoco.....	Harlow & Churchill	D. Goodwin.....	51	10	Plymouth.....
Levee Rich.....	Barby, War & Co.	P. Bryant.....	92	18	Salem.....
Barbours.....	Brown & Bros.....	B. G. Cook.....	68	16	Gloucester.....
King Fisher.....	Cowan McKown.....	Jackson Hodgson.....	54	14	South Port.....
A. H. Lennox.....	W. P. Lennox.....	G. B. Colbey.....	72	16	Westport.....
W. P. North.....	D. Maywood.....	Sidney Smith.....	83	16	Gloucester.....
R. G. Davis.....	W. H. Morgan.....	W. H. Morgan.....	78	16	Newburyport.....
Franklin Treat.....	Frank Treat.....	A. G. Sawyer.....	109	21	Wintertown.....
B. K. Dwyer.....	McGowan.....	G. Reed.....	62	15	Booth Bay.....
G. W. Pierce.....	G. W. Pierce.....	David Pass.....	62	18	Southport.....
Letitia B. Read.....	McDougal & Race	G. Blake.....	58	14	Booth Bay.....
Harvest Home.....	J. Knowles & Co.	John Knowles.....	67	17	Gloucester.....
Epiphany.....	J. Young.....	J. Young.....	43	15	Rockland.....
W. E. Terry.....	S. Friend & Bros.	J. Melrose.....	63	12	Gloucester.....
Fanny B.....	William Allen.....	H. Gardner.....	69	15	—
Harvest Home.....	J. Knowles & Co.	John Knowles.....	67	17	—
Exchange.....	P. L. Whitney.....	A. S. Call.....	53	12	Kingham.....
Lucknow.....	—	S. Smith.....	53	12	Province Town.....
Edwards.....	—	W. Partson.....	74	9	Boston.....
George Walter.....	—	T. Allwood.....	54½	12	Province Town.....
Kearney.....	—	S. Newcombe.....	41	10	—
Cornbrook.....	—	R. Spiney.....	63	12	Gloucester.....
Ladona.....	—	Long.....	49	10	Province Town.....
Hanford.....	—	Newcombe.....	45	11	—
Evered.....	—	G. Nicholson.....	41	10	—
Orinoco.....	—	S. Goodwin.....	51	10	Plymouth, N. S.....
General Grant.....	—	Bowie.....	86	15	Gloucester.....
Carrie G. Doyle.....	—	Dagle.....	74	17	—
J. J. Clark.....	—	Charles Lee.....	69	15	—
W. B. Merchant.....	—	N. Kenney.....	76	12	—
Perless.....	—	E. Sanders.....	42	12	—
Edith Emma.....	—	Levy.....	37	4	Maine.....
Willie Henry.....	—	E. Thornton.....	33	11	Portland.....
Henry A. Johnson..	—	J. Gardner.....	60	14	Gloucester.....

by Officers in command of the Marine Police.—Continued.

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1871.			
Oct. 11	Port Hood.....	G. V. Story, Com., Schr. <i>Elta G. McLean</i>	100 brls. mckrl., caught at Cape Breton & P.E.I.
" 11	"	"	180 " " Magdalen and P.E.I.
" 11	"	"	45 " " Cape Breton and P.E.I.
" 11	"	"	230 " " "
" 11	"	"	300 " " Magdalen & Bradley Banks.
" 14	"	"	250 " " North Cape, P.E.I., and Bradley Banks.
" 14	"	"	160 " " "
" 14	"	"	350 " " Magdalen and Miscou.
" 14	"	"	165 " " Magdalen Islands.
" 14	"	"	270 " " Magdalen and P.E.I.
" 14	"	"	30 " " (2nd trip.) Magdalen Islands.
May 2	Canso	"	Codfish caught at Western Banks.
" 4	"	"	" " "
" 5	Port Mulgrave.....	"	" " "
" 5	Port Hood.....	"	300 qntls. halibut, caught at Western Banks.
" 8	Magdalen Islands	"	Herring, caught at Magdalen Islands.
" 8	"	"	" " "
" 8	"	"	Codfish, caught at North Cape, Cape Breton.
" 8	"	"	300 brls. herrings, caught at Magdalen Islands.
" 8	"	"	Codfish, caught at Western Banks.
" 8	"	"	" " "
" 8	"	"	Herring, caught at Magdalen Islands.
June 20	Paspebiac	"	60 brls. mckrl., caught at Bay des Chaleurs.
" 21	"	"	20 " " "
July 8	"	"	210 " " "
" 18	Port Daniel.....	"	270 qntls. codfish, caught at Grand Banks.
" 20	Miscou.....	"	Just commenced mackerel fishing.
" 20	"	"	220 brls. mckrl., between N. Cape, P.E.I., & Miscou.
" 20	"	"	70 " " "
" 20	"	"	90 " " "
" 20	"	"	75 brls. mckrl., caught at Bradley Banks.
" 20	"	"	70 " " Orphan & Bradley Banks.
" 20	"	"	400 " " N. Cape, P.E.I., & Miscou.
" 20	"	"	90 " " "
" 27	Paspebiac	"	20 " " "
Aug. 2	Miramichi Bay	"	40 " " Escuminac to Miscou.
" 10	Paspebiac	"	168 " " N. Cape, P.E.I., & Miscou.
" 10	"	"	90 " " "
" 11	Miscou.....	"	Halibut, caught at Bradley Banks.
Sept. 5	Canso	"	260 brls. mckrl., between P.E.I., & the Magdalens.
" 7	Port Hood.....	"	116 brls. mckrl., caught at George's Bay & off P.E.I.
" 8	"	"	110 " " "
May 16	Magdalen Islands	L. H. Lachance, Com., Schooner <i>Stella Maris</i> .	In for bait.
" 17	"	"	900 brls. of herring.
" 17	"	"	In for a load of herring.
" 20	"	"	In for bait.
" 20	"	"	500 cwt. of codfish.
" 20	"	"	In for bait.
" 20	"	"	" " "
June 3	"	"	" " "
July 2	Perce	"	200 cwt. codfish; in for shelter.
" 5	Paspebiac	"	120 brls. mckrls.; in for water.
Aug. 2	Magdalen Islands	"	20 " " "
" 2	"	"	80 " " "
" 9	Gaspé Basin	"	10 cwt. codfish; in for shelter.
" 20	Byron Island.....	"	200 brls. mckrls.; in for water.
" 20	"	"	75 " " in for shelter.
" 20	"	"	150 " " "
" 20	"	"	50 " " "

GENERAL STATEMENT of Vessels boarded during the Season of 1871,

Names of Vessels and Owners.			Tonnage.		Port of Registry.
Vessel.	Owner.	Master.	Tons.	Men.	
Glenwood		H. Man	62	15	Gloucester.....!
Caraie A. Layroe		H. Williams	62	13	"
Evangeline		John Mason	43	13	"
Laura B. Burrah		J. Lane	67	15	"
Glenwood		T. Perry	62	16	"
Tarry Flag		Morgan	69	15	"
Sea Queen		Thomas Hiltzo	61	16	"
Arrah W. Wharf		L. Wharf	61	15	"
George P. Rust		Cunningham	65	14	"
Sea Queen		Thomas Hiltzo	61	10	"
E. Ben Philips		D. Webster	60	14	"
Arrequipa		C. P. McBitt	72	10	"
Challenge		J. Maguire	56	14	"
Cadet		J. Smith	60	14	"
Titus T. Bapsom		E. Clifton	70	76	"
William Rulton		J. Wells	70	16	"
Fannie		D. Gardner	53	14	"
White Eagle		N. Goodwin	70	14	"

by Officers in command of the Marine Police.—*Continued.*

When and where Boarded.		By whom Boarded.	Remarks.
Date.	Where.		
1871.			
Aug. 20	Bryon Island.....	L. H. Lachance, Com., Schooner <i>Stella Maris</i> .	200 brls. mckrls.; in for shelter.
" 20	" " " " " "	"	160 " "
" 20	" " " " " "	"	125 " "
" 29	Bird Rocks	"	180 " "
" 29	" " " " " "	"	225 " "
" 29	" " " " " "	"	110 " "
" 29	" " " " " "	"	40 " "
" 29	" " " " " "	"	200 " "
" 29	" " " " " "	"	150 " "
" 29	" " " " " "	"	100 " "
" 29	" " " " " "	"	75 " "
Sept. 4	" " " " " "	"	165 " "
" 4	" " " " " "	"	150 " "
" 4	" " " " " "	"	105 " "
" 7	" " " " " "	"	130 " "
" 7	Magdalen Islands ...	"	225 " "
" 7	" " " " " "	"	200 " "
" 7	" " " " " "	"	50 " "

APPENDIX

SCHEDULE of Vessels seized by Imperial and Canadian Cruisers for violation

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Wampatuck	40	Mr. Goodwin	Plymouth, U.S.	{ 27 June, 1870 J. A. Tory, Sch. Ida E.	{ About 1½ miles from the shore, off the North coast of Aspy Bay, Cape Breton.
J. H. Nickerson ..	70	Mr. McDonald	Salem, Mass. U.S. ...	{ 27 June, 1870 J. A. Tory, Sch. Ida E.	{ Within 3 cables' length of the shore on east side of In- gonish Bay, N.S., and immediately inside of Ingonish Island.

Whether hovering in port without cause, trading, &c.; actively fishing, having fished, or preparing to fish.	When and how tried, and with what result, and if defended by Counsel.	How disposed of.
Actively fishing; men on board in the act of hauling in their lines; from 15 to 20 newly caught fish on deck, some of which were alive; cod fish lines on deck. The Captain, who was ashore when his vessel was boarded, admitted, on coming aboard, that he knew his crew had violated the laws, that he could not blame Comr. Tory for making the seizure, but that his men were so "crazy to catch fish," they would not stop, even when told not to fish inside the limits while <i>he</i> was away; and on such ground asked to be leniently dealt with. The mass of complainant's testimony having been open to inspection of defendant's counsel for three months, nothing was done to impeach it, and it stood uncontradicted. The defence was, that the fishing had been done during the Master's absence, and without his authority. This plea was entirely unsupported by evidence. Had been previously warned three times, on the 25th, 26th, and 27th June; and on day previous to seizure Comr. Tory gave full particulars to owner relating to the fishery laws and his instructions, and even placed in his hands Mr. Boutwell's circular warning American fishermen not to intrude on prohibited limits, and generally did his best to dissuade him from committing any act of trespass. When Comr. Tory went aboard, the crew informed him they were there for the purpose of procuring bait. Master was ashore. Mr. Tory directed crew to send for him, and to depart in an hour. About an hour afterwards, when again passing near schooner, the Master requested Mr. Tory to give him leave to remain next day (Sunday), for purpose of procuring more bait. This Mr. Tory refused, and informed the Master that he had already violated the law, and rendered himself liable to penalty,	Tried at Halifax, in Vice-Admiralty Court; vessel condemned. Defended.	Sold for \$800. Money paid to credit of Receiver-General, after deducting costs and charges.
On Sunday morning, the "Nickerson" was again at anchor in the same place, and she remained there till 6 p.m. On going aboard, Comr. Tory was informed by the Master that his crew was ashore, but that he expected them every moment, and would sail immediately on their return. Upon this assurance, the vessel was not then detained. On Monday, after repairing to Cape North and seizing the "Wampatuck," and taking her into Sydney, the "Ida B." returned to Aspy Bay, and found the "Nickerson" still there, within three cables' length of the shore. On going aboard, Master and crew said they were there for more bait. A quantity of fresh herring was in the hold, which had been procured in the morning. At the time of seizure, vessel had, in addition to her stores, 250 cwt. fresh cod fish, and 50 cwt. fresh halibut, packed in ice,	Tried in Vice-Admiralty Court, Halifax, and condemned. Defended.	Awaits final disposal.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Minnie		Mr. Campbell.....	Halifax, N. S.....	{ 28 July, 1870 Jas. A. Tory, Sch. Ida E..	{ Aspy Bay, Cape Breton.
Lettie.....	57	{ Mr. McGowan, owner; Mr. Bee- man, master.	Prince Ed. Island...	{ 18 Aug., 1870 H. E. Betts, Sch. Ella G. McLean.	{ Half a mile off the Lightinside Gaspe Harbor, Province of Quebec.
Lizzie A. Tarr....	63	Messrs. Tarr Brothers	Gloucester, Mass., U.S.	{ 27 Aug., 1870 N. Lavoie, Schooner La Canadienne.	{ About 350 yards from the shore in St. Margaret's Bay, North shore of Gulf of St. Law- rence Province of Quebec.
A. H. Wanson....	63	Mr. Webber.....	Do	{ 3 Sept., 1870. J. C. E. Car- michael, Sch. Sweepstake,	{ Less than 2 miles south of Seawolf Island, and within 3 miles of the shore of Cape Breton, N. S.
H. W. Lewis.....	31	Mr. Watson	Halifax, N. S.....	{ 17 Sept., 1870 J. C. E. Car- michael, Sch. Sweepstake.	{ At Henry Island, near Port Hood, N. S.
A. J. Franklin....		Mr. Nass	Gloucester, Mass., U.S.	{ 15 Oct., 1870 Jas. A. Troy, Sch. Ida E..	{ Within 2 miles of the shore in Broad Cove, Cape Bre- ton, N. S.

and Candiaan Cruisers, &c.—*Continued.*

Whether hovering in port without cause, trading, &c.; actively fishing, having fished, or preparing to fish.	When and how tried, and with what result, and if defended by Counsel.	How disposed of.
Violation of the Customs' laws, having entered Aspy Bay (not being a port or place of entry) with dutiable goods on board, not being compelled to do so by stress of weather or unavoidable cause; landing goods; trying to evade the cutter's boat when boarding; and ultimately attempting to run down her captor.	Defendant fined \$300 and costs. Appealed. Defended.	Unsettled.
At time of capture was fishing inshore, on the coasts of Gaspé; had fished for seven days previously within prohibited limits; had been boarded and warned; seized on the ground of apparent ownership by a foreign subject; the papers produced by the Master rendering her liable to seizure either for an infraction of the Merchant Shipping Act, or for violating the Act relating to fishing by foreign vessels.	In course of litigation in Courts of New Brunswick. Defended.	Unsettled.
Anchored at West point of St. Margaret's Bay, near Seven Islands, St. Lawrence coast, West of Mount Joly, about 350 yards from the shore. Five fishing boats were alongside the vessel, crew having just returned from tending their lines, which were set between the vessel and the main land. Six halibut were found on the lines. Master admitted that the owner of vessel had directed him to go and fish there, as the Government cutter was seldom seen in these places; and some of the crew stated that if they had had a good spy-glass they would not have been caught.	Tried in Vice-Admiralty Court at Quebec. Vessel condemned. Defended.	Sold for \$2,801; money paid to credit of Receiver-General, after deducting costs and charges.
Actually fishing; catching mackerel, and throwing bait within a third of a mile from land at Broad Cove, Cape Breton. When boarded had four lines over the rail in the water, several of the hooks being freshly baited, and scales of fresh mackerel on deck. When approached by cutter, the "A. H. Wanson" threw overboard round mackerel, in order to destroy this part of the proof; had been previously boarded and warned.	Tried in Vice-Admiralty Court, Halifax. Vessel condemned. Defended.	Bail for \$3,500 forfeited, and now in course of recovery.
Seized for violation of Revenue laws, having on board two or more large casks of liquor, besides other goods not on the manifest.	Vice-Admiralty Court, Halifax. Defended.	Unsettled.
At time of boarding, mackerel lines were coiled upon schooner's rail, being wet and dripping; hooks freshly baited; fresh fish-blood and fresh mackerel gills and scales on deck, with every appearance of bait having just been gathered up and cast overboard. The Master denied having fished there within the limits, whereupon Com. Tory desisted from seizing the vessel, but informed the Master that should he find he had not told the truth, he would seize her at a future time. On personal enquiry being made of the British vessels which had been fishing in the same place and at the same time with the "A. J. Franklin," it was ascertained that she had been fishing alongside of them, within the three miles' limit, when first boarded. She was consequently seized on the 15th of October, having been warned on the 7th of the same month.	Tried in Vice-Admiralty Court, Halifax. Vessel condemned. Defended.	Bail forfeited, and now in course of recovery.

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of Seizure, and distance of locality from shore.
Granada.....		Mr. Paine.....	{ Provincetown, Mass., U.S.	{ 25 Oct., 1870 J. A. Tory, Schr. Ida E.	{ Port Hood, Cape Breton, N.S.
Romp.....	20	Mr. Oliver.....	Eastport, Maine, U.S.	{ 8 Nov., 1870 A. Betts, Schr. Water Lily.	{ Oliver's Wharf, Back Bay, Charlotte Co., N.B.
White Fawn.....	64	Mr. Marshall.....	{ Gloucester, Mass., U.S.	{ 25 Nov., 1870 A. Betts, Schr. Water Lily.	{ Head Harbor, Campo-Bello, N.B.
Peraoverance.....	21	Mr. Thorpe.....	Eastport, Maine, U.S.	{ 12 Jan., 1871 A. Betts, Schr. Water Lily.	{ About 200 fathoms from Fry's Island, in Bliss Harbor, Co. Charlotte, N.B.
S. G. Marshall....	53	Mr. Marshall.....	{ Rustico, Prince Edward Island.	{ 31 July, 1870 Capt. Hardinge, H.M.S. Valorous.	{ Near the beach in Gaspé Bay.
Clara F. Friend ..	70	Mr. Grady.....	{ Gloucester, Mass., U.S.	{ 1870 Capt. Poland H. M. S. Plover.	{ 1 mile off Long Point, near East Point, P. E. I.
Albert.....	90	Mr. Banks.....	Barrington, N.S....	{ 20 Aug. 1870 Capt. Hardinge, H.M.S. Valorous.	{ Charlottetown, P. E. I.

and Canadian Cruisers, &c.—*Continued.*

Whether hovering in port without cause, trading, &c.; actively fishing, having fished, or preparing to fish.	When and how tried, and with what results, and if defended by Counsel.	How disposed of.
<p>Vessel at anchor in Port Hood, and without any clearance papers. Had on board 1 puncheon molasses, 3 casks paraffine oil, 2 boxes tobacco, 1 case rubber boots, 1 cask gin, 1 bundle oil-cloth, 2 chests tea, 12 nets, 10 coils rope, 4 bundles and 2 coils lines, 1 bundle corkwood, 7 gross hooks, 1 box scales, 20 barrels flour, 1 bundle marline, 3 dozen cod-leads, 16 bushels potatoes, 3 barrels beef, 1 barrel pork, 2 tubs butter, and other stores, besides a large quantity of salt; all of which stores, owing to the advanced period of the season, were in excessive quantity for ship's use, and unnecessary for a fishing voyage, but just usual cargo for a trading voyage. The fishing gear found on board was not only new, but had never been fitted or used. The vessel had entered Port Hood, not being compelled to do so by stress of weather, or any other urgent cause; the weather was moderate during the whole of the day on which the seizure was made, and if the vessel had been really bound (as pretended) for the Bay of Islands, she had a fair and steady wind for her course, and was out of her track in this harbour. The packages of goods were fresh and unbroken.</p>	<p>Taken to Halifax for adjudication. Vessel bonded.</p>	<p>Unsettled.</p>
<p>Having on credible testimony, and on the subsequent admission of the Master, fished and caught about 50 barrels of herrings on and before the 5th of November, 1870, at the mouth of Grand Harbor, at the place called Three Islands, near Grand Manan, in Canadian waters, and within three miles of the land.</p>	<p>Tried at St. John, N.B., in Vice-Admiralty Court. Vessel condemned. Undefended.</p>	<p>Sold for \$270.</p>
<p>Preparing to fish at Head Harbour, a small bay in the eastern part of Campo Bello, N.B., by purchasing herring as bait.</p>	<p>Tried at St. John, N.B., in Vice-Admiralty Court. Motion refused on ground of there being no evidence of intent to fish in British waters.</p>	<p>Released.</p>
<p>Actually fishing at Bliss Harbor, N.B., within three miles of the coast, and having nets set therein at time of capture.</p>	<p>Taken to St. John for adjudication. Condemned.</p>	<p>Sold for \$165.</p>
<p>Vessel was owned by Mr. Hall, an American citizen doing business in Charlottetown; was illegally registered, and wearing English colours to cover her prosecution of the inshore fishery. Master had hauled his seines on several occasions at Sandy Beach, Gaspe Basin, and landed large numbers of young cod fish, which were useless to him.</p>	<p>Tried at Charlottetown, P. E. I., in Vice-Admiralty Court. Vessel condemned. Defended.</p>	<p>Sold for \$2,775 95. Bought for Canadian Government, and since employed as a cruiser.</p>
<p>Actively fishing within a mile of the shore, in the midst of a large fleet of schooners. Had been previously boarded, and warned several times.</p>	<p>Taken to Charlottetown for adjudication. Rescued by crew and recaptured. Defended.</p>	<p>No advices of result.</p>
<p>Infraction of the 45th Article of the Merchant Shipping Act.</p>	<p>Tried at Charlottetown, in Vice-Admiralty Court. Vessel condemned.</p>	<p>No further advice.</p>

SCHEDULE of Vessels seized by Imperial

Name of Vessel.	No. of tons.	Name of Master or Owner.	Place of Ownership.	Date of Seizure, and by whom made.	Place of seizure, and distance of locality from shore.
Samuel Gilbert ...	51	Richard Hanan	Gloucester, Mass., U.S.	24 July, 1871 N. Lavoie, Schooner "La Canadienne."	About two miles N. W. by W. from Perroquet Island, near Mingan, on the North Coast of the Gulf of St. Lawrence.
Franklin S. Schenck	46	Alden B. Grimes, ...	Rockport, Mass. U.S.	16 Aug. 1871 DM. Browne Schooner "New England."	Roadstead of Paspebiac in the Bay des Chaleurs, Province of Quebec.
E. A. Horton	100	Messrs. McKenzie and Knowlton.	Gloucester, Mass., U.S.	1 Sept., 1871, James A. Tory, Schr. "Sweep-stake."	Off Morristown Chapel, Antigonish Bay, N.S. within a mile of shore.

DEPARTMENT OF MARINE AND FISHERIES,

Fisheries Branch, OTTAWA, 1871,

(Certified), W. F. WHITCHER.

and Canadian Cruisers, &c.—*Concluded.*

Whether hovering in port without cause, trading, &c., actually fishing, having fished, or preparing to fish.	When and how tried, and with what results, and if defended by Counsel.	How disposed of,
<p>At time of capture, schooner was taking fresh cod fish on board from one of her flats alongside. Two of her boats were actively fishing at a distance of 450 yards from shore, and men on board were in the act of hauling in their lines with fish caught on their hooks. When seized, boats were half-full of freshly caught cod fish, and had also on board fishing gear used for cod fishing.</p> <p>Owner admitted having fished, but pleaded as an excuse that he was under the impression that the provisions of the Washington Treaty were in operation.</p>	<p>Tried in the Admiralty Court at Quebec. Vessel condemned.</p>	<p>Awaits final disposal.</p>
<p>Actually fishing at a distance of 280 fathoms from shore. Herring and mackerel found in the owners' nets at time of seizure. Captain at first denied that the nets were his, but afterwards admitted the offence, and pleaded as an excuse, that a man whom he met on the beach of Paspebiac on the previous evening had set the nets, with one of the schooner's crew, on the understanding that the fish caught should be purchased for the vessel. When asked who the shore man was, captain replied that he did not know his name or his residence. After careful inquiry on shore among the fishermen and residents of Paspebiac, no traces whatever could be found of any resident of the place having assisted to set the nets.</p>	<p>Vessel taken to Quebec for adjudication.</p>	<p>Trial pending.</p>
<p>Actively fishing at time of seizure; captain and a number of his men admitted the trespass. Had on board about 8 barrels of mackerel newly split and salted, and with blood still fresh upon them.</p>	<p>Vessel taken to Guysboro' and placed under charge of Collector of Customs at that port.</p>	<p>Stolen by United States citizens during the night of the 8th October, 1871, from the dock and storehouse of Mr. Thomas Condon, who, although engaged by the Collector of Customs to watch and safely keep the property, allowed it to be clandestinely removed.</p>

P. MITCHELL,

Minister of Marine and Fisheries.

APPENDIX BB.

EXPLORATION OF SALMON RIVER, IN THE COUNTY OF OTTAWA.

To the Hon. P. MITCHELL,
Minister of Marine and Fisheries,
&c., &c.

SIR,—I have the honor to report the results of a personal examination of Salmon River, in the County of Ottawa, Province of Quebec.

This exploration was recently made, under your authority, to ascertain in an official and responsible manner the character of the said stream, with the view of re-stocking its waters with salmon, by planting in it salmon eggs, or distributing in it salmon fry, from the government fish-hatching establishment, at Newcastle, Ontario.

River suitable for fish-breeding.

Upon a practical and somewhat laborious inspection of this stream, from its mouth to its sources, and also the tributaries, I am very favorably impressed with its appearance, and much encouraged by the fair prospect of restoring it, in a few years, by culture and artificial aids, to the position of a productive river.

Ascent of stream.

Finding the first part of the stream rather promising, I determined to examine it throughout its course, as to water supply, physical features, accessibility, &c., &c.; and, with this object, took a competent guide. After a brisk walk of nearly eight hours, through the swamps and across the mountains, we arrived, wet and weary, about night-fall, at a lumbermen's dam, some five miles below Lake Commandant, of which lake Salmon River is the natural outlet. Here we camped. Next day we built a rude raft, and ascended the stream to White-fish Lake, a small body of water, with which and the river a junction is now formed by the overflow of the water backed up by the dam below, to float out into the main stream the lumber launched on this forest lake.

Denizens of White-fish Lake.

A large description of black bass inhabits White-fish Lake. Pike, pickerel, and maskinonge frequent the stretch of almost dead water on either side of the river channel, extending parallel with the lake. The lake waters are supplied mostly by mountain springs, and are clear and cold. The bass are the finest and fattest I ever saw in so limited an extent of water. The maskinonge are exceptionally fine, being a plump kind of fish, quite fat and juicy. All of the inhabitants of these waters will soon be decimated by the netters and spearmen from near and far who repair to the locality, unless something shall be done to preserve them from destruction.

Lake Commandant.

About four miles further up is Lake Commandant, which this river discharges. The rapids and falls between these two lakes are difficult to ascend. Lake Commandant is of considerable size, and quite picturesque. It is studded with islets and rocky reefs, and deep shady indents surprise the voyageur around every point. These spacious bays, sheltered by the wooded heights, and hemmed in by mountainous surroundings, are not unlike to separate bodies of land-locked water. The waters are bright and temperate.

Lake and brook trout were once plentiful. Excessive netting and spearing, and barring the channels, and sweeping the shoals, while the fish are collected together for increasing their species, have made sad havoc amongst them. Unless some sort of protection be very soon applied here also, there will be no fish of any kind worth preserving to look after. The employment of a local guardian is recommended for both of these lakes.

Description of Salmon River.

Salmon River discharges into the Ottawa River, about forty-five miles below this city, near the Village of Monte Bello. From its outlet, near the eastern centre of Lake Commandant, to its junction with the Ottawa, its direction is tortuous, trending south-westwardly, and it covers a distance of sixteen miles, carrying the waters of insignificant feeders along the route. Its average size and volume throughout, compare with Laval River, in the Saguenay district, which celebrated salmon river it otherwise resembles in many respects. There are alternate rapids, broken into occasional chûtes, and quiet reaches of still water, pretty deep. The bottom is composed of clay and boulders, with hard patches of gravel here and there, fortified by oblique stony ridges and curious escarpments of indurated blue clay.

Scenery to charm anglers.

The stream on both sides is flanked by scraggy hill-sides, and darkly overshadowed at intervals by the mountain spurs looks wild and lonely.

Comparison with famous salmon rivers.

The foregoing are characteristics analogous to those which mark the native salmon rivers of the Saguenay country and the Lower St. Lawrence. Many prolific salmon streams in the Province of Quebec yielding, under our protective system, from twelve to forty barrels of salmon each season, and affording tolerable angling, are not a whit better adapted to the cultivation of salmon, than this long neglected and now ruined river. There is no reason why it should not, like them, become again a salmon stream. Time was when it yielded salmon in abundance, and living residents can relate their fate, the modern fate of other rivers—mill-dams, saw-dust, timber-driving, nets and spears, the usual destructive allies, have extirpated this noble fish.

Artificial and other obstructions.

There exist three artificial obstructions on the stream: the first is a saw-mill dam, of trifling height, the mill having fallen into disuse; the others are lumbering dams, also of trivial importance. Neither they, nor the natural falls, present any insuperable obstacle to the circulation of salmon.

Place for laying salmon ova and rearing young fish.

Just below the furthest of the dams above referred to, is a place admirably adapted to the setting and hatching of salmon eggs. This spot offers certain natural and accidental facilities for such operations of a remarkable nature. By a most fortuitous combination of features at this particular part of the stream, any considerable expenditure may be avoided; and, with a very economical but judicious outlay, an extensive spawning bed and rearing pond could be had, where there are almost ready-made defences against ice and freshets. The spot in question being far up the stream, and, from its inaccessibility, therefore safer from casual disturbances, it would of course involve more labor to transport the eggs there to be placed, than if a situation lower down the stream were selected. I found several other suitable localities all along the river, where it would be

advisable to sow as many eggs as possible, but none other with such compact capacity for a sufficient quantity of ova which could be secured against ordinary accidents. The eggs and fry in this place could be easily protected at critical seasons against the ravages of predaceous fishes, by means of wire gratings, wooden hurdles, or stone dykes. Nothing could be done to prevent some few of such piscivorous enemies from effecting a lodgment there during spring-time. The only remedy would be to capture the intruders when the floods subside, which might be readily effected.

Improvements.

A moderate expenditure for removing some impediments in the worst of the numerous rapids, would admit of ascending the channel in a lightly laden birch-bark canoe. This accommodation would suffice to transport the salmon ova more easily and safer than by the overland route. A log shanty or bark camp erected at the dam, would afford shelter for the persons engaged in preparing the place, and when depositing the spawn, also answer for the guardian in charge of the enterprise. This guardian should be engaged at once, and be set to work immediately to make the channel passable, and to carry out any directions given him in furtherance of this project. If the work requisite for the spawning beds, was practically explained to him, his time might be profitably occupied while the autumn water is lowest and warmest for working in, and everything got ready for the short and energetic work which will be necessary during the late fall, when alone impregnated salmon eggs are procurable, and must be laid down.

Will it pay?

The only serious difficulty I can discern in this project exists in a remunerative sense. Were the river itself, and its embouchure on the Ottawa, clearly public as regards rights of fishery, I should not hesitate to affirm that, as a matter of revenue return, the enterprise of re-stocking this stream with salmon would prove speedily and abundantly remunerative. The following circumstances tend more or less to qualify the recommendations of this report.

Seigniorial Rights.

Salmon River runs through the Seignior of La Petite Nation. Although it is not navigable, yet it is a floatable river. The civil code of the province makes these terms synonymous. The law is therefore applicable in such instance as regards its public character, relatively to the terms of the original concession under seigniorial title. The fief was ceded by the company of New France, in 1674, to the Seminary of Quebec. It has since become the property of the Hon. L. J. Papineau. This feudal grant is comprehensive in its terms: it conveys all "lakes and rivers" within its bounds, and "battures" and islands and islets" comprised in a frontage space of five leagues along the Ottawa River. The rights of fishing and hunting are specified in the conveyance. These conditions of the original deed, would seem to create an exclusive private property as regards the river's bed, and fish and fishing within its waters, although, as floatable, they are otherwise subject to free public uses. If the frontage limits are bounded by high-water mark, it might be a legal question whether or not the cession of piscary applies below that riverain boundary in the River Ottawa, no beaches or water lots being specified. I speak, of course, with due deference to such construction of the specific concessionary terms as the government may be advised of by the law officers of the crown.

Recommendations.

Were any large or permanent outlay of public funds contemplated, I should hesitate about suggesting the present undertaking, of which private individuals would probably reap immediate benefit; but the smallness of the proposed expenditure, and the unusual

facilities which this stream affords for testing so near the Capital the practicability of restoring an exhausted salmon river from alien stock, to say nothing of the example and incentive to like private enterprises, and the probable opportunities of capturing some share of the live products beyond whatever limits shall be found exclusive, are of themselves sufficient to warrant the experiment. It would be necessary to communicate with the Hon. L. J. Papineau, and ascertain whether, in the event of his having in some parts reserved from tenants or sub-feudatories the fishing privileges, or in other portions himself claiming as the seignior, his assent to our operations can be obtained. Without which, some objection might arise to setting apart the waters under an Order in Council. I cannot apprehend any difficulty in the matter. The well-known liberal sentiments and public spiritedness of that distinguished gentleman, are calculated to inspire hopes of a successful application.

The undersigned recommends that, after completing the preparations indicated in this report, about 10,000 salmon eggs should be deposited in the course of the ensuing fall season; and some 5,000 young salmon be liberated in the stream next spring. Mr. Wilmot should be instructed to hold himself in readiness to perform this duty.

Natural History Society's report.

I take occasion to testify to the general fidelity of the observations, necessarily limited as these were, and confined to the lower portion of the stream, published by Dr. Van Cortland, the Rev. T. D. Phillips, and Henry McLardy, Esq., for the Ottawa Natural History Society, in pursuance of their visit to Salmon River, two years ago. It is to be regretted that their suggestions did not early receive merited attention.

Other explorations proposed.

I propose, with your consent, to examine in like manner the Blanche Rivers, and some other tributaries of the Ottawa, during the current season.

I have the honor to be, Sir,

Your obedient servant,

W. F. WHITCHER,

Commissioner of Fisheries.

Ottawa, 28th July, 1871.

MEMORANDUM.

Owing to the extreme drought of the month of November, and the severity of the fall season, it was impossible to ascend Salmon River, or to place in any part of its upper waters the requisite quantity of salmon eggs. Mr. Wilmot has, however, been instructed to convey there, if possible, during next spring about 10,000 young salmon, and endeavour to lodge them in some safe portion of the stream. The practicability of doing this successfully will depend somewhat on the nature of the freshets in the ensuing springtime.

After the foregoing report was made, the undersigned cursorily examined several other tributaries of the lower Ottawa. None of these seem adapted to the cultivation of salmon excepting the River Rouge. The water of this stream was so much lower than usual that it was impossible to examine it satisfactorily; a further examination will be made next summer.

The subsequent death of the late Mr. Papineau, will render it necessary to confer with such of his heirs as may control the estate. Steps will be taken to ascertain who they are, and to consult them.

W. F. WHITCHER,

31st December, 1871.

APPENDIX CC.

AMERICAN THEORY REGARDING THE MIGRATIONS OF MACKEREL
REFUTED.*To the Hon. P. Mitchell,*

Minister of Marine and Fisheries,

&c. &c. &c.

SIR,—I had the honor recently to bring under your notice some interesting facts relative to the mackerel and herring supply on the coasts of Canada; also to submit for your information certain peculiarities of the claim advanced by citizens of the United States to participate in these important branches of the Canadian inshore fisheries.

The facts first in question relate to the remarkable increase of mackerel and herrings latterly visiting and remaining close inshore at different points on the Canadian coast. The enforcement of our fishery laws and regulations has in this respect proved singularly beneficial.

The peculiarities next in question refer to the alleged movements of mackerel and herrings along the United States coasts into British waters, and back again into American waters. It is pretended by American authorities, on the foundation which this theory affords, that access to the Canadian inshores is a mere convenience incident to the prosecution of an enterprise originating on their own coasts. That the fishermen simply continue to pursue their laborious calling among the erratic sort of marine herds strayed from the pastures of the American deep into the waters of an adjacent state, across the imaginary water boundaries of which they may trespass, as Mr. Webster said, "accidentally or otherwise," in what Mr. Lorenzo Sabine terms "a continuous fishing ground."

The obvious deduction from this circumstance is, that the liberty of resorting to our inshores, besides being unsusceptible of any valuation, intangible and uncertain, is of no substantive importance, and therefore cannot possibly form any material portion of an equivalent for advantages of trade, nor form the basis for compensation in exchange for concurrent use as if it were a proprietary possession. It is not considered as at all like trading something for something, or selling a valuable right; but merely bartering an unsubstantial yet convenient privilege.

This ingenious but traditional theory of annual emigration having gained local credence amongst some of the Nova Scotia fishermen engaged in United States fishing vessels, has been sagaciously endorsed and circulated by American writers. It has even secured adoption in diplomatic considerations, with the corollary argument, that "in taking a few fish, out of the abundance which exists in these seas," and inflicting thereby "no injury on the interests of the colonial population," the fishermen of the neighboring States are "pursuing a branch of industry of the most harmless description, which however beneficial to themselves, occasions no detriment to others." A series of articles appeared in certain American newspapers last spring, during the deliberations of the Joint High Commission at Washington, designed to corroborate the same theory, and arguments were deduced therefrom to prove the insignificance of any concession of common fishery privileges in Canadian waters to United States fishermen, which merely amounted to following their own fish swimming to and fro through neighboring waters. These views were supported by evidence supposed to have been procured among the fishing population of the New England States. A map was also published illustrating the migratory course of mackerel in accordance with the theory of their going northward into Canadian waters during spring time, and returning to the south-east in the autumn months.

It is impossible within the limited space of this writing to expose at any length the fallacy of this pretended migration and emigration of mackerel. Suffice it to refer to such disinterested authorities as may be readily quoted. It will be observed that there is a strong similarity between the erroneous theory which at no very distant date prevailed regarding the habits of herrings, and that now upheld in some quarters respecting the habits of mackerel. In the former case, however, it is probable that traditional and imperfect information formed the basis of error; while in the latter instance it is most probably founded on misinformation dictated by sectional interests. There is now no longer any doubt among well informed persons that both herrings and mackerel are much more local in their habits than has been generally supposed, and both species inhabit the same localities and resemble each other in their migratory movements.

Mr. Mitchell, in his able work on the "*National Importance of the Herring*," considers "that the Herring is a native of the coast on which it is found, and that immediately after spawning the full-sized Herrings make at once for the deep waters of their own neighborhood, where they feed till the spawning season again induces them to seek the shallow water."

The late Dr. Fleming, under the caption of "Ichthyology," in the *Edinburgh Encyclopedia*, declares it to be "now clearly established that the herring, like all other fishes that reside in deep water, approach the neighbouring shores when they are ready to spawn, and return to their favorite haunts when the process of reproduction is finished."

In Mr. M. H. Perley's reports on the *Sea and River Fisheries of New Brunswick*, is the following description of mackerel:—

"It was formerly thought that the mackerel inhabited the frozen seas during winter; but that opinion has been given up, and naturalists now tell us that when it quits our shores it retires to the bottom of the ocean, there to wait until the return of spring enables it once more to approach the land."

"The mackerel is met with along the coasts of the United States, as far south as Cape Anne, in the Bay of Fundy, off the coast of Nova Scotia, in the Gut of Canso, and sometimes off the coast of Newfoundland; but nowhere is it more plentiful than along the shores of the Gulf of St. Lawrence, especially off the coast of Prince Edward Island, in the Bay of Chaleurs, at the Magdalen Islands, and in the lower part of the River St. Lawrence, as far as Matane and the River Godbout. It is sometimes found along the shore and the coast of Labrador, but not in great numbers."

"Like the herring, the mackerel comes in shore to spawn. It arrives at the end of May or beginning of June. But it does not make its appearance at that time in such great numbers as the herrings in the preceding month, and the large shoals resort to the Magdalen Islands only, so that nowhere else is it taken in nets."

"The mackerel, after having spawned, disappears entirely from Pleasant Bay about the 15th June. Yet, about the end of July, it begins to be seen again at the Magdalen Islands, at first in small numbers, but afterwards it becomes more plentiful, and in the months of August, September, and October, it is to be met with all round that group of Islands. It makes its appearance, at the same period, in the Bay of Chaleurs also, as well as off the Coast of Gaspé, and along the shores of the River St. Lawrence. It is then in the best possible condition, and more than twice as fat as it was in the month of June. We all know that the Mackerel, like almost all other fishes, grows very lean during the time it is engaged in performing the important functions tending to the reproduction of its species. It begins to fatten immediately after it has spawned, and the later in the season it is taken the finer it is."

The same authority says "*It is now considered settled, that the mackerel is not a migratory fish, but draws off into deep water at the approach of winter, and returns to the shallow waters near the shores at the beginning of summer, for the purpose of depositing its spawn.*"

Also: "The common mackerel abounds in the Gulf of St. Lawrence, and is one of the chief objects of pursuit with the numerous fleets of American fishing vessels, which are to be found yearly in every part of the Gulf. * * *

"It has been generally supposed that the mackerel was a fish of passage, performing certain periodical migrations—making long voyages from south to north at one season of the year, and the reverse at another; but the error of this opinion is now generally admitted."

In the Government Reports of Dr. Fortin (1864-65) I find the following:—

"It is well known that mackerel, when the spawning season is over, scatter themselves in immense shoals over the waters of the Gulf, especially on its south side, and visit almost simultaneously the shores of Gaspé, sometimes the north shore of the River St. Lawrence, the coast of New Brunswick, Prince Edward Island, the Magdalen Islands, and Nova Scotia."

"The shoals of mackerel, after having completed the reproductive process near the shores of the Magdalen Islands, and chiefly in Pleasant Bay, retire to the deep water in search of the nourishment of which they stand in need, in order to recover themselves from a state of exhaustion and leanness; visiting the estuaries and acquiring much flesh and fat, and are caught during autumn in the finest possible condition."

Mr. T. F. Knight, in *The Shore and Deep Sea Fisheries of Nova Scotia*, states that :

"The mackerel is abundant off the western coast of Cape Breton, off the coast of Prince Edward Island, in the Bay of Chaleur, at Magdalen Islands, and in the lower part of the River St. Lawrence, as far up as Matane and the River Godbout. It is sometimes found along the shore and the coast of Labrador, but not in great numbers. Like the herring, it comes inshore to spawn."

In order to show the resemblance between the habits of mackerel in the European and North American waters, which they respectively inhabit, I beg to quote Yarrell's description, from that experienced and scientific author's work on *British Fishes* :—

"The mackerel was supposed by Anderson, Duhamel and others, to be a fish of passage, performing, like some birds, certain periodical migrations, and making long voyages from south to north at one season of the year, and the reverse to another. It does not appear to have been sufficiently considered that, inhabiting a medium which varied but little locally, either in its temperature or productions, fishes are removed beyond the influence of the two principal causes which make a change of situation necessary. Independently of the difficulty of tracing the course pursued through so vast an expanse of water, the order of the appearance of the fish at different places on the shores of the temperate and northern parts of Europe is the reverse of that which, according to their theory, ought to have happened.

Also from an able publication on the *Fishes of the British Islands*, by Mr. Jonathan Couch :—

1. Mackerel, geographically speaking, are distributed over a wide expanse of water, embracing the whole of the European coasts, as well as the coasts of North America, and this fish may be caught as far northwards as the Canary Islands. 2. The mackerel is a wandering unsteady fish, *supposed to be migratory*, but individuals are always found in the British seas. 3. This fish appears off the British coasts in quantity early in the year; that is, in January and February. 4. The male kind are supposed to be more numerous than the female. 5. The early appearance of the fish is not dependent on the weather. 6. *The mackerel, like the herring, was at one time supposed to be a native of foreign seas.* 7. This fish is laden with spawn in May, and it has been known to deposit its eggs upon our shores in the following month.

Another valuable work on *the Sea and its Living Wonders*, by Dr. G. Hartwig, contains this summary description :—

"The older naturalists ascribed to the mackerel the same distant migrations as to the tunny, but most probably it only retires during the winter into the deeper waters, at no very great distance from the shores, where it appears during the summer season in such incalculable numbers."

Many other European authorities agree with these statements. I condense from the *Dict. des Sciences Naturelles, Histoire Nat. des Poissons, Dict. d'Hist. Nat., Encyclopédie du 19e siècle, Dr. Chemis's Encyclopedia*, and *La Pêche et les Poissons*, the following opinions :—

"It has heretofore been held by French writers on this subject that mackerel made extensive and regular annual migrations, that they wintered in the waters of the Northern Ocean, especially along the coast of Greenland, whence they migrated in the spring southward along the coasts of Iceland, Scotland, and Ireland. From thence vast numbers passed to the south along the shores of Spain and Portugal into the Mediterranean Sea, while another part went up the English Channel, through the Strait of Dover, into the North Sea, and along the coasts of Great Britain, France, Holland, Belgium, and Denmark. They then divided off again, part of them entering the Baltic Sea, while the remainder passed northward along the coast of Norway, and thence to their winter home. This theory was at first propagated by Anderson, who got it from two Greenland fishermen, and other French writers on this subject have quoted Anderson.

"But as mackerel are taken on the coast of France every month of the year, it evidently shows that this migration theory is incorrect. Block, Marinère, Cuvier, and Lacépède, do not hold the above theory, but believe that mackerel pass the winter near the shores (along which they are caught during spring and fall), in deep water, where they remain on the muddy bottom, from which they retreat they emerge as soon as the spring has once set in and the ice has left the coasts. The latest writers assert that they (mackerel) merely leave the deep water and approach the coast for the purpose of spawning, the time when they appear varying in different latitudes."

It is unnecessary to quote the various American authors who adopt the peculiar theory of the emigration and immigration of mackerel from American to British waters and back, and who appear to have accepted, without question, mere fishermen's fables about their migratory habits.

Some of these strenuously contend that although the mackerel do proceed to o

coasts and bays and estuaries to feed, as a sort of recruiting expedition after the exhaustive process of spawning on the shores of Maine and Massachusetts, their movements resemble those of birds of passage, returning again to winter and breed on the American coast.

If such conjectural statements were not already sufficiently refuted by the practical and scientific references made in the foregoing pages, there could be no difficulty in proving their utter inconsistency, by referring to facts described in standard American works on the natural history of the marine fishes of the several States.

The conclusion to which I have had the honor to draw your attention appears to be well supported by the facts and authorities above quoted. And I respectfully submit that as the coasts of Canada, with their adjacent sub-marine banks are alive with aquatic food, and the countless indents and bays, and extensive estuaries abounding in all the minuter forms of marine life, are peculiarly adapted to the reproduction and recuperation of this valuable fish; it is clearly neither necessary nor accurate that mackerel should perform the migrations ascribed to them by American writers.

I have the honor to be, Sir,

Your obedient servant,

W. F. WHITCHER,

Commissioner of Fisheries.

APPENDICES TO REPORT OF DEPARTMENT OF MARINE AND FISHERIES.

PART I.

MARINE BRANCH.

NO.	PAGE.
1.—Statement of Expenditure on account of Lighthouses above Montreal.....	2
2.—Report of Trinity House, Montreal.....	6
3.—Report of Trinity House, Quebec.....	11
4.—Report of Agent for Quebec.....	15
5.—Report of Agent of Department for Nova Scotia.....	30
6.—Report of Agent of Department for New Brunswick.....	53
7.—Statement of Expenditure on account of Dominion steamers, and also of subsidies paid for steam communication.....	68
8.—Report of Marine Hospitals at St. John and St. Andrews, N.B.....	75
9.—Report of Commissioner of Montreal Water Police.....	77
10.—Report of Chief of Quebec River Police.....	80
11.—Statement of Expenditure on account of Montreal and Quebec River Police.....	85
12.—Statement of Expenditure on account of sick and disabled seamen, and shipwrecked and distressed seamen.....	88
13.—First Report of the Meteorological Office, by G. T. Kingston, M.A., Acting Superintendent ..	92
14.—Report of Director of Montreal Observatory.....	133
15.—Report of Director of Quebec Observatory.....	138
16.—Report of Shipping Master at Quebec.....	141
17.—Report of Shipping Master for Port of St. John.....	144
18.—Report of Chairman of Board of Examiners of Masters and Mates.....	145
19.—Report of Chairman of Board of Steamboat Inspection.....	147
20.—Expenditure on account of Examination and Classification of Masters and Mates.....	184
21.—The Trinity House, Quebec, in account with the Dominion of Canada.....	185
22.—Statement of Expenditure of Trinity House, Montreal, and statement of Decayed Pilot Fund..	192
23.—Expenditure on account of Investigations relating to Wrecks and Casualties.....	196
24.—Statement of Amount of Collections for Harbor Improvements at Ports at which Tonnage Dues have been imposed by Proclamation.....	197
25.—Statement of trips made by the Steamships of Quebec and Gulf Ports Steamship Company between Quebec and Pictou and intermediate Ports.....	198
26.—Statement of Quebec Harbor Commissioners.....	200
27.—Report of Montreal Harbor Commissioners.....	201
28.—Report of Acting Agent of Department at Victoria, British Columbia.....	220
29.—Statement of Duties and Fees collected, forming the "Steamboat Inspection Fund".....	224
30.—Statement of Receipts on account of Sick Mariners' Fund for the entire Dominion.....	226
31.—List of Lights of the Dominion of Canada.....	228
32.—Statement of Wrecks and Casualties to Sea-going Vessels as Compiled from returns received by this Department.....	260
33.—Statement of Wrecks and Casualties that have happened on the Lakes and Inland Waters of the Dominion.....	270
34.—Containing Copy of Her Majesty's Order in Council, giving effect to Certificates of Competency issued in Canada, and Copy of Rules and Regulations relating to Examination of Candidates and of Certificates of Competency and Service.....	274

PART II.

FISHERIES BRANCH.

A.—Statement of Office Work	1
B.—List of Fishery Officers for the Dominion of Canada	2
C.—Report of the Cruise of the Government Schooner <i>La Canadienne</i> for the season of 1871, with Statistics of Fisheries in the Gulf and Lower St. Lawrence Division.....	12
D.—Statistics of Fisheries, South Shore River St. Lawrence, from Quebec to Cape Chatte	48
E.—Statistics of Fisheries, North Shore River St. Lawrence, from Quebec to Point au Colombier	51
F.—General Recapitulation of the Yield of Fisheries in the Province of Quebec	53
G.—Return of Fishing Vessels, &c., at the Magdalen Islands, in 1871.....	54
H.—Synopsis of Fishery Overseers' Reports in the Province of Quebec	66
I.—Report on the Fish-breeding Establishment at Newcastle, Ontario, for the season of 1871	76
K.—Report of a Deep-sea Dredging Expedition to the Gulf of St. Lawrence, by Mr. Whiteaves F.G.S., &c.....	90
L.—Statistics of Fisheries in the Province of Ontario	102
M.—Synopsis of Fishery Overseers' Reports in the Province of Ontario.....	108
N.—Report of the Inspector of Fisheries in Nova Scotia and New Brunswick.....	115
O.—Statistics of Fisheries in the Province of New Brunswick	134
P.—Statistics of Fisheries in the Province of Nova Scotia.....	136

REPORTS OF OFFICERS IN COMMAND OF MARINE POLICE CRUISERS.

Q.—Captain P. A. Scott, Officer in command of the Steamer <i>Lady Head</i>	138
R.— „ „ „ Supplementary Report	144
S.—James A. Tory, Officer in command of the Schooner <i>Sweepstake</i>	146
T.—G. V. Story „ „ <i>Water Lily</i>	149
U.—D. M. Browne „ „ <i>New England</i>	153
X.—N. Lavoie „ „ <i>La Canadienne</i>	157
Y.—L. H. Lachance „ „ <i>Stella Maris</i>	158
Z.—List of Foreign Fishing Vessels Boarded.....	164
AA.— „ „ „ Seized.....	174
BB.—Exploration of Salmon River, in the County of Ottawa, by Mr. Witcher	182
CC.—Mr. Witcher's Report on Migration of Mackerel.....	186