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Various pagings.

In Sessional paper No. 11, part II, pages 103, 111, 127 & 151 are incorrectly numbered pages 109, 166, 137 & 157.

In Sessional paper No. 11C, pages 18, 114, 123 & 147 are incorrectly numbered pages 81, 11, 12 & 47.

SESSIONAL PAPERS

VOLUME 9

THIRD SESSION OF THE EIGHTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1898



OTTAWA

PRINTED BY S. F. DAWSON, PRINTER TO THE QUEEN'S MOST
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1899

VOLUME XXXII.

See also Numerical List, page 4.

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SESSIONAL PAPERS
OF THE
PARLIAMENT OF CANADA

THIRD SESSION, EIGHTH PARLIAMENT, 1898.

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1. Report of the Auditor General for the year ended 30th June, 1897. Presented 10th February, 1898, by Hon. W. S. Fielding.....*Printed for both distribution and sessional papers.*

CONTENTS OF VOLUME 2.

2. Public Accounts of Canada, for the fiscal year ended 30th June, 1897. Presented 8th February, 1898, by Hon. W. S. Fielding*Printed for both distribution and sessional papers.*
- 2a. Estimates of sums required for the service of the Dominion, for the year ending on the 30th June, 1899. Presented 28th March, 1898, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.
- 2b. Supplementary Estimates for the year ending 30th June, 1898. Presented 17th May, 1898, by Hon. W. S. Fielding*Printed for both distribution and sessional papers.*
- 2c. Supplementary Estimates for the year ending 30th June, 1899. Presented 30th May, 1898, by Hon. W. S. Fielding*Printed for both distribution and sessional papers.*
- 2d. Further Supplementary Estimates for the year ending 30th June, 1899. Presented 7th June, 1898, by Hon. W. S. Fielding*Printed for both distribution and sessional papers.*
- 2e. Further Supplementary Estimates for the year ending 30th June, 1898. Presented 7th June, 1898, by Hon. W. S. Fielding*Printed for both distribution and sessional papers.*
3. List of Shareholders of the Chartered Banks of Canada, as on the 31st December, 1897. Presented 10th June, 1898, by Hon. W. S. Fielding.*Printed for both distribution and sessional papers.*
- 3a. Report of dividends remaining unpaid, and unclaimed balances in the Chartered Banks of Canada, for five years and upwards, prior to 31st December, 1897.
Printed for both distribution and sessional papers.

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4. Report of the Superintendent of Insurance, for the year ended 31st December, 1897.
Printed for both distribution and sessional papers.
- 4a. Preliminary statements of the business of Life Insurance Companies in Canada, for the year ended 31st December, 1897. Presented 9th June, 1898, by Hon. W. S. Fielding.
Printed for both distribution and sessional papers.
- 4b. Abstract of Statements of Insurance Companies in Canada, for the year ended 31st December, 1897. Presented 9th June, 1898, by Hon. W. S. Fielding. *Printed for both distribution and sessional papers.*

CONTENTS OF VOLUME 4.

5. Report of the Department of Trade and Commerce, for the fiscal year ended 30th June, 1897. Presented 22nd February, 1898, by Sir Richard Cartwright.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 5.

6. Tables of the Trade and Navigation of Canada, for the fiscal year ended 30th June, 1897. Presented 7th February, 1898, by Hon. W. Paterson.*Printed for both distribution and sessional papers.*

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7. Inland Revenues of Canada. Excise, &c., for the fiscal year ended 30th June, 1897. Presented 7th February, 1898, by Sir Henri Joly de Lotbinière.
Printed for both distribution and sessional papers.
- 7a. Inspection of Weights, Measures, Gas and Electric Light, for the fiscal year ended 30th June, 1897. Presented 7th February, 1898, by Sir Henri Joly de Lotbinière.
Printed for both distribution and sessional papers.
- 7b. Report on Adulteration of Food, for the fiscal year ended 30th June, 1897. Presented 16th February, 1898, by Sir Henri Joly de Lotbinière.*Printed for both distribution and sessional papers.*
8. Report of the Minister of Agriculture, for the calendar year 1897. Presented 9th March, 1898, by Hon. S. A. Fisher.*Printed for both distribution and sessional papers.*
- 8a. Report of the Director and Officers of the Experimental Farms, for the year 1897. Presented 7th June, 1898, by Hon. S. A. Fisher.*Printed for both distribution and sessional papers.*

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- 8b. Report on Canadian Archives, 1897.*Printed for both distribution and sessional papers.*
- 8c. Report of the Commissioner of Agriculture and Dairying.
Printed for both distribution and sessional papers.
- 8d. Criminal Statistics for the year 1897*Printed for both distribution and sessional papers.*

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9. Annual Report of the Minister of Public Works, for the fiscal year ended 30th June, 1897. Presented 3rd May, 1898, by Hon. J. I. Tarte.*Printed for both distribution and sessional papers.*
10. Annual Report of the Department of Railways and Canals, for the fiscal year ended 30th June, 1897. Presented 7th March, 1898, by Hon. A. G. Blair.
Printed for both distribution and sessional papers.

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11. Annual Report of the Department of Marine and Fisheries (Marine) for the fiscal year ended 30th June, 1897. Presented 3rd February, 1898, by Sir Louis Davies.
Printed for both distribution and sessional papers.
- 11a. Annual Report of the Department of Marine and Fisheries (Fisheries), for the fiscal year ended 30th June, 1897. Presented 1st March, 1898, by Sir Louis Davies.
Printed for both distribution and sessional papers.
- 11b. Report of the expedition to Hudson Bay and Cumberland Gulf in the steamship "Diana," under the command of William Wakeham, Marine and Fisheries, Canada, 1897. Presented 21st April, 1898, by Sir Louis Davies.*Printed for both distribution and sessional papers.*
- 11c. Report of the Chairman of the Board of Steamboat Inspection, etc., for calendar year ended 31st December, 1897.*Printed for both distribution and sessional papers.*

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12. Report of the Postmaster General, for the year ended 30th June, 1897. Presented 31st March, 1898, by Hon. W. Mulock.*Printed for both distribution and sessional papers.*
13. Annual Report of the Department of the Interior, for the year 1897. Presented 21st April, 1898, by Hon. C. Sifton*Printed for both distribution and sessional papers.*

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- 13a.** Summary Report of the Geological Survey Department, for the year 1897. Presented 20th May, 1898, by Hon. C. Sifton.....*Printed for both distribution and sessional papers.*
- 14.** Annual Report of the Department of Indian Affairs, for the year ended 30th June, 1897. Presented 9th March, 1898, by Hon. C. Sifton.*Printed for both distribution and sessional papers.*

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- 15.** Report of the Commissioner of the North-west Mounted Police Force, 1897. Presented 14th April, 1898, by Sir Wilfrid Laurier.....*Printed for both distribution and sessional papers.*
- 16.** Report of the Secretary of State of Canada, for the year ended 31st December, 1897. Presented 24th March, 1898, by Sir Wilfrid Laurier..*Printed for both distribution and sessional papers.*
- 16a.** Reports of the Canadian members of the International Commission on the Deeper Waterways from the Great Lakes to the Atlantic. Presented 9th June, 1898, by Hon. A. G. Blair.
Printed for both distribution and sessional papers.
- 16b.** Civil Service List of Canada, 1897. Presented 7th February, 1898, by Hon. C. Fitzpatrick.
Printed for both distribution and sessional papers.
- 16c.** Report of the Board of Civil Service Examiners, for the year ended 31st December, 1897. Presented 26th April, 1898, by Sir Wilfrid Laurier.....*Printed for both distribution and sessional papers.*
- 16d.** Annual Report of the Department of Public Printing and Stationery, for the year ended 30th June, 1897. Presented 3rd June, 1898, by Hon. S. A. Fisher.
Printed for both distribution and sessional papers.
- 17.** Report of the Joint Librarians of Parliament, for the year 1897. Presented 3rd February, 1898, by the Hon. The Speaker*Printed for sessional papers.*

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- 18.** Report of the Minister of Justice as to Penitentiaries of Canada, for the year ended 30th June, 1897. Presented 3rd June, 1898, by Hon. C. Fitzpatrick.
Printed for both distribution and sessional papers.
- 19.** Report of the Department of Militia and Defence of Canada, for the year ended 31st December, 1897. Presented 23rd March, 1898, by Hon. F. W. Borden.
Printed for both distribution and sessional papers.
- 20.** Copy of an order in council relative to the issue of licenses to United States fishing vessels. Presented 3rd February, 1898, by Sir Louis Davies *Not printed.*
- 20a.** Return to an order of the House of Commons, dated 12th April, 1897, for a return showing the number of fishing licenses granted to fish in Lake Erie, opposite East and West Elgin, and their location, whether pound net, gill net or seine license, and to whom granted during the years 1895 and 1896. Also the names of all applicants for licenses for the year 1897, giving the names of those applicants who were granted licenses and the amount paid by each of them. Also all telegrams, letters, reports and correspondence of every description in any way relating to the granting or refusal of such licenses. Presented 13th April, 1898.—*Mr. Ingram.*..... *Not printed.*
- 21.** Return to an order of the House of Commons, dated 12th April, 1897, for a return showing all mail contracts that were cancelled and all that expired in East and West Elgin since 15th July, 1896; also all correspondence, reports, tenders received and entered into for carrying the mail since 15th July, 1896, giving names and amounts. Presented 4th February, 1898.—*Mr. Ingram.*
Not printed.
- 21a.** Return to an order of the House of Commons, dated 5th May, 1897, for copies of correspondence and papers cancelling the contract with Mr. Finkle for carrying the mail from Newburgh to Kingston by the way of Camden East, Wilton, Odessa, etc. Also copies of tenders for carrying the mail from Newburgh to Kingston by the way of Camden East, Wilton, Odessa, etc.; together with all correspondence, reports and papers in connection with this contract. Presented 4th February, 1898.—*Mr. Wilson.*..... *Not printed.*
- 21b.** Return to an order of the House of Commons, dated 3rd May, 1897, for copies of all papers and correspondence relating to tenders for the mail contract from Shubenacadie to Dean, in the province of Nova Scotia, including a statement of the tenders received and the reason for awarding the contract to one Guild. Presented 4th February, 1898.—*Sir C. Hibbert Tupper.* *Not printed.*

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- 21c.** Return to an order of the House of Commons, dated 3rd May, 1897, for a return showing: 1. Each contract for carrying the mails cancelled since 7th July, 1896, showing the locality covered by each contract and the county and province in which situated. 2. The name of each contractor. 3. The price of each contract at the time of cancellation. 4. If new contracts entered into, the contract price of each new contract. 5. The reason for the cancellation of each contract. Presented 4th February, 1898.—*Mr. Cameron*.....*Printed for sessional papers.*
- 21d.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all orders in council, correspondence, reports, tenders, if any, and papers relating to the carrying of the mail between Golden, B.C., and St. Eugene since July, 1896, the number of trips made by each courier and the amount paid to each. Presented 31st May, 1898.—*Mr. Foster*.....*Not printed.*
- 22.** Return of Treasury Board Over-rulings of Auditor General's decisions between the second session of the eighth parliament, 1897, and the session of 1898. Presented 7th February, 1898, by Hon. W. S. Fielding.....*Not printed.*
- 23.** General Rules and Orders of the Exchequer Court of Canada. Presented 7th February, 1898, by Hon. C. Fitzpatrick.....*Not printed.*
- 23a.** General Order No. 87 of the Supreme Court. Presented 25th March, 1898, by Hon. C. Fitzpatrick.
Not printed.
- 24.** Return to an order of the House of Commons, dated 7th June, 1897, for copies of all correspondence of record in the department of the interior in regard to the keeping of government horses by S. J. Donaldson, of Prince Albert, Saskatchewan, from October, 1894, until May, 1895, and referring in any way to the transferring of the keeping of said horses from Joseph Letellier de St. Just to the said S. J. Donaldson; together with all accounts received from S. J. Donaldson in connection with keeping of said horses and caring for other government property. Presented 7th February, 1898.—*Mr. Davis*.....*Not printed.*
- 25.** Copy of the order in council and the contract entered into between Her Majesty and Messrs. Mackenzie and Mann for the construction of a railway from the Stikine River to Teslin Lake. Presented 8th February, 1898, by Hon. A. G. Blair.....*See "Votes and Proceedings," page 37.*
- 26.** Statement of Governor General's Warrants issued since last session of parliament, on account of fiscal year 1897-98. Presented 8th February, 1898, by Hon. W. S. Fielding.....*Not printed.*
- 27.** Report of the Commissioner, Dominion Police Force, for the year 1897. Presented 8th February, 1898, by Hon. C. Fitzpatrick.....*Not printed.*
- 28.** Statement of expenditure on account of miscellaneous unforeseen expenses from 1st July, 1897, to 3rd February, 1898. Presented 10th February, 1898, by Hon. W. S. Fielding.....*Not printed.*
- 29.** Return to an order of the House of Commons, dated 17th May, 1897, for copies of all papers, reports and correspondence respecting the illegal fishing by foreigners in the waters of British Columbia, and also all papers, reports and correspondence respecting smuggling on the coast of British Columbia. Presented 11th February, 1898.—*Mr. Prior*.....*Not printed.*
- 30.** Report of Mr. W. T. Jennings, C.E., on routes to the Yukon. Presented 11th February, 1898, by Hon. C. Sifton.....*Printed for both distribution and sessional papers.*
- 30a.** Return showing the approximate amount of gold taken out of the Yukon district from 1886 to 1897, inclusive. Presented 15th February, 1898, by Hon. C. Sifton.....*Printed for sessional papers.*
- 30b.** Copies of the following papers: 1. Particulars of the standard and gauge of the Kaslo and Slocan Railway. 2. Proposal of J. Wesley Allison representing a syndicate for construction of Skagway and Lake Bennett and Dawson City Railway. 3. Proposal from a syndicate represented by Lord Charles Montague, Mr. Clarence H. Mackay and Mr. H. Maitland Kersey for construction of a railway from Stikine River to Teslin Lake. 4. Letters to the minister of the interior from Mr. H. Maitland Kersey, bearing date the 22nd and 23rd January, 1898. Presented 15th February, 1898, by Hon. C. Sifton.....*Printed for sessional papers.*
- 30c.** Return to an order of the House of Commons, dated 22nd February, 1898, for copies of all papers respecting any proposal made by Mr. Hamilton Smith, for the construction of a railway towards the Yukon. Presented 22nd February, 1898, by Sir Wilfrid Laurier.
Printed for sessional papers.

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- 30d.** Return to an address of the Senate to his excellency the Governor General, dated 17th March, 1898, for a return showing all offers received by the government for building the Stikine-Teslin Railway or for building any railway or tramway to connect the head waters of the Yukon with the Pacific ocean, and all plans, specifications and other documents in connection therewith, and all correspondence upon this subject. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Wood.* . . . *Not printed.*
- 31.** Supplementary return to an address of the Senate to his excellency the Governor General, dated 9th April, 1897, for a statement showing for each department of the civil service, the names, ages, offices and salaries of such persons employed either in the inside or outside divisions thereof; and of such persons not in the civil service employed by the government in any department, who, since the 13th July, 1896, and in cases where no commission of investigation was appointed, as have been removed from office by dismissal, superannuation or otherwise, specifying in each case the manner of, the grounds for such removal, and the length of notice given to the persons removed, and the amount of superannuation or gratuity granted, if any; also showing the name, age, office and salary or remuneration of any and every person appointed to the civil service in the place of, or as a consequence of any such removal. Presented (Senate) 16th March, 1898.—*Hon. Mr. Kirchhoffer.*
Printed for sessional papers.
- 31a.** Partial return to an address of the Senate to his excellency the Governor General, dated 9th April, 1897, for a return showing: 1. The number of commissions issued, and the number and names of all commissioners appointed by order in council or otherwise, since the 11th July last, to inquire into and report upon charges preferred against any employee of the government, whether permanent or temporary, of offensive partisanship during the last Dominion election, or at any other time. 2. The number of commissions issued, and the number and names of all commissioners appointed to inquire into and report upon charges preferred, or upon the conduct of any officer or other employee of the government, permanent or temporary, other than those mentioned in the preceding paragraph. 3. The number and names of all commissioners appointed to investigate and report upon any claim or claims preferred against the government, and the finding of such commissioner or commissioners thereon. 4. The date of, and copy of each commission issued, and the date of the appointment of each commissioner, his name, residence and designation. 5. The time occupied in each investigation by each commissioner or commissioners. 6. The amount paid or to be paid to each commissioner, in fees, *per diem* allowance, salary, travelling expenses, and incidentals of all kinds. 7. The number of witnesses summoned in each case to appear before the investigating commissioner or commissioners. 8. The amount paid or to be paid, to each witness, in fees, *per diem* allowance, travelling expenses, or for any other services rendered. 9. The number of bailiffs and constables employed in each case, and the amount paid or to be paid to each for his services in any capacity. 10. The number and names of all lawyers retained or engaged in any way by the crown to conduct each case, the amount paid or to be paid to each lawyer or counsel so engaged. 11. A copy of all reports made to heads of departments, or to his excellency the governor general in council, by any commissioner or commissioners, together with his or their findings in each case; and a statement showing the action taken thereon by any head of a department, or by the governor general in council. 12. The name, age, office and salary of any and every person appointed to any office or employment under the government, in the place of, or in consequence of any person's removal or dismissal, as a result of the finding of any commissioner or commissioners. Presented (Senate) 16th March, 1898.—*Hon. Sir Mackenzie Bowell.* *Printed in abstract form.*
- 31b.** Supplementary return to No. 31a. Presented (Senate) 25th March, 1898.—*Hon. Sir Mackenzie Bowell.* *See 31a.*
- 31c.** Supplementary return to No. 31a. Presented (Senate) 18th May, 1898.—*Hon. Sir Mackenzie Bowell.* *See 31a.*
- 31d.** Supplementary return to No. 31a. Presented (Senate) 27th May, 1898.—*Hon. Sir Mackenzie Bowell.* *See 31a.*
- 31e.** Supplementary return to No. 31a. Presented (Senate) 31st May, 1898.—*Hon. Sir Mackenzie Bowell.* *See 31a.*
- 32.** Statement in reference to fishing bounty expenditure for 1896-97. Presented 15th February, 1898, by Sir Louis Davies. *Not printed.*
- 33.** Statement of all superannuations and retiring allowances in the civil service during year ended 31st December, 1897, giving name, rank, salary, service, allowance and cause of retirement of each person superannuated or retired, also whether vacancy filled by promotion or new appointment, and salary of any new appointee. Presented 16th February, 1898, by Hon. W. S. Fielding. *Not printed.*

CONTENTS OF VOLUME 13—*Continued.*

- 34.** Detailed statement of all bonds and securities registered in the department of the secretary of state of Canada, since the last return, 5th April, 1897, and submitted to parliament in accordance with section 23 of chapter 19 of the Revised Statutes of Canada. Presented 16th February, 1898, by Hon. C. Fitzpatrick *Not printed.*
- 35.** Statement in pursuance of section 17 of the Civil Service Insurance Act, for the year ended 30th June, 1897. Presented 18th February, 1898, by Hon. W. S. Fielding. *Not printed.*
- 36.** Return to an order of the House of Commons, dated 22nd February, 1898, for copies of all papers respecting the establishment of a line of vessels between Canada and France. Presented 22nd February, 1898, by Sir Wilfrid Laurier. *Printed for sessional papers.*
- 37.** Return to an address of the House of Commons to his excellency the Governor General, dated 17th May, 1897, for copies of all depositions, declarations, reports, orders in council, correspondence, etc., concerning the dismissal of M. P. Laberge, late deputy postmaster at the city of Quebec. Presented 2nd March, 1898. —*Mr. Cosgrain*. *Not printed.*
- 37a.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, charges, evidence and reports in connection with the case of Benjamin Palmer, formerly lighthouse keeper at Palmer's Point, King's county, N.B. Presented 3rd March, 1898. —*Mr. Foster*. *Not printed.*
- 37b.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th March, 1898, for copies of the report made to the government by Mr. Jean B. B. Prévost, who was appointed to inquire into the conduct of Mr. D. Desroches, collector of revenue for the excise division of Terrebonne. Presented 22nd March, 1898. —*Mr. Chauvin*. *Not printed.*
- 37c.** Supplementary return to an order of the House of Commons, dated 5th April, 1897, for a return giving the names of all commissioners appointed by the government or any of the ministers to hear charges and make investigations into the conduct of civil servants and employees of the government or any of the departments since July, 1896, together with the rate of pay and allowances of each and the length of time each has been employed, and the full amount paid; also copies of all reports made by them to the government, or any member thereof, and copies of the authorization and instructions under which they acted. Presented 25th March, 1898. —*Mr. Foster*. *Not printed.*
- 37d.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all correspondence and papers touching the appointment of R. S. Thompson to the position of postmaster in the town of Oxford, Cumberland county, Nova Scotia, and the dismissal of Henry Smith from said office, the applications for the said position and correspondence respecting the same; also copies of all reports or charges, if any, made against R. S. Thompson for selling liquor contrary to the provisions of the Scott Act, and for smuggling or other charges; and all papers showing what, if any, action has been taken on these complaints. Presented 28th March, 1898. —*Sir C. Hibbert Tupper*. *Not printed.*
- 37e.** Return to an order of the House of Commons, dated 14th March, 1898, for a return of all papers, correspondence and reports connected with the dismissal of S. R. Griffin, Isaac's Harbour, Nova Scotia, from his position of postmaster, including a petition signed by seven-eighths (more or less) of the electors of said district, in favour of the retention in the service of an officer who had served for twenty-two years and a half. Presented 12th April, 1898. —*Sir C. Hibbert Tupper*. *Not printed.*
- 37f.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all papers, letters, correspondence, depositions, reports, documents, etc., in relation to the suspension from office of Victor J. A. Venner, as Indian agent for the Restigouche band of Indians. Presented 12th April, 1898. —*Mr. McAlister*. *Not printed.*
- 37g.** Return to an order of the House of Commons, dated 18th April, 1898, for copies of all letters, papers and correspondence or reports between the minister of the interior or any of his departmental employees, and any Indian agent or agents regarding the dismissal of Dr. George T. Orton as medical superintendent of Indians in the province of Manitoba. Presented 27th April, 1898. —*Mr. Sproule*. *Not printed.*
- 37h.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all correspondence between any minister of the crown and other persons respecting the dispensing with the services of John Walker as caretaker of the Cave and Basin Baths at Banff, North-west Territories. Presented 27th April, 1898. —*Mr. Davin*. *Not printed.*

 CONTENTS OF VOLUME 13—*Continued.*

- 37i.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all papers, reports and official correspondence in any way connected with the dismissal of David Ross, fishery officer for N. E. Margaree, in the island of Cape Breton. Presented 28th April, 1898.—*Sir C. Hibbert Tupper*..... *Not printed.*
- 37j.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of papers, correspondence and orders concerning the dismissal of François Corbeil, formerly wharfinger on the Lachine canal. Presented 4th May, 1898.—*Mr. Bergeron*..... *Not printed.*
- 37k.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of reports, correspondence and papers relating to the dismissal of Charles Hoar, an employee of the Intercolonial Railway at Pictou, Nova Scotia. Presented 4th May, 1898.—*Sir C. Hibbert Tupper*..... *Not printed.*
- 37l.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for a return giving : (a.) The names of employees relieved from duty by the government by dismissal or otherwise upon the Welland canal and Welland canal feeder, from the 13th of July, 1896, to the 1st of March, 1898. (b.) The years of service of each employee so relieved of duty. (c.) The amount of retiring allowance, if any. (d.) The cause of dismissal in each case. (e.) The amount of pay per annum of which each employee had been in receipt. (f.) The names of new employees appointed, whether permanently or temporarily, between the same dates. (g.) The amount to be paid to each of such new temporary or permanent employee per month. Presented 5th May, 1898.—*Mr. Montague*..... *Not printed.*
- 37m.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, giving : (a.) The names of employees relieved from duty by the government by dismissal or otherwise upon the Lachine canal, from 13th July, 1896, to 1st March, 1898. (b.) The years of service of each employee so relieved of duty. (c.) The amount of retiring allowance, if any. (d.) The cause of dismissal in each case. (e.) The amount of pay per annum of each employee at date of dismissal. (f.) The names of new employees appointed, whether permanently or temporarily, from 13th July, 1896, to 1st March, 1898. (g.) The amount to be paid to each such new temporary or permanent employee per month. Presented 5th May, 1898.—*Mr. Quinn*..... *Not printed.*
- 37n.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all reports, correspondence and papers relating to the dismissal of R. H. Simmonds, an employee of the Intercolonial Railway, in the general offices at Moncton, N. B. Presented 5th May, 1898.—*Mr. Powell*..... *Not printed.*
- 37o.** Return to an order of the House of Commons, dated 18th April, 1898, for copies of all letters, telegrams and correspondence with respect to the dismissal of Thomas Walton, late Indian agent of the Parry Island band; also report of investigation regarding the same. Presented 6th May, 1898.—*Mr. McCormick*..... *Not printed.*
- 37p.** Return to an address of the Senate to his excellency the Governor General, dated 14th March, 1898, for : 1. Copies of all complaints, whether by affidavit or otherwise, made against Mr. John Taylor, late postmaster of the city of Belleville. 2. Copies of all orders in council authorizing the reducing of the post office in Belleville from that of a city to a town office. 3. The names of the employees of said office who were dismissed, their ages, length of time each was in the service of the government, the amount of gratuity paid to each who had not served ten years, over the amount of superannuation allowance allowed to each clerk who had served for ten years and over. 4. The names of those who were reappointed, and the salaries now paid them, in addition to their superannuation allowance. 5. The reasons why Miss I. M. Newberry and W. B. Walker were not re-employed, and two new and inexperienced clerks appointed in their stead. 6. And copies of all correspondence between members of the reform association of Belleville or any other person or persons, in relation to the reduction of said office from a city to a town office, the removal or dismissal of the postmaster or any of the clerks of said office, and copies of all records, if any, of the deputations which visited Ottawa in connection with the business of the said office. Presented (Senate) 3rd May, 1898.—*Hon. Sir Mackenzie Bowell*..... *Not printed.*
- 37q.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of information, evidence of investigation and report, correspondence and papers relating to the dismissal of Thomas H. Miller from the office of shipping master for the port of Bear River, Annapolis county, N.S., and the appointment of Albert Harris. Presented 9th May, 1898.—*Mr. Mills*..... *Not printed.*

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- 37r.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all correspondence, evidence taken by commissioners, reports, recommendations and other papers relating to the dismissal of Joseph Steeves, late postmaster at Elgin, Albert county, New Brunswick, and to the appointment of his successor to that office. Presented 12th May, 1898.—*Mr. McInerney.*
Not printed.
- 37s.** Return to an address of the House of Commons to his excellency the Governor General, dated 25th April, 1898, for copies of all orders in council, reports of the inspector or other officers of the post office department, and correspondence respecting the dismissal or retirement of Mr. M. G. McLeod from the postal mail service in Nova Scotia. Presented 13th May, 1898.—*Sir C. Hibbert Tupper.*
Not printed.
- 37t.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all papers, reports and correspondence referring to or connected with the dismissal of D. Bain, Esq., station agent at Port Mulgrave, Intercolonial Railway. Presented 17th May, 1898.—*Sir C. Hibbert Tupper.*
Not printed.
- 37u.** Return to an address of the House of Commons to his excellency the Governor General, dated 2nd May, 1898, for copies of all orders in council, complaints, depositions, reports, correspondence, papers and other documents in relation to the dismissal of Mr. Elzéar Lanouette, postmaster of Ste. Anne de la Pérade, and to the appointment of his successor. Presented 18th May, 1898.—*Mr. Marcotte.* *Not printed.*
- 37v.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all correspondence, reports of evidence, recommendations and other papers relating to the dismissal of Joshua L. Steeves, lately collector of customs at Hillsboro', Albert county, New Brunswick, and to the appointment of his successor. Presented 25th May, 1898.—*Mr. McInerney.* *Not printed.*
- 37w.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all orders in council, papers, correspondence, evidence and reports connected with the inquiry into the charges made against Mr. A. F. Cameron, of the customs service at Sherbrooke, Nova Scotia, and his dismissal from office. Presented 25th May, 1898.—*Sir C. Hibbert Tupper.* *Not printed.*
- 37x.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all correspondence, orders in council and petitions with the names attached thereto, relative to the dismissal of James M. Aitken, sub-collector of customs at the outport of Montague, Prince Edward Island, together with reasons for which he was dismissed. Presented 25th May, 1898.—*Mr. Macdonald (King's).* *Not printed.*
- 37y.** Return to an address of the House of Commons to his excellency the Governor General, dated 9th May, 1898, for copies of all papers in connection with the dismissal of John F. Tennant, late collector of customs at Gretna, Manitoba. Presented 30th May, 1898.—*Mr. Quinn.* *Not printed.*
- 37z.** Return to an order of the House of Commons, dated 25th April, 1898, for a return showing: 1. The names of all persons who, having been in the employ of the government in the North-west Territories, have ceased to be in that employ since June, 1896. 2. The date at which their services were dispensed with and the reasons for their dismissals in each case. Presented 2nd June, 1898.
Mr. Davin. *Not printed.*
- 37aa.** Return to an order of the House of Commons, dated 3rd June, 1898, showing all the changes that have been made in the officials and employees of the customs department in the county of Cape Breton since June, 1896, and giving copies of all letters, papers, petitions, telegrams, recommendations and correspondence relating to such changes. Presented 3rd June, 1898.—*Hon. W. Paterson.*
Not printed.
- 37bb.** Return to an address of the Senate to his excellency the Governor General, dated 17th June, 1897, for a copy of all correspondence exchanged between the different departments, or employees thereof, and Mr. Choquette, member of the house of commons for Montmagny, on the subject of the dismissal of the following persons: Charles Bouffard, postmaster at Berthier; Louis Lavoie, postmaster at l'Île aux Grues; Joseph Bossinotte, postmaster at Cap St. Ignace; Michel St. Pierre, postmaster at St. Paul du Buton; Mde. Cyp. Dionne, postmistress at St. Pierre, Rivière du Sud; Napoléon Dugal, postmaster at Beaubien; Cléophas Bélanger, postmaster at Landvilla; Mde. Ignace Mercier, postmistress at Mercier; Alfred Dubé, employee on the Intercolonial Railway; J. B. Proulx, employee on the Intercolonial Railway; Xavier Simoneau, employee on the Intercolonial Railway; Xavier Poitras, employee on the Intercolonial Railway; Sifroid Fortin, employee on the Intercolonial Railway; Téléphore Gendreau, harbour master at Montmagny; Maxime Dubé, customs officer (preventive officer); Téléphore Gendreau, guardian of the wharf at St. Thomas. Presented (Senate) 7th June, 1898.—*Hon. Mr. Landry.* *Not printed.*

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- 38.** Commission of Major Walsh as executive officer of the Yukon district. Presented 4th March, 1898, by Sir Wilfrid Laurier. *Printed for sessional papers.*
- 38a.** Copy of the orders in council of the 17th and 26th August, 1897, appointing James Morrow Walsh, Esquire, chief executive officer of the government in the Yukon territory. Presented 7th March, 1898, by Hon. C. Sifton. *Printed for sessional papers.*
- 38b.** Return to an address of the Senate to his excellency the Governor General, dated 17th March, 1898, for copies of all letters and reports received by the government or any department thereof, from Commissioner Walsh, while on his way to the Yukon district, or since his arrival there. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Ferguson.* *Printed for sessional papers.*
- 38c.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of orders in council, commission, instructions, correspondence and papers relating to the appointment and duties of Major Walsh, commissioner of the provisional district of Yukon, including any directions concerning his duties on the way to Dawson city as well as those after his arrival there. Presented 23rd May, 1898.—*Sir C. Hilbert Tupper.* *Printed for sessional papers.*
- 39.** Return to an address of the House of Commons to his excellency the Governor General, dated 7th March, 1898, for copies of the correspondence between Sir Wilfrid Laurier and Mr. Foster, of the United States of America, following the meeting of the experts on the Behring Sea seal question. Presented 7th March, 1898.—*Sir Wilfrid Laurier.* *Printed for both distribution and sessional papers.*
- 40.** Statement of the affairs of the British Canadian Loan and Investment Company, as on 31st December, 1897. Presented 7th March, 1898, by the Hon. The Speaker. *Not printed.*
- 41.** Copy of the order in council of 15th July, 1897, under which a lease of the right of subaqueous mining on the North Saskatchewan river was issued to Mr. G. A. Drolet, and in which are set forth the conditions of the said lease. Presented 7th March, 1898, by Hon. C. Sifton. *Printed for sessional papers.*
- 41a.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copy of the mining lease granted to Chevalier Drolet. Presented 27th April, 1898.—*Mr. Davin.* *Not printed.*
- 42.** Return showing reductions and remissions made during the fiscal year ended 30th June, 1897, under section 141 as added to the Indian Act by section 8, chapter 35, 58-59 Victoria. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 43.** Return of all lands sold by the Canadian Pacific Railway Company, from the 1st October, 1896, to the 1st October, 1897. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 43a.** Return of correspondence, etc., respecting the affairs of the Canadian Pacific Railway Company, which the department of the interior has had since the previous return was presented to parliament under the resolution of the 20th February, 1882. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 44.** Return of orders in council which have been published in the *Canada Gazette*, in accordance with the provisions of clause 91 of the Dominion Lands Act, chapter 54 of the Revised Statutes of Canada, and its amendments. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 44a.** Return of orders in council which have been published in the *Canada Gazette* and in the *British Columbia Gazette*, in accordance with the provisions of subsection (d) of section 38 of the regulations for the survey, administration, disposal and management of Dominion lands within the 40-mile railway belt in the province of British Columbia. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 45.** Return of orders in council which have been published in the *Canada Gazette*, in accordance with the provisions of the North-west Irrigation Act, being 57-58 Victoria, chapter 30, etc. Presented 7th March, 1898, by Hon. C. Sifton. *Not printed.*
- 46.** Return of the names and salaries of all persons appointed to, or promoted in the civil service during the calendar year 1897, specifying the office to which each has been appointed or promoted. Presented 10th March, 1898, by Sir Henri Joly de Lotbinière. *Printed for sessional papers.*
- 47.** Correspondence, etc., relative to the establishment of an agency or agencies of the Canadian Bank of Commerce in the Yukon district. Presented 10th March, 1898, by Hon. W. S. Fielding. *Printed for distribution.*
- 48.** Return to an address of the House of Commons to his excellency the Governor General, dated 17th May, 1897, for copies of all correspondence, tenders asked for and received, orders in council and papers in connection with the fast Atlantic service. Presented 14th March, 1898.—*Sir Adolphe Caron.* *Not printed.*

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49. Return to an order of the House of Commons, dated 14th March, 1898, for a return of the number of acres seeded, the nature of the seed sown, and the amount of crops grown in each Indian reserve in the North-west Territories. Presented 24th March, 1898.—*Mr. Davin* *Not printed.*
- 49a. Return to an order of the House of Commons, dated 14th March, 1898, for a return showing the number of acres reserved for settlement in the North-west Territories; the number thus reserved in Manitoba; the number of acres in the North-west Territories sold to railways; the number reserved for railways; the number reserved for the government; the number of acres settled on; the number of acres in Manitoba sold to railways; the number reserved for railways in Manitoba; the number reserved for the government in Manitoba, and the number of acres in Manitoba settled on. Presented 27th April, 1898.—*Mr. Davin* *Not printed.*
50. Return to an order of the House of Commons, dated 14th February, 1898, for reports, recommendations, etc., of the council of the Montreal bar, addressed to the minister of justice, concerning the judges of the province of Quebec. Presented 24th March, 1898.—*Mr. Bergeron* *Not printed.*
51. Return to an address of the Senate to his excellency the Governor General, dated 18th February, 1898, for the number of permits that have been granted to persons for the purpose of taking spirituous and intoxicating liquors into the Yukon district, the date of such permits, together with the name of the person to whom the permit has been granted, and the number of gallons covered by such permit, and the fee charged by the government per gallon. Presented (Senate) 29th March, 1898.—*Hon. Mr. Perley* *Not printed.*
- 51a. Return to an address of the Senate to his excellency the Governor General, dated 11th March, 1898, for all correspondence by letters or telegrams between the federal government, at Ottawa, and his honour the lieutenant-governor of the North-west Territories, in reference to the granting of liquor permits or the introduction of liquor into the Yukon district during the last six months; also any correspondence with the government of the North-west Territories regarding the rights of the North-west Territories in regard to issuing liquor permits for the taking of intoxicating liquor into the Yukon district. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Perley*.
Printed for sessional papers.
52. Return to an order of the House of Commons, dated 7th June, 1897, for a return of the number of tons of bituminous steam coal and of bituminous slack coal imported from the United States in 1896, at several ports of entry, and amount of duty collected at such ports, and duty paid by Grand Trunk and Canadian Pacific Railways. Presented 31st March, 1898.—*Mr. Roche* *Not printed.*
53. Return to an address of the House of Commons to his excellency the Governor General, dated 3rd May, 1897, for a copy of Schedule B, showing recommendations of the treasury board as submitted by report of council to his excellency the governor general on the 6th and 7th July, 1896, and intended to be approved by him, laid upon the table of the house last session, with a statement of the action taken by the government on each of these appointments as made by the said order in council approved by his excellency, or, where no action has been taken, the reason for such a course. Presented 13th April, 1898.—*Sir Charles Tupper* *Printed for sessional papers.*
54. Return to an address of the House of Commons to his excellency the Governor General, dated 17th May, 1897, for copies of all correspondence, etc., not already brought down, between the government of Canada and the government of Newfoundland, in reference to the admission of Newfoundland into the union with Canada; also copies of all correspondence between the government of Canada and that of Newfoundland in reference to the establishment of freer trade relations between Newfoundland and Canada. Presented 13th April, 1898.—*Mr. Martin*.
Printed for sessional papers.
55. Return to an order of the House of Commons, dated 30th March, 1898, for a return showing the number of bushels of wheat graded into elevators at Fort William from 15th September, 1897, to 15th January, 1898, and the grades of the same as allowed by the government grain inspector at that point; also the number of bushels of wheat graded out of the above mentioned elevators during the same period, and the grades of the same as allowed by the said government inspector. Presented 13th April, 1898.—*Mr. Richardson* *Not printed.*
- 55a. Return to the Senate, dated 11th March, 1898, for a statement showing the quantity of wheat imported into the Dominion since 30th June last, the quantity exported during the same period, and the quantity exported from Manitoba during the like period. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Wark* *Not printed.*
56. Correspondence on the subject of Japanese immigration. Presented 13th April, 1898, by Sir Wilfrid Laurier *Not printed.*

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- 57.** Return of copies of all agreements, not hitherto laid upon the table of the house, entered into by the department of railways with the Grand Trunk Railway Company in connection with the Montreal extension of the Intercolonial Railway. Presented 19th April, 1898, by Hon. A. G. Blair.
Printed for both distribution and sessional papers.
- 58.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th March, 1898, for copies of all correspondence between the British government and the government of Canada, in reference to the conference of colonial premiers held in London in June, 1897, in accordance with Mr. Chamberlain's invitation of January 28th preceding, with the report of the proceedings of the same. Presented 20th April, 1898.—*Mr. Foster*... *Printed for sessional papers.*
- 59.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th March, 1898, for copies of all depositions and papers in connection with the case of the Queen against H. B. Cameron for libel, either before the police magistrate or the court of queen's bench at Montreal, including a copy of the judgment of Hon. Mr. Justice Wurtel upon the motion for the discharge of the bail bond. Presented 20th April, 1898.—*Mr. Bostock*..... *Not printed.*
- 60.** Return to an order of the House of Commons, dated 14th February, 1898, showing the cost of "Hansard" for each year from and including 1890 to 1897—the return to cover the cost of reporting, transcribing, translating, printing, binding, circulating through the post office or express offices and all other expense connected with the present system of reporting and publishing the debates of the house. Presented 21st April, 1898.—*Mr. Ellis*..... *Not printed.*
- 61.** Return to an order of the House of Commons, dated 7th June, 1897, for copies of all applications or recommendations for positions as mail carriers in the city of Brantford, in connection with the free postal delivery by the postmaster general. Presented 21st April, 1898.—*Mr. Clancy*... *Not printed.*
- 62.** Return to an order of the House of Commons, dated 30th March, 1898, for a return showing: (a) The names and appointments of members of the staff and employees of the royal military college of Canada who have been struck off the strength between the 30th June, 1896, and 31st December, 1897. (b) The corresponding dates. (c) The respective conditions of engagement as regards duration. (d) The respective lengths of service completed. (e) The respective retiring allowances, if any, granted. (f) The grounds upon which the respective grants were made, and the principles regulating them, with explanation of variation, if any. (g) The appointments which having been vacated, have since been refilled, with dates thereof. (h) The extra public expenditure involved by the respective new appointments other than those caused by deaths, including travelling, lodging and all other charges met or to be met on this account. (i) In cases of vacancies caused by death, the amounts granted to the families of deceased employees. Presented 21st April, 1898.—*Mr. Tyrwhitt*..... *Not printed.*
- 62a.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all correspondence and reports, direct or indirect, and of minutes of verbal communications between Imperial government authorities, Canadian government authorities, and the commandant royal military college of Canada, relating to the granting in the years 1898 and 1899 of commissions in her majesty's regular forces, to cadets of the royal military college of Canada. Presented 21st April, 1898.—*Mr. Tyrwhitt*..... *Not printed.*
- 63.** Return to an address of the House of Commons to his excellency the Governor General, dated 5th April, 1897, for copies of all memorials, statements and other documents from the government of the province of Manitoba in relation to an unsettled claim resulting from that province being charged with the cost of the erection of public buildings; with copies of all correspondence in connection therewith. Presented 21st April, 1898.—*Mr. LaRivière*..... *Printed for sessional papers.*
- 64.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all orders in council, reports, correspondence and papers in any way relating to the claim of E. J. Walsh, Esq., against the government of the Leeward Islands. Presented 25th April, 1898.—*Sir U. Hibbert Tupper*..... *Not printed.*
- 65.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all papers connected with the discharge from the mounted police of William J. Spencer, who, on May 14, 1885, was wounded while patrolling through the Eagle Hills with a party attached to Col. Otter's column; the report of the board which sat on his case, and its recommendation. Presented 25th April, 1898.—*Mr. Davin*..... *Not printed.*

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66. Report of the commissioners appointed to investigate, inquire into and report upon the state and management of the St. Vincent de Paul Penitentiary. Presented 26th April, 1898, by Hon. C. Fitzpatrick. *Not printed.*
67. Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, estimates, tenders, reports and petitions addressed to the government concerning the yearly flooding of farm land at Ste. Geneviève, in the county of Jacques Cartier, consequent upon public works in the Ottawa river. Presented 26th April, 1898.—*Mr. Monk*. *Not printed.*
68. Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, estimates, tenders, reports and petitions addressed to the government in regard to the construction of a wharf at Point Claire in the county of Jacques Cartier. Presented 26th April, 1898.—*Mr. Monk*. *Not printed.*
- 68a. Return to an order of the House of Commons, dated 30th March, 1898, for correspondence between the department of public works and Mr. L. H. Masson, of St. Anicet, concerning the government wharf at that place. Also correspondence between the same department and citizens of St. Anicet regarding the building of a pier at said wharf. Presented 28th April, 1898.—*Mr. Bergeron*. *Not printed.*
69. Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for copies of all correspondence, reports, orders in council and papers relating to the giving the work of printing the Klondike Official Guide to Mr. Daniel Rose of Toronto. Presented 27th April, 1898.—*Mr. Foster*. *Printed for sessional papers.*
70. Return to an address of the House of Commons to his excellency the Governor General, dated 14th March, 1898, for copies of the following documents and papers: (a.) The commission issued to Mr. Rothwell, law clerk in the department of the interior, Ottawa, authorizing him to investigate the grievances of certain settlers residing within the Esquimalt and Nanaimo Railway Company's land belt on Vancouver Island. (b.) All evidence taken under the said commission at Nanaimo, Victoria, or elsewhere. (c.) All reports made by the said Mr. Rothwell on all matters inquired into by him under the said commission. Presented 27th April, 1898.—*Mr. McInnes*. *Not printed.*
71. Return to an order of the House of Commons, dated 14th March, 1898, for a return of copies of all papers connected with the letting of the contract for the construction of the railway bridge at Edmonton, including advertisements, specifications, the tenders, the contract; any subsequent modifications of the same; correspondence; and return respecting forfeitures connected with the said contract and the action of the government thereon, and a further return stating the conditions of the work at present. Presented 28th April, 1898.—*Mr. Davin*. *Not printed.*
72. Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all papers and correspondence (such as can be properly brought down) between the Imperial government and the government of Canada, in relation to the improvement of the defences of Canada. Presented 2nd May, 1898.—*Mr. Casgrain*. *Not printed.*
73. Return to an order of the House of Commons, dated 14th March, 1898, for copies of all correspondence between the mayor and corporation of Gananoque, or any other person, with the government in reference to the removal of the drill shed at Gananoque. Also all correspondence in reference to the sale or purchase of a new site. Also all offers made by the president of the agricultural society of Gananoque, or any other person, offering to rent or sell a suitable building in which to store the arms and clothing; and also all other correspondence with the government, dealing with this question. Presented 4th May, 1898.—*Mr. Taylor*. *Not printed.*
- 73a. Supplementary return to No. 73. Presented 11th May, 1898.—*Mr. Taylor*. *Not printed.*
- 73b. Return to an order of the House of Commons, dated 14th March, 1898, for a return showing: (a) What works or repairs have been executed on the drill shed at Montreal since the 1st of September, 1896. (b) The estimated cost of said works. (c) The names of those who executed said works, and the amounts paid to each by the government. (d) The mode of calling for tenders in reference to the execution of said works. Presented 11th May, 1898.—*Mr. Monk*. *Not printed.*
74. Return to an address of the Senate to his excellency the Governor General, dated 31st March, 1898, for copies of all correspondence, memoranda, papers and orders in council relating to the Manitoba school question, since the 1st of July, 1896, up to this date. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Bernier*. *Printed for both distribution and sessional papers.*

 CONTENTS OF VOLUME 13—*Continued.*

- 74a.** Return to an address of the Senate to his excellency the Governor General, dated 31st March, 1898, for a statement of the quantity of lands allotted for school purposes in Manitoba; the quantity of said lands sold, and the prices at which they have been sold; the amount received on that account the amounts still due to the government; the manner in which this fund is invested and administered; the amount already paid to the province of Manitoba, how much on the capital, if any, and how much on the interest; the amount still at the credit of the province, whether on the capital or on the interest; the dates of payment in each case, and the amount of each payment; and also all the correspondence, papers, memoranda and orders in council relating thereto, up to date. Presented (Senate) 31st May, 1898.—*Hon. Mr. Bernier.*
Printed for both distribution and sessional papers.
- 75.** Return to an address of the Senate to his excellency the Governor General, dated 25th March, 1898, for copies of all correspondence between J. A. J. McKenna, the representative of the department of the interior, and any member of the British Columbia government in respect to the proposed removal of the Indians from the Songhees reserve in the city of Victoria, British Columbia. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Templeman.*.....*Not printed.*
- 76.** Return to an address of the Senate to his excellency the Governor General, dated 9th April, 1897, for a return showing the number of railway tickets sold during the year 1896 by the various railway companies of the Dominion, those under the rate of two cents per mile, and those over the rate of two cents per mile. Also the number of life insurance policies in force, dividing them as follows: \$500.00 and upwards, \$1,000.00, \$2,000.00, \$5,000.00, \$10,000.00, \$25,000.00, \$50,000.00. And also the number of infantile insurance and amount. Presented (Senate) 3rd May, 1898.—*Hon. Mr. Boulton.*.....*Not printed.*
- 77.** Return to an address of the Senate to his excellency the Governor General, dated 28th March, 1898, for copies of all papers, letters, telegrams, reports, recommendations, contracts, payments and correspondence, between the department of militia and any person or persons whatsoever, and also all reports and orders in council in connection with the equipment of the militia force, referring to the Oliver, the Lewis and the Merrian patents. Presented (Senate) 4th May, 1898.—*Hon. Mr. Landry.*.....*Not printed.*
- 77a.** Supplementary return to No. 77. Presented (Senate) 30th May, 1898.—*Hon. Mr. Landry.*
Not printed.
- 78.** Return to an order of the House of Commons, dated 18th April, 1898, for copies of all tariffs of every kind, supplementary, regular and special, in force from time to time on the Intercolonial Railway since the appointment of Mr. Harris. Presented 5th May, 1898.—*Mr. Foster.*.....*Not printed.*
- 78a.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all papers and correspondence, including copy of advertisement, connected with the letting of Intercolonial Railway contract for farm gates in the winter of 1896-97, Intercolonial Railway contract with one McNeil, of New Glasgow, Nova Scotia, and copies of tenders and deposits by the different parties tendering for the same. Presented 5th May, 1898.—*Sir C. Hibbert Tupper**Not printed.*
- 79.** Return to an order of the House of Commons, dated 14th March, 1898, for copies of all papers and correspondence respecting a fire claim of D. Connors, Esq., Bayfield, Antigonish, between officers of the department of railways and canals and other departments, as well as between the claimant and others and the department. Presented 5th May, 1898.—*Sir C. Hibbert Tupper.*.....*Not printed.*
- 80.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for a copy of the report forwarded to the government by Mr. Wilfrid Mercier, appointed to hold an investigation into the conduct of employees on the St. Ann lock on the Ottawa river. Presented 5th May, 1898.—*Mr. Monk.*.....*Not printed.*
- 81.** Return to an order of the House of Commons, dated 18th April, 1898, for copies of accounts of Mr. H. H. Robertson, registrar of the election court in the election trial held at the city of London in the fall of 1897, contesting the right of Thomas Beattie, Esq., to sit as member for the city of London, in connection with the said trial, with vouchers and certificates, and all correspondence relating thereto. Presented 10th May, 1898.—*Mr. Calvert.*.....*Not printed.*
- 82.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for copies of all petitions, reports, applications, letters, telegrams, evidence, depositions, arguments, papers, writings, correspondence, judge's charge, judge's report, orders in council, and other documents of every kind relating to the commutation of the sentence pronounced

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- by Mr. Justice Ritchie of the supreme court of Nova Scotia, upon Lyman Dart, or to the pardoning of the said Lyman Dart, or to any application for such commutation or pardoning, and including all documents which were taken into consideration by the minister of justice or by the solicitor general, or by his excellency the governor general in council in connection with such commutation or pardon. Presented 10th May, 1898.—*Mr. Borden (Halifax)*..... *Not printed.*
- 83.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, advertisements for tenders and answers thereto, reports and orders in council, and a list of all permits, licenses or leases granted, containing names of the grantees and extent of territory given and conditions attached to each, the amount paid and to be paid therefor in respect of gold placer mining or gold dredging areas in the North-west Territories and the Yukon district. Presented 11th May, 1898.—*Mr. Foster.*
Printed for both distribution and sessional papers.
- 83a.** Return to an address of the Senate to his excellency the Governor General, dated 18th March, 1898, for a return of all dredging leases made by the government during the last eighteen months on the Saskatchewan river and its branches, also particulars of the parties to whom made, the rental to be paid and the amount paid, the extent of work, if any, done under same, together with the official reports, if any, which induced the government to grant said leases upon the terms contained therein. Presented (Senate) 18th May, 1898.—*Hon. Mr. Loughheed.*
Printed for sessional papers.
- 84.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for copies of orders in council, correspondence, claims, memoranda, statements, memorials, etc., in connection with the government of Prince Edward Island and a delegation, consisting of Mr. Warburton, premier of the province, Mr. H. C. Macdonald, attorney-general of the province and others in regard to questions at issue between the government of Prince Edward Island and the dominion of Canada. Presented 12th May, 1898.—*Mr. Martin.*
Printed for sessional papers.
- 85.** Return to an order of the House of Commons, dated 7th June, 1897, for copies of all petitions, letters and documents respecting the claims made by the veterans of the rebellion of 1837-8 for pensions or other compensation, and for all departmental replies thereto and all other papers connected therewith. Presented 12th May, 1898.—*Mr. Cameron*..... *Not printed.*
- 86.** Return to an order of the House of Commons, dated 30th March, 1898, for copies of all petitions, reports, letters, correspondence and papers, including all letters, communications or correspondence between the different departments of the government, particularly the letter from the minister of marine and fisheries, under the late government, to the then minister of public works, and the letter of the Hon. Mr. Dickey, in said letter referred to, referring to the removal of the remains of piers of the old bridge at the mouth of Bear river, N.S. Presented 13th May, 1898.
Mr. Mills..... *Not printed.*
- 87.** Return to an order of the House of Commons, dated 18th April, 1898, for a copy of the report of W. L. M. King respecting the manufacture of militia clothing in Canada. Presented 16th May, 1898.—*Mr. Belcourt*..... *Printed for distribution.*
- 87a.** Return to an order of the House of Commons, dated 14th March, 1898, for a return showing: (1.) All contracts for military clothing entered into by the government of Canada since the 1st of September, 1896. (2.) The name of each contractor and the amount of his contract. (3.) The mode of calling for tenders in each case, and the names and amounts mentioned by each tenderer. Presented 6th June, 1898.—*Mr. Monk*..... *Not printed.*
- 88.** Return to an order of the House of Commons, dated 7th June, 1897, for copies of all correspondence, telegrams and replies thereto, between the minister of agriculture or any member of the government and any person in reference to the withdrawal, or proposed withdrawal of government aid or control from cheese and butter factories in Prince Edward Island. Also all correspondence, etc., between any member or official of the government and any person, representing or on behalf of any cheese or butter factory proposed to be erected and operated in Prince Edward Island. Presented 16th May, 1898.—*Mr. Martin*..... *Not printed.*
- 89.** Return to an order of the House of Commons, dated 3rd May, 1897, for copies of all letters, papers and correspondence relating to the closing in March last of the post office at Oak Bay Mills, Quebec. Presented 17th May, 1898.—*Mr. McAlister*..... *Not printed.*
- 89a.** Return to an order of the House of Commons, dated 25th April, 1898, for copies of all correspondence, papers, telegrams, etc., in possession of the government, or any member or official of the government, in reference to closing the post office at St. Mary's Road East, in Prince Edward Island. Presented 18th May, 1898.—*Mr. Martin*..... *Not printed.*

CONTENTS OF VOLUME 13—*Continued.*

- 90.** Return to an order of the House of Commons, dated 18th April, 1898, for a return of all correspondence, letters, or telegrams, reports in possession of the government in connection with the death from diphtheria of Macdonald and Fraser, who contracted the disease when employed on the construction of the Crow's Nest Pass Railway; also with the holding of an inquest on bodies of said Macdonald and Fraser, and the adjournment of said inquest, and issuing of an injunction to prevent Coroner Mead, of Pincher Creek, from proceeding with such adjourned inquest. Presented 17th May, 1898.—*Mr. Bell (Pictou)*.....*See 90a.*
- 90a.** Report of the commissioners appointed to inquire into complaints respecting the treatment of labourers on the Crow's Nest Pass Railway. Presented 2nd June, 1898, by Hon. C. Sifton.
Printed for both distribution and sessional papers.
- 91.** Return to an order of the House of Commons, dated 18th April, 1898, for a return showing names of parties from whom lands were purchased for new improvements on Iroquois section of Galops canal, and amounts paid to each person for property so purchased from them, also quantity of land purchased from each person. Also a similar statement for the lands purchased for the Cardinal section of the Galops canal. Presented 17th May, 1898.—*Mr. Broder*.....*Not printed.*
- 92.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all reports to his excellency, orders in council, papers and correspondence, record of the judgment of the supreme court of Canada referring to the condemnation and release of the United States fishing vessel "Frederick J. Gerring." Presented 18th May, 1898.—*Sir C. Hibbert Tupper*.....*Not printed.*
- 93.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, calls for tenders, tenders received, reports and orders in council, contracts entered into and all related papers in respect to the winter steamship service from St. John and Halifax to Great Britain since 1st July, 1897. Presented 26th May, 1898.—*Mr. Foster*.....*Not printed.*
- 94.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for a copy of the report of the committee appointed by the Imperial government in 1896 to consider the question of a telegraph cable between Canada and Australasia; also of any reports or correspondence to the Canadian government from the Canadian representatives on said committee, or Sir Sandford Fleming in regard to the same subject. Presented 25th May, 1898.—*Mr. Casey*.....*Printed for both distribution and sessional papers.*
- 95.** Return to an address of the House of Commons to his excellency the Governor General, dated 18th April, 1898, for copies of all petitions, papers, correspondence, orders in council, commission, instructions, evidence, reports and documents relating to the inquiry into the conduct of Judge Spinks, judge of the county court of Yale, by the Honourable Mr. Justice McColl of the supreme court of British Columbia. Presented 25th May, 1898.—*Sir C. Hibbert Tupper*.....*Not printed.*
- 96.** Return to an address of the House of Commons to his excellency the Governor General, dated 30th March, 1898, for copies of all papers and correspondence respecting the enforcement of coasting laws of Canada on the Pacific or Atlantic coasts. Presented 26th May, 1898.—*Sir C. Hibbert Tupper*.....*Printed for distribution.*
- 97.** Return to an order of the House of Commons, dated 14th March, 1898, for a return showing: (a) What contracts for military harness or saddlery have been given by the government of Canada since the 1st September, 1896. (b) To whom such contracts were awarded and where they were executed. (c) What amounts were paid for the execution of such contracts. (d) For which of the said contracts tenders were called publicly, and the amount of tender in each case, and all correspondence had by the department of militia in reference to the execution of said contracts. Presented 8th June, 1898.—*Mr. Monk*.....*Not printed.*
- 98.** Return to an address of the Senate to his excellency the Governor General, dated 15th March, 1898, for copies of all correspondence and telegrams between the minister of agriculture or any other member of the administration, or any officer of the government, with the owners or agents of steamers or the board of trade, Charlottetown, relating to the establishment of a cold storage service on steamers between Charlottetown and ports in Great Britain or the West Indies, and in reference to the erection of cold storage premises in Charlottetown. Presented (Senate) 12th May, 1898.—*Hon. Mr. Ferguson*.....*Not printed.*
- 99.** Regulations concerning the Stikine river and its connecting rivers and lakes. Presented (Senate) 18th May, 1898, by Hon. R. W. Scott.....*Not printed.*

CONTENTS OF VOLUME 13—*Continued.*

- 100.** Return to an address of the Senate to his excellency the Governor General, dated 4th June, 1897, for a copy of all correspondence exchanged between the Imperial government and that of the Dominion on the subject of the French treaty. Presented (Senate) 25th May, 1898.—*Hon. Mr. Landry* *Not printed.*
- 101.** Return to an address of the Senate to his excellency the Governor General, dated 17th March, 1898, for a detailed account by the department of the interior of the items of the expenses allowed to W. H. Sowden during the period of his employment as immigration agent, and also the names of all or any persons, who, in consequence of Mr. Sowden's work in the Midland Counties, went to the Canadian North-west, and who, as stated by the leader of the government in the senate, it is believed by the government would otherwise have gone to the United States, and the residences of such persons prior to their departure to the North-west, and the places where they settled in the North-west. Presented (Senate) 25th May, 1898.—*Hon. Mr. Kirchhoffer* *Not printed.*
- 102.** Return to an address of the Senate to his excellency the Governor General, dated 5th May, 1898, for copies of all correspondence and orders in council in respect to the occupancy of a portion of the Songhees Indian reserve at Victoria, British Columbia, by the Esquimalt and Nanaimo Railway Company. Presented 26th May, 1898.—*Hon. Mr. Templeman* *Not printed.*
- 103.** Return to an address of the Senate to his excellency the Governor General, dated 18th March, 1898, for any correspondence that has taken place between the government and the home authorities re repatriation of the 100th Royal Canadian Regiment. Presented (Senate) 26th April, 1898.—*Hon. Mr. Boulton* *Not printed.*
- 104.** Return to an order of the House of Commons, dated 14th March, 1898, for a copy of all entries and clearances of Canadian ports by United States steamship "Yantic" on her voyage up the river St. Lawrence in 1897; also a copy of any papers or correspondence respecting her passage through the said river or St. Lawrence canals. Presented 30th May, 1898.—*Sir C. Hibbert Tupper* *Not printed.*
- 105.** Return to an order of the House of Commons, dated 30th May, 1898, for a copy of a letter from Major General Gascoigne, relating to certain statements made in parliament, reflecting upon him as commanding officer of the Canadian militia. Presented 30th May, 1898.—*Sir Wilfrid Laurier*.
Printed for both distribution and sessional papers.
- 106.** Return to an order of the House of Commons, dated 25th April, 1898, for a return of all papers, receipts and documents in possession of the government relating in any way to a claim presented to the government by Hugh Richardson, Esq., the justice of the supreme court, North-west Territories, for losses sustained at Battleford during the North-west rebellion of 1885. Presented 31st May, 1898.—*Mr. Davis* *Not printed.*
- 107.** Return to an order of the House of Commons, dated 9th May, 1898, for copies of all reports and plans respecting or in any way relating to a route through and from the North-west Territories to the Yukon district *via* Prince Albert, Saskatchewan, Green Lake, Isle La Crosse and the Clear-water river and Fort McMurray on the Athabasca. Presented 31st May, 1898.—*Mr. Davis*.
Not printed.
- 108.** Return to an address of the Senate to his excellency the Governor General, dated 15th March, 1898, for copies of all reports made to the department of marine and fisheries by the officers in charge of the steamer "Petrel" having reference to the service performed by that steamer during the winter of 1896-97, and also detailed statements of the expenditure incurred for that service and receipts for freight and passengers. Presented (Senate) 30th May, 1898.—*Hon. Mr. Ferguson* *Not printed.*
- 109.** Return to an order of the House of Commons, dated 2nd May, 1898, for copies of correspondence and reports addressed to the militia department concerning accidental shooting at Côte St. Luc ranges, of a farmer named Larose of the parish of St. Laurent, in Jacques Cartier county. Presented 1st June, 1898.—*Mr. Monk* *Not printed.*
- 110.** Return to an address of the House of Commons to his excellency the Governor General, dated 14th February, 1898, for copies of all correspondence, calls for tenders, tenders received, reports and orders in council, permits, licenses or leases, with the names of the parties receiving them and the conditions attached thereto, and generally all papers in connection with the disposal of timber berths or areas in the North-west Territories, including the Yukon, since 1st July, 1897. Presented 3rd June, 1898.—*Mr. Foster* *Not printed.*

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- 111.** Return to an order of the House of Commons, dated 18th April, 1898, for copies of all reports, correspondence, documents and papers in relation to a claim by one Amable Frigon, of Montreal, for an indemnity for an injury received by him at the military camp of Laprairie in September, 1891. Presented 3rd June, 1898.—*Mr. Casgrain*..... *Not printed.*
- 112.** Return to an order of the House of Commons, dated 4th June, 1898, for copies of all correspondence relating to the transportation of supplies for 1898-9, for the North-west mounted police and the officials of the department of the interior to the Yukon district. Presented 4th June, 1898.—*Hon. C. Sifton* *Not printed.*
- 113.** Return to an address of the Senate to his excellency the Governor General, dated 26th May, 1898, for a copy of the contract between the government and the Beaver Line Company for the carriage of the mails across the Atlantic, together with all memorials, letters, correspondence whatsoever connected with the said contract or its execution, or bearing upon the refusal of the company to allow its boats to stop at Quebec. Presented (Senate) 1st June, 1898.—*Hon. Mr. Landry*.
Not printed.
- 114.** Return to an address of the Senate to his excellency the Governor General, dated 11th May, 1898, for copies of all the correspondence which took place in relation to the permission first refused and afterwards given to Captain and Brevet Major P. Belanger, of the 61st Battalion, to resign his commission and to retain the rank of major on retirement, as shown by the Militia General Orders, No. 55, of the year 1894, and by the *Canada Gazette* of 18th December, 1897; together with all papers, reports and orders in connection with such matter. Presented (Senate) 1st June, 1898.—*Hon. Mr. Landry*..... *Not printed.*
- 115.** Return to an address of the Senate to his excellency the Governor General, dated 25th May, 1898, for a statement of the tenders received by the department of militia and defence for the work on the rifle range on the Ottawa river, east of the city of Ottawa, and a statement of the estimated quantities on which tenders were figured out; a statement of the date and amount of each cheque sent in with each tender. A copy of the tender of J. Lyons, and a copy of the cheque which accompanied the same, showing date of acceptance by the bank. Presented (Senate) 3rd June, 1898.—*Hon. Mr. Macdonald (Victoria)*..... *Not printed.*
- 116.** Statement concerning prices paid to the Bate Co. for articles of food supplies for the military force sent to the Yukon district last month. Presented (Senate) 3rd June, 1898, by Hon. D. Mills.
Printed for sessional papers.
- 117.** Return to an order of the House of Commons, dated 25th April, 1898, for copies of all reports, papers and correspondence relating to the removal of postal mail clerks from their former places of residence in the province of Nova Scotia in 1897 and 1898. Presented 7th June, 1898.—*Sir C. Hibbert Tupper* *Not printed.*
- 118.** Return to an order of the House of Commons, dated 14th March, 1898, for a return showing the names of all parties furnishing supplies for the military camp at Aldershot, King's county, Nova Scotia, since July, 1896, the rate of allowance or payment of each class of articles supplied, the names of the tenderers, the amount asked by each tenderer, and the amount allowed. Also a schedule of prices paid for each class of supplies for the camp at Aldershot, from 1888 to 1897, inclusive, and the names of the parties supplying each class of articles. Presented 9th June, 1898.—*Sir C. Hibbert Tupper*..... *Not printed.*
- 119.** Return to an address of the Senate to his excellency the Governor General, dated 22nd April, 1898, for copies of all correspondence between the departments of militia, public works, agriculture and any person or persons whatsoever, in connection with the Quebec exhibition of 1894, and with the forthcoming exhibition of 1898. Presented (Senate) 7th June, 1898.—*Hon. Mr. Bernier*.
Not printed.
- 120.** Return to an address of the Senate to his excellency the Governor General, dated 12th May, 1898, for a copy of each of the following documents relating to the reletting of contracts for the construction of sections 1, 2, 4, 5, 6 and 7 of the Soulanges canal: 1. Copy of notice calling for tenders for the reletting of sections 4, 5, 6 and 7 of the Soulanges canal. 2. Copy of the specifications for the reletting of sections 4, 5, 6 and 7, Soulanges canal. 3. Copy of the tender of J. M. Hogan. 4. Copy of the tender of Andrew Onderdonk. 5. Copy of the order in council or report of the minister of railways and canals, or chief engineer of railways and canals, shortening the time for the completion of sections 4, 5, 6 and 7 from the end of October, 1899, to the end of October, 1898. 6. Minute or memorandum of the agreement or conversation had with Andrew Onderdonk, con-

 CONTENTS OF VOLUME 13—*Concluded.*

tractor for sections 4, 5, 6 and 7 of the Soulanges canal by the minister of railways and canals or chief engineer, between the dates 17th March, 1897, and 20th March, 1897, both days inclusive, or at a subsequent date to the effect that if J. M. Hogan, the lowest tenderer for sections 4, 5, 6 and 7, refused to sign the contract that A. Onderdonk would take it at the prices named in his (Onderdonk's) tender and agree to complete the work by the end of October, 1898. 7. Copy of letter or telegram to J. M. Hogan between dates 17th March, 1897, and 22nd March, 1897, both days inclusive, notifying him that he was the lowest tenderer for sections 4, 5, 6 and 7. 8. Letter from J. M. Hogan to the department of railways and canals between the dates 17th March, 1897, and 22nd March, 1897, both days inclusive, refusing to sign the contract for sections 4, 5, 6 and 7 for which he was the lowest tenderer. 9. Copy of contract of A. Onderdonk for sections 4, 5, 6 and 7, Soulanges canal. 10. Copy of the order in council cancelling the contract of Archibald Stewart for sections 1 and 2, Soulanges canal. 11. Copy of order in council about reletting of sections 1 and 2, Soulanges canal. 12. Copy of public advertisement or other printed notice calling for tenders for the reletting of sections 1 and 2, Soulanges canal. 13. Copy of notice sent to Hugh Ryan asking him to tender for reletting of sections 1 and 2, Soulanges canal. 14. Copy of notice sent to John Ryan asking him to tender for reletting of sections 1 and 2, Soulanges canal. 15. Copy of notice sent to Allan R. McDonnell asking him to tender for reletting of sections 1 and 2, Soulanges canal. 16. Copy of notice sent to W. J. Poupore asking him to tender for reletting of sections 1 and 2, Soulanges canal. 17. Copy of notice sent to one Cleveland asking him to tender for reletting of sections 1 and 2, Soulanges canal. 18. Copy of notice sent to M. P. Davis, or Wm. Davis & Sons, asking him or them to tender for reletting of sections 1 and 2, Soulanges canal. 19. Copy of notices sent to other contractors asking them to tender for reletting of sections 1 and 2, Soulanges canal. 20. Copy of specification and form of tender for reletting of sections 1 and 2, Soulanges canal. 21. Copies of all tenders *verbatim et literatim* for reletting sections 1 and 2, Soulanges canal. 22. Copy *verbatim et literatim* of the contract of Ryan & Macdonell for sections 1 and 2, Soulanges canal. 23. Copy of notice or information furnished to tenderers of sections 1 and 2, Soulanges canal, as to the plant which tenderers would have the use of and the terms on which they would have such use. 24. Statement of the amount and nature of the security given by Ryan & Macdonell for the completion of their contract for sections 1 and 2, Soulanges canal. 25. Copy of notice to tenderers for reletting of sections 1 and 2, Soulanges canal, that the government would furnish a quarry for the use of contractors. 26. Copy of the agreement with Ryan & Macdonell as to the quarry at Rockland. 27. Statement of the royalty to be paid by Ryan & Macdonell to the department on stone to be quarried at Rockland quarry. 28. Copy of the order in council dated between the dates 15th May, 1897, and 29th May, 1897 (both dates inclusive), for the payment of \$10,000 to Archibald Stewart. 29. Copy of letter or telegram from the department of railways and canals to one C. W. Ross, a clerk in the department of railways and canals, in the month of December, 1897, or January, 1898, instructing him to break into the office of Archibald Stewart, at his quarry in Rockland. 30. Copies of letters or telegrams to one Middleton, government inspector at Rockland, from the department of railways and canals, during the month of December, 1897, and up to 13th of January, 1898. Presented (Senate) 11th June, 1898.—*Hon. Mr. Loughheed* *Not printed.*

61 Victoria.

Sessional Papers (No. 11.)

A. 1898

THIRTIETH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

1897

MARINE

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY

1898

[No. 11—1898.]

Marine and Fisheries—Marine Branch.

*To His Excellency the Right Honourable SIR JOHN CAMPBELL HAMILTON-GORDON, EARL
OF ABERDEEN, Governor General of Canada, etc., etc.*

MAY IT PLEASE YOUR EXCELLENCY :

I have the honour to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Thirtieth Annual Report of the Department of Marine and Fisheries, Marine Branch.

I have the honour to be,
Your Excellency's most obedient servant,

LOUIS HENRY DAVIES,
Minister of Marine and Fisheries

DEPARTMENT OF MARINE AND FISHERIES,

OTTAWA, 1st November, 1897.

Marine and Fisheries—Marine Branch.

PART I.

**THE REPORT OF THE DEPUTY MINISTER—THE REPORT
OF THE CHIEF ENGINEER IN DETAIL RELATING
TO CONSTRUCTION AND REPAIRS TO
LIGHTHOUSES**

Marine and Fisheries—Marine Branch.

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Marine and Fisheries—Marine Branch.

REPORT OF THE DEPUTY MINISTER.

To the Honourable

Sir LOUIS H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries.

SIR,—I have the honour to report on the transactions of the Marine Branch of this department for the fiscal year ended 30th June last, and to give an account of a portion of the business up to date.

In Part I. of this report will be found synopses of the reports of the Chief Engineer, Chairman of the Board of Steamboat Inspection, Chairman of the Board of Examiners of Masters and Mates, the Inspectors of Live Stock Shipments, the Director of the Meteorological and Magnetic Service, the Inspector of Signal Service and the reports on the Life-boat Stations, Messenger Pigeon Service, and Rewards for Humane Service.

A short account of the work of the Dominion Steamers is given and the expenditure in connection therewith, the Buoyage of the coast, harbours and inland waters, the purchase of oil for the use of lighthouses, the Marine Hospitals in the Dominion, Certificates to Masters and Mates, Wrecks and Casualties, the Ice Boat Mail Service, the work of the steamer "Petrel" between Capes Tormentine and Traverse, and The Hudson Bay Expedition.

In Part II. the reports from which the synopses have been made will be found *in extenso*, also statements of expenditure, revenue, sick mariners' dues, wharfage, wrecks and casualties, number of lights, light stations and lightships, and gas buoys, in each province; also a list of light-keepers.

The amount expended on the various branches of the public service comprised in this department during the fiscal year ended 30th June last was \$792,971.53, the expenditure for the previous year was \$792,213.81. The expenditure for Civil Government, including the Marine and Fisheries branches amounted to \$62,438.05, and for Civil Government Contingencies \$12,363.32.

The amount voted by Parliament for the various branches, not including the departmental salaries, was \$832,687.07. It will thus be seen that the expenditure for the fiscal year was \$39,715.54 less than the amount voted by Parliament.

The whole number of persons in the Outside Service of the Marine branch at the date of this report, is 1,785.

During the past fiscal year, the expenditure for maintenance of lighthouse and coast service amounted to \$434,895.66, construction \$10,910.30; total for maintenance and construction \$445,805.96; while for the previous year the expenditure for the lighthouse and coast service including construction was \$466,057.55, showing a decrease of expenditure for the year ending 30th June last of \$20,251.59. The appropriation for this service was \$481,510, the expenditure being \$35,704.04 less than the appropriation of Parliament for the fiscal year.

LIGHTHOUSE SERVICE.

The lighthouse service of the Dominion is divided as follows :—The Ontario division, embracing all lights from Montreal westward to the North-west Territories ; the Quebec division, extending below Montreal and including the River and Gulf of St. Lawrence and Strait of Belle Isle ; the Nova Scotia division, including St. Paul's Island, Cape Breton, Sable Island and Cape Race, Newfoundland ; the New Brunswick division, the Prince Edward Island division and the British Columbia division, each including lights within the provincial boundaries. The total number of light-stations, light-ships and fog-alarm stations in the Dominion on the 30th of June, 1897, was 635, and lights shown 783 ; the number of steam-whistles and fog-horns, bells and guns 83 ; the number of light-keepers and engineers of fog alarms with masters of light-ships, was 652.

The report of the Chief Engineer relating to lighthouse construction, repairs, &c., will be found in Part I. The principal repairs, changes and improvements at existing stations, are referred to in his report ; also new aids to navigation. The work done at fog-alarm stations in connection with steam whistles, compressed air horns and explosives, are dealt with under their proper headings. Information is also given respecting the extent of repairs and some account of the repairs in detail, under the head of the station. The chief engineer has also furnished some information respecting gas buoys in the Quebec district, and two new gas buoys placed at points in Lake Erie in the district above Montreal.

The buoy service for the whole Dominion has become extensive, and a report in detail of the number of buoys will be found in the chief engineer's report in Part II.

CORRESPONDENCE.

The Correspondence Branch of the department is under the control of Mr. John Hardie, chief clerk of the department. About 15,000 letters were received in the department during the fiscal year. This correspondence was carefully examined and replied to as far as necessary. About 12,000 letters were sent out during the same period. Forms, reports, circular letters, notices inviting tenders are not included in the numbers of the letters addressed to this department or sent out. These forms, &c., are numerous and require special attention as the matters to which they refer, are important.

In the Records Branch of the department, the letters received are carefully examined entered in the record book, placed on file and the copy of the reply attached, so that the letters and the answers can be readily seen and any subject easily followed up.

MERCHANT SHIPPING.

Reports relating to merchant shipping for the calendar year of 1897, have not been received from the registrars of shipping, in the various ports of the Dominion. The reports are made up at the end of the calendar year and therefore, will not be received until some time during the month of January, as required by the Canadian Merchant Shipping Act.

The statements showing the number of vessels on the registry books of the Dominion at the 31st December, 1897, will appear in the supplement to this report. The number of new vessels built and registered will also be shown, and also a comparative

Marine and Fisheries—Marine Branch.

statement of the tonnage of new vessels built and registered from 1874 to 1897, both inclusive.

Mr. W. L. Magee, chief clerk, attends to all matters in connection with Merchant Shipping.

BUOYS AND BEACONS.

The extended coast line of Canada, the numerous bays, inlets, rivers, lakes, harbours and other navigable waters require a large number of buoys, which are maintained at an average cost of \$55,000 per annum. For the fiscal year ending 30th June last, the service cost \$49,624.19. The cost of this service is increased in years when new contracts are given for steel signal and other coast buoys.

The Chief Engineer, in his report relating to buoyage, points out that the department has been substituting steel coast buoys for wooden buoys, with favourable results. The districts now buoyed, in all parts of the Dominion, number about three hundred and the buoys number about three thousand. A record of the names of shoals, dangers, reefs and various points in channels, harbours, &c., where the buoys are placed, is carefully maintained in the department; this enables the department immediately to locate the buoys, when any reference is made to them in the correspondence.

The contract system has been found to work most economically and efficiently; in the majority of instances these contracts are immediately under the supervision of departmental officers, whose duty it is to report to the department any neglect of work, on the part of contractors. There are now existing about 180 contracts, over 100 having expired and new contracts entered into, last spring. The contractors are paid semi-annually, upon the certificate of the superintending officer. There are however, some districts not under contract, the work being attended to by the harbour masters. In these cases it has been found more advantageous to place the work immediately in the hands of these officers.

A large number of whistling, bell and other iron buoys, are maintained along the coasts of the several provinces by Dominion steamers, particularly Nova Scotia, New Brunswick and British Columbia. The cost of this maintenance by the steamers is not charged directly to the buoy service, but is included in the cost of maintenance of steamers which frequently perform the double duty of attending to lighthouses and the coast buoy service, on the same trips.

The expenditure in connection with the buoy service for the year ended 30th June, 1897, was as follows :—

For the Province of Quebec, including the port of	
Montreal	\$18,726 76
Above Montreal, including Ontario	5,789 34
Nova Scotia	13,386 22
New Brunswick	6,715 50
British Columbia	2,562 20
Prince Edward Island	2,444 17
Total	\$49,624 19

In addition to these buoys for marking dangers there are ten gas buoys below Quebec, which assist vessels at night by their light. Two gas buoys were placed during

the past year in Pelee Passage, Lake Erie. There are also a number of beacons which serve as land marks in steering vessels.

OIL FOR USE OF LIGHTHOUSES.

Tenders were invited for lighthouse oil in March last and the contract awarded to the National Oil Company of Petrolia, Ont., their tender being the lowest. The specification upon which tenders were invited requires the oil to weigh at 62° Fahr., not less than 7·85 nor more than 8·20 lbs. per gallon, and to withstand a flash test of 115° Fahr.

The quantity of oil supplied lights above Montreal, during the season of 1897, was 22,473 gallons Imperial measure, which cost \$3,825.15; to the lights in the Quebec district 17,225 gallons, which cost \$2,977.49; to the lights in the Nova Scotia district 46,606 gallons, costing \$9,903.83; to the New Brunswick district 9,013 gallons, costing \$1,899.26; to the Prince Edward Island district 6,238 gallons, costing \$1,371.92.

In addition to this the department purchased from the Standard Oil Company of New York, 6,000 gallons of American oil for the Nova Scotia district, at a cost of 17½ cents per gallon in New York; for New Brunswick 3,000 gallons costing 17½ cents per gallon, for the district above Montreal 1,400 gallons at the same price, in New York. The freight was paid by the department. In addition to this, 5,000 gallons of American oil was purchased for the British Columbia district at 21½ cents per gallon.

The list of prices according to contract with the National Oil Company is as follows:—

Delivered at	Per gallon in barrels.	Per gallon in cases.
	Cents.	Cents.
Sarnia.....	14½	19
Hamilton.....	15	19½
Kingston.....	15½	20½
Montreal.....	16½	20½
Quebec.....	16½	21½
St. John, N. B.....	16½	21½
Pictou, N. S.....	16½	21½
Halifax, N. S.....	16½	21½
Charlottetown, P. E. I.....	17½	22

DOMINION STEAMERS.

“NEWFIELD.”

The “Newfield” was employed, from the 1st July to the 9th, in conveying supplies, mails, &c., to Sable Island, visiting on her return the lights along the Canso coast and east coast of Cape Breton, to Scattarie. From that place the steamer went to Cape Race, where supplies were landed, and then returned to the coast of Cape Breton, and resumed the work of supplying the lighthouses and attending to the buoy service. The steamer then proceeded to Sable Island, landed coals, &c., at the main station and East End Light. Whilst at Sable Island 44 ponies were taken on board, the steamer returning to Halifax with the ponies on the 25th July. On the 1st of August the ship was

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placed at the service of the Carnival Committee of Halifax. Between the 1st and the 7th of August, the "Newfield" was engaged in attending the coast buoys, and on the 11th commenced to take on board cable gear. This steamer is specially fitted for lifting and laying telegraph cable. The steamer was engaged from the 19th of August until the 18th of September in lighthouse and buoy work, after which date, she performed cable work at Mingan, Labrador; unfortunately, however, some of the gear was broken and the steamer was compelled to return to Pictou. The steamer resumed the work of laying cable on the 26th of September. From that date until the 21st of October the "Newfield" performed cable work to Magdalen Island and Meat Cove. The steamer was then again ordered to perform buoy service at Sambro, where an automatic buoy had gone adrift. The cable work was resumed for some time and completed about the 3rd of November. Stores were again placed on board for Sable Island and landed upon the 11th of November. Some 62 barrels of cranberries were shipped and the steamer arrived safely in Halifax, on the 13th of November. During the fall and winter the "Newfield" was constantly employed in attending the large coast buoys, which are lifted about every three months, for examination, and also in conveying supplies to different lighthouses on the Nova Scotia coast. The steamer went out of commission on April 1st, in order to make repairs and the crew was then paid off, with the exception of the men that were absolutely needed to look after the steamer. Repairs were completed about the 9th of May and the steamer entered upon her regular coast work on the eastern and western shores and also of conveying supplies to Sable Island. On the 1st July, 1897, the ship was again engaged in cable work between Magdalen Islands and Meat Cove.

"STANLEY."

The "Stanley" was employed as a Fisheries Protection Cruiser, on the north side of Prince Edward Island and in the Gulf of St. Lawrence, from the 25th June until the 9th of September, 1896. The ship was then laid up for repairs to boilers and machinery and made ready for winter mail service. The automatic buoys, on the coast of Prince Edward Island and near Cape Tormentine were taken up by the "Stanley" and landed at Charlottetown, on the 29th of November, 1896, to be stored for the winter.

This steamer entered upon the winter mail service between Charlottetown and Pictou on the 23rd of December. It was not considered prudent to continue the "Stanley" on the route between Charlottetown and Pictou, the steamer therefore kept up communication on the Georgetown and Pictou route, until the 9th of January, 1897. There was a short break in the service at this date. The steamer, however, was able to resume the mail service on the 11th of January, and continued it up to the 20th of the same month. The ice became so closely packed that daily trips were impossible and the mails were transferred to the capes route. The "Stanley" continued on the Georgetown-Pictou route as regularly as possible, carrying passengers and freight up to the 22nd of April, 1897. She then was enabled to enter upon the route between Charlottetown and Pictou until the 1st of May, having during the winter of 1896-97, made 50 round trips.

The gross earnings of the steamer amounted to \$9,285.48. The vessel carried 1400 passengers and 79,989 packages of goods, besides doing mail service.

The automatic buoys on the coast of Prince Edward Island and Cape Tormentine, N.B., were placed by this steamer between the 11th and 17th of May. When this work

was completed she was placed on the Marine slip at Pictou, cleaned, and her bottom painted, and the vessel was examined for other repairs. The "Stanley," however, was continued in the service after coming off the slip until the 17th of July, when she was laid up for repairs at Charlottetown and the crew was paid off.

" LANSDOWNE."

The "Lansdowne" was placed in the Tidal Survey Service in the latter part of June, 1896, and continued in this work for three months. The vessel arrived at Halifax on the 6th of October where some slight repairs were made, coal was than taken on board for one of the fog-alarms in the Nova Scotia district. She continued in the coast service conveying supplies to lighthouses, visiting life-boat stations and attending to buoy service for about a fortnight. She then entered upon her own work in the New Brunswick Agency.

Supplies were conveyed to several lighthouses and the steamer was then sent to lift some of the coast buoys for examination and to replace others. The "Lansdowne" was engaged in this work during the latter part of October, with the exception of a few days, in which a boiler was landed at Head Harbour Fog Alarm and placed with the assistance of the crew. The work of lifting, scraping, painting and replacing the large coast buoys engaged the "Lansdowne" during November, and the ship was placed in winter quarters on December 3.

Repairs were made to the steamer's hull and machinery in the latter part of February and the first part of March. These repairs were made to the engines, machinery and main boiler. In the latter part of April, she was placed on blocks and her bottom cleaned off and copper painted.

The steamer entered upon her regular work on the 7th of May, 1897, but an accident happened to the main steam pipe which caused a few days delay. The buoy work was performed and completed on the 15th of June; at that date the "Lansdowne" was sent to Halifax to replace the "Newfield." She was continued in the service of the Nova Scotia Agency for some weeks and returned to St. John on the 26th of July.

" ABERDEEN."

This steamer was sent from the Nova Scotia Agency in the latter part of June, 1896, to perform service in the Quebec district. Supplies were taken on board at Quebec for lighthouses in the River St. Lawrence and Gulf, and in the Straits of Belle Isle. The "Aberdeen" was then sent to cruise around the Magdalen Islands for the purpose of making a thorough inspection and to ascertain if lobster fishing had ceased. This work was completed on the 31st of August, the steamer was then sent to Halifax to be employed in that agency.

Supplies for lighthouses in the Bay of Fundy were taken on board and a tour of inspection was entered upon. The trip was one of the worst known in the experience of the inspector of lights, owing to continual bad weather. The steamer returned to Halifax on the 23rd of October. It was found necessary to clean the boilers and the steamer was laid up for a short time.

She was then sent to engage in buoy service on the coast of Cape Breton and from that point was sent to Prince Edward Island for the purpose of lifting some of the automatic buoys.

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The steamer was after this placed for a few days in the service of the Customs Department. Then the work of supplying lighthouses and examining buoys, was entered upon in connection with the western stations of Nova Scotia. This steamer was put out of commission on the 24th December for repairs. She was placed on the slip at Halifax in April, 1897, and painted.

When taken off the slip she was sent, on the 23rd of April, to Quebec and entered upon the usual service in the Quebec Agency. She was also engaged in the Fisheries Protection Service. Both services were performed by this steamer up to the 1st July.

“QUADRA.”

The “Quadra” was engaged in the usual buoy work and inspection of lighthouses during the summer of 1896. She visited the Gulf of Georgia in the latter part of October, in the usual work of inspecting lighthouses and, at the same time, was engaged in preventing illegal fishing and the use of Canadian ports, by foreign fishing vessels.

The steamer was placed at the disposal of His Excellency the Governor General on the 30th of November. She was ordered to Seattle to convey the Minister of Marine and Fisheries to Victoria, about the first week in December. She was again put in the Fishery Protection work and returned to Victoria on the 30th of January, 1897, where the crew was paid off and the agent was instructed to overhaul the steamer. This steamer was placed in the graving dock in the month of March, for a few days and cleaning and painting was done to her bottom.

On the 15th March, the steamer was again put in commission and was employed in the usual buoy and lighthouse service. Two trips were made to Hecate Straits, with a view of warning off foreign vessels in the waters adjacent to the coast of British Columbia. Two trips were also made to the west coast of Vancouver Island to investigate complaints against Indians who, it is said, placed traps which prevented the ascent of salmon for spawning purposes. Three of the traps were destroyed. Another trip was made to Rivers Inlet; a report having been received that foreign fishermen were illegally using ports in that vicinity. The fishing boats had, however, left before the “Quadra” arrived. The “Quadra” also made another trip to the west coast of Vancouver Island, owing to trouble between captains of sealing vessels and their Indian crews.

“DRUID.”

The “Druid” was employed in attending to the buoy service near Quebec, in the River St. Lawrence, during July and part of August, 1896. She was also placed at the disposal of the Quebec Bar, for the purpose of conveying Lord Russell and others to points in the St. Lawrence River.

This steamer has been employed for lifting gas buoys, of which there are ten, below Quebec and placing spar buoys in their stead late in the autumn. Part of her work consists of towing the light-ships into winter quarters and this work was done as usual, in the month of November. The gas buoys were all towed to Quebec on the 18th of November and spar buoys substituted for them. The weather having moderated about the 20th a large red buoy was placed by the “Druid” at Point aux Trembles, to enable ocean boats to pass out with safety. All the light-ships were placed in winter quarters between the 15th and 27th November. The “Druid” was then placed in winter quarters.

The steamer was prepared for spring work during March and the early part of April. The crew was shipped on the 12th of April and the steamer was sent with supplies to lighthouses and to attend to the buoys. The crew was employed for a few days in April in cleaning and painting the ship. During the month of May some special trips were made conveying materials and carpenters, to Point Orignaux and Green Island. On the 21st of May the steamer was engaged in towing lightships to their places. From that time forward the vessel was engaged in attending to buoys and visiting lighthouses, until the 1st of July.

“ BAYFIELD ”.

The steamer “ Bayfield ” was engaged from May 6, 1896, until the 16th of October in surveying between Port Dover and Rondeau Harbour, in Lake Erie. On the 24th of October, the “ Bayfield ” was placed on the dry dock at Collingwood for necessary repairs ; she was afterwards taken to Owen Sound and laid up for the winter.

On the 26th of April, 1897, the steamer with a complete party of officers, engineers and crew left Owen Sound for Lake Erie, being the earliest start yet made in connection with the Hydrographic Survey. The work of the previous autumn was continued west to Pelee Point during the months of May, June and July, the survey of the Canadian shore of Lake Erie being thus completed.

“ SIR JAMES DOUGLAS. ”

This steamer has been laid up for several years in Victoria Harbour. The boat is considered unsuitable for government work and remains at the government wharf owing to the fact that no purchaser has been found. The engineer of the “ Qradra ” overhauled and white-leaded the engines in the winter of 1896-97.

OTHER STEAMERS.

The “ Acadia, ” “ Petrel, ” “ Curlew, ” “ La Canadienne ” and “ Dolphin ” are engaged in Fisheries Protection work and reports concerning them will be found in the Fisheries Report of this department.

STATEMENT showing cost of maintaining Dominion Steamers from 1884 to 1896.

Year.	Cost of Maintenance.	
	\$	cts.
1883-84.....	122,816	25
1884-85.....	148,864	26
1885-86.....	130,759	83
1886-87.....	141,424	42
1887-88.....	150,659	19
1888-89.....	126,629	33
1889-90.....	114,959	20
1890-91.....	111,437	03
1891-92.....	127,406	28
1892-93.....	146,521	77
1893-94.....	142,487	42
1894-95.....	129,899	80
1895-96.....	150,519	41
1896-97.....	136,940	11

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The following statement shows the expenditure for maintenance and repairs and the receipts for the fiscal year ended 30th June, 1897 :—

Name.	Repairs.	Mainten- ance.	Total.	Receipts.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
General account.....			4,122 00	
"Druid".....	2,542 05	14,028 91	16,570 96	
"Lansdowne".....	1,124 29	13,731 10	21,487 03	
do Tidal Survey.....		6,031 64		
"Newfield".....	2,504 83	26,029 37	28,584 20	
"Quadra".....	760 70	23,855 10	26,624 80	
"Stanley".....	4,149 63	22,105 57	26,255 20	9,285 48
"Aberdeen".....	2,260 68	20,928 82	23,189 60	
"La Canadienne".....			485 89	
"Sir James Douglas".....			122 85	
			136,940 11	

CERTIFICATES TO MASTERS AND MATES.

The report of Captain W. H. Smith, R.N.R., Chairman of the Board of Examiners of Masters and Mates, forms Appendix No. 6 of this report. In his report the Chairman makes some recommendations with regard to the qualifications of masters and mates, and suggests that the system of coasting examinations be revised and improved to keep up with the progress of the times. The value of the Tidal Survey is referred to and Captain Smith is of the opinion that officers should be examined as to their knowledge of tides and currents. He is of the opinion that officers should have a more intimate knowledge of the charts.

During the fiscal year the Board of Examiners of Masters and Mates held examinations at Halifax 11 times, at St. John 7 times, Yarmouth twice and at Quebec once; twenty-one times in all. There were also twelve examinations held at Victoria, B. C.; the papers and problems were forwarded to the Agent at that place and returned to Halifax, for inspection of the Chairman of the Board.

At Halifax six applications were made for foreign-going certificates of competency as master and ten for coasting: five foreign-going and ten coasting masters received certificates. Thirteen applications were made for foreign-going certificates of competency as mate and two for coasting; nine foreign-going and two coasting mates received certificates.

At St. John ten applications were made for foreign-going certificates of competency as master and nine foreign-going masters received certificates; five applications were made for foreign-going certificates as mate and five mates received certificates.

At Yarmouth three applications were made for foreign-going certificates as master and all were successful; four applications were made for foreign-going certificates as mate and three mates received certificates.

At Quebec one candidate applied for a mate's certificate, foreign-going, and was successful.

The amount received for the renewal of certificates, inland, coasting and foreign sea going, during the twelve months ended 30th June, 1897, was \$106.50, and the number renewed 25.

In an appendix to this report will be found a list of all who have obtained certificates of competency and service, either as master or mate, during the year ended 30th June, 1897.

INLAND AND COASTING CERTIFICATES.

During the twelve months ended 30th June, 1897, the number of candidates in the Dominion who have passed and obtained masters' certificates of service was 22, and 5 certificates of service have been issued to mates; the amount paid for these certificates was \$106.50.

The number of certificates of competency as master was 168, as mate 59, and the amount paid for these certificates was \$2,786. The amount received for renewed certificates of competency and service was \$57.50, making a total of \$2,920 received from masters' and mates' inland and coasting certificates.

A list of certificates issued during the twelve months ended 30th June, 1897, will be found in the supplement to this report.

The total amount of fees received on account of certificates of competency and service, sea-going and inland and coasting, during the fiscal year ended 30th June, 1897, was \$3,754, and the amount in detail expended on account of the service as will be seen by reference to Appendix No. 1 to this report was \$3,536.29. The vote for this service was \$5,000, and the sum expended to the 30th June, 1897, \$3,536.29, leaving an unexpended balance of \$1,463.71.

The following statement shows the total receipts and expenditure on account of masters and mates since 1871 :—

	Expenditure.		Receipts.	
	\$	cts.	\$	cts.
For the fiscal year ended 30th June, 1871.....	1,410	45		
do do 1872.....	4,312	07	1,344	00
do do 1873.....	6,466	18	4,963	00
do do 1874.....	4,520	19	2,995	00
do do 1875.....	5,696	62	2,715	00
do do 1876.....	4,672	08	2,021	87
do do 1877.....	4,050	00	1,740	50
do do 1878.....	4,249	76	1,296	50
do do 1879.....	4,250	12	1,334	50
do do 1880.....	4,253	43	1,547	00
do do 1881.....	3,888	41	1,333	50
do do 1882.....	3,965	19	1,152	50
do do 1883.....	4,021	20	1,314	00
do do 1884.....	3,909	59	9,437	50
do do 1885.....	4,324	15	2,897	00
do do 1886.....	5,245	28	2,152	00
do do 1887.....	4,855	98	2,172	00
do do 1888.....	5,060	96	3,220	80
do do 1889.....	4,381	04	2,202	00
do do 1890.....	4,117	83	2,186	00
do do 1891.....	4,255	24	2,586	00
do do 1892.....	4,363	88	2,194	00
do do 1893.....	4,116	99	2,484	00
do do 1894.....	3,721	33	2,907	04
do do 1895.....	3,758	29	3,974	50
do do 1896.....	4,062	82	2,307	50
do do 1897.....	3,536	29	3,754	00
Expenditure.....	115,465	37	68,186	71
Receipts.....			68,186	71
Excess of expenditure over receipts.....	47,278	66		

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WRECKS AND CASUALTIES.

The total number of casualties to British and Canadian sea-going vessels reported to the department, as having occurred in Canadian waters and to Canadian sea-going vessels in waters other than those of Canada, during the twelve months ended 30th June, 1897, was 213, representing a tonnage of 80,317 tons register, and the amount of loss both partial and total, to vessels and cargoes as far as ascertained, was \$718,293. The number of casualties to inland vessels was 27, tonnage 5,726, loss \$48,350.

The number of lives reported lost in connection with these casualties was 34. A statement of the wrecks and casualties form an appendix to this report.

SICK AND DISTRESSED MARINERS.

MARINE HOSPITALS.

Under the provisions of chapter 76, Revised Statutes, a duty of two cents per ton register is levied on every vessel arriving in any port in the provinces of Quebec, Nova Scotia, New Brunswick, Prince Edward Island and British Columbia, the money thus collected forming the Sick Mariners' Fund. Vessels of the burden of 100 tons and less pay the duty once in each calendar year, and vessels of more than 100 tons, three times in each year.

By an amendment of this Act passed at the session of Parliament in 1896, 50-51 Victoria, chapter 40, it is provided that no vessel which is not registered in Canada and which is employed exclusively in fishing or on a fishing voyage, shall be subject to the payment of this duty.

The receipts for the fiscal year ended 30th June last amounted to \$54,358.10, being an increase of \$8,606.49 as compared with the preceding year. The increase in receipts for sick mariners' dues in the various provinces were as follows:—Nova Scotia, increase, \$2,027.70; Quebec, increase \$2,765.35; New Brunswick, increase \$2,362.58; Prince Edward Island, increase \$110.38, British Columbia, increase, \$1,330.48.

The Sick Mariners' Act does not apply to the province of Ontario, and consequently no dues are collected from vessels in that province, although a small expenditure is incurred on account of sick seamen. An appropriation is made by Parliament to cover the expenditure at Kingston and St. Catharines, where general hospitals have been established and sick seamen are attended. During the fiscal year ended 30th June sick seamen were paid for at a per diem rate of 90 cents. The amount paid to St. Catharines Hospital was \$500 for attendance on sick seamen. For Kingston the expenditure was \$500.

In the province of Quebec the expenditure on account of sick seamen amounted to \$7,064.21, being \$266.29 more than the previous year. The total collections for the entire province amounted to \$16,265.01, being \$2,765.35 more than the previous year.

At the port of Montreal sick seamen are cared for at the general hospital and at Notre Dame hospital, under an arrangement made by the department, by which 90 cents per diem is paid for board and medical attendance of each seaman. The number of seamen admitted to the Montreal general hospital was 151. The total cost, including ambulance hire, being \$1,204.20. The amount paid the Notre Dame Hospital was \$1,302.30, for the treatment of 159 sick seamen.

Chicoutimi hospital received 8 seamen and was paid \$410.40. The sick mariners' dues collected at the port of Montreal during the fiscal year ended 30th June amounted to \$6,892.12.

At the port of Quebec sick seamen were cared for at the Jeffery Hale and the Hôtel-Dieu hospitals, the sum of 90 cents per diem for each seaman is allowed in return for medical attendance and board. The sum paid the Jeffery Hale hospital was \$859.40, where 77 men received treatment. The sum of \$211.50 was paid the Hôtel-Dieu hospital for attendance of 9 seamen. At the Hôtel-Dieu de Lévis 6 seamen were treated at a cost of \$329.40. The sick mariners' dues collected at Quebec amounted to \$6,771.34.

The expenditure on account of sick seamen in the province of New Brunswick for the fiscal year amounted to \$7,245.31, being \$2,283.39 more than the preceding year, and the collection of dues to \$12,389.88, or \$2,362.58 more than the previous year. Marine hospitals have been maintained at Miramichi, Richibucto and Bathurst.

At the general public hospital at St. John, 350 seamen were treated at a cost of \$3,706.88.

At Miramichi 42 seamen were admitted and received treatment at a cost of \$1,285.32.

At Richibucto, 1 seaman was admitted and received treatment. The cost of maintaining the hospital was \$260.64.

At Bathurst 6 seamen were in hospital. The cost of maintaining the hospital during the year was \$346.40.

The St. Andrew's hospital is in charge of a matron, who is allowed to charge \$3 per week for boarding sick seamen. No salaries are paid in connection with the maintenance of hospital. At the port of St. Andrew's the expenditure was \$50.

The Sackville hospital has been leased to Mr. Bradford Carter for a term of years from 1892, at a nominal rental. The terms of the lease require Mr. Carter to keep the buildings in repair, and if the department should require the hospital at any time, it is to be handed over on notice being given.

In the province of Nova Scotia, marine hospitals are maintained at the ports of Yarmouth, Pictou, Sydney, Lunenburg and Point Tupper. The total expenditure on account of sick seamen in the province of Nova Scotia, for the fiscal year, amounted to \$12,435.42, and the receipts to \$17,156.93.

The marine hospital at Yarmouth is located at Bunker's Island. Thirty seamen were admitted during the year ended 30th June, who were treated, the expenditure for this purpose being \$817.34.

At Halifax provision is made for the care of sick seamen at the Victoria general hospital, under arrangements made with the managers, by which the sum of 90 cents per diem is allowed for board and medical attendance to sick seamen. The sum paid the managers of the hospital for board and medical treatment during the past fiscal year was \$3,433.40. The number admitted was 237.

At Lunenburg 30 seamen were admitted and received medical treatment, the cost of maintaining the hospital being \$918.45.

At Pictou 14 seamen were admitted to the hospital. The sum paid in connection with maintaining the hospital was \$967.29.

At Sydney 44 seamen received medical treatment, and the amount expended in maintaining the hospital was \$910.01.

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At Point Tupper 15 seamen were admitted to the hospital, and the amount expended in connection with keeping the hospital was \$326.31.

In the province of Prince Edward Island the amount expended on account of sick and disabled seamen during the fiscal year was \$1,571.44, and the receipts from sick mariners' dues were \$440.06.

Sick seamen are cared for at the Charlottetown and Prince Edward Island hospitals, under arrangements made with the managers of these institutions, at the same rate that is paid to the public hospitals in other parts of the Dominion.

The Charlottetown hospital admitted 17 sick seamen; the amount paid was \$624.70.

At the Prince Edward Island hospital 6 men received medical treatment. The sum of \$136.80 was paid to the managers for the fiscal year ended 30th June.

In the province of British Columbia the sum of \$6,637.21 was expended for sick and disabled seamen, while the receipts from the collection of sick mariners' dues amounted to \$8,056.22.

The marine hospital at Victoria has in attendance a medical superintendent with a salary of \$300 per annum, a keeper whose salary is \$500 per annum. He is also allowed a rate of \$5 per week for board and attendance of each seaman. The keeper procures fuel, light, bedding, etc., at his own expense. The number of seamen admitted to the hospital for the past year was 139, and the total number of days during which they received treatment was 1,608, and the sum expended was \$2,265.56.

At Nanaimo 13 seamen were admitted, and the expenditure in connection with their treatment was \$91.08.

At St. Paul's Hospital, Vancouver, 179 seamen were received, and the cost of attendance was \$3,405.

The expenditure for treatment of seamen at the Royal Columbia Hospital, New Westminster, was \$152.

At ports where no hospitals are established in the provinces of Quebec, Nova Scotia, New Brunswick, British Columbia and Prince Edward Island, sick seamen are cared for under the direction of the chief officer of customs, when the vessels to which the seamen belong have paid their dues according to law. A circular to collectors of customs was issued 7th February, 1891, permitting sick seamen to be attended to at the port of arrival of a vessel, provided that the regular dues were previously paid at some port.

During the fiscal year the sum of \$2,301.31 was expended for shipwrecked and destitute seamen, under the provisions of the Sick and Distressed Mariners' Act. Of this sum \$215 were paid to Her Majesty's Imperial Government to reimburse expenses incurred in caring for shipwrecked and distressed Canadian seamen in foreign ports.

The total expenditure by this department on account of sick and disabled seamen amounted to \$35,931.19, and the appropriation by Parliament for this service was \$40,148.65. The dues collected amounted to \$54,358.10. It will be seen that the receipts exceed the expenditure \$18,426.91.

The receipts and expenditure in connection with this service from the year 1869 were as follows :—

	Receipts.		Expenditure.	
	\$	cts.	\$	cts.
For the fiscal year ended 30th June, 1869	31,353	78	26,987	64
do do 1870	31,410	46	27,029	34
do do 1871	29,683	41	28,971	22
do do 1872	34,911	64	34,947	60
do do 1873	37,136	10	41,016	43
do do 1874	41,500	16	59,778	90
do do 1875	37,801	46	50,684	76
do do 1876	41,287	66	48,828	49
do do 1877	43,739	21	51,647	94
do do 1878	44,665	07	43,780	90
do do 1879	37,779	57	42,729	36
do do 1880	42,523	20	42,160	91
do do 1881	49,779	72	40,667	52
do do 1882	45,951	47	39,359	11
do do 1883	45,573	42	36,249	65
do do 1884	48,667	07	39,553	58
do do 1885	39,068	39	44,501	57
do do 1886	40,848	05	50,377	62
do do 1887	42,334	92	37,447	35
do do 1888	41,669	64	36,447	85
do do 1889	39,306	29	41,320	59
do do 1890	47,881	75	41,729	11
do do 1891	43,829	68	35,155	12
do do 1892	45,381	92	33,498	83
do do 1893	46,190	69	35,052	37
do do 1894	49,105	40	38,403	94
do do 1895	42,815	74	38,332	55
do do 1896	45,751	61	36,683	36
do do 1897	54,358	10	35,931	19
Total	1,222,305	58	1,162,281	50
Deduct expenditure from receipts	1,162,281	50		
Excess of receipts over expenditure	60,024	08		

Marine and Fisheries—Marine Branch.

INSIDE SERVICE.

The following comprises the names of officials and employees engaged in the Inside Service of the Department of Marine and Fisheries on the 30th June, 1897.

NAME.	RANK.	AMOUNT.
		\$
F. Gourdeau.....	Deputy Minister.....	3,200
John Hardie.....	Chief Clerk.....	2,400
E. E. Prince.....	Commissioner of Fisheries.....	2,200
Wm. L. Magee.....	Chief Clerk.....	2,000
R. N. Venning.....	do.....	1,850
A. W. Owen.....	do and accountant.....	1,800
<i>Technical Officers.</i>		
Wm. P. Anderson.....	Chief Engineer.....	2,600
W. B. Dawson.....	Assistant Engineer.....	2,050
W. J. Stewart.....	do Hydrographic Surveys.....	1,700
B. H. Fraser.....	do.....	1,100
J. M. O'Hanley.....	do.....	1,100
F. Anderson.....	do.....	800
J. T. Fraser.....	do.....	700
<i>Other officials.</i>		
W. H. Alexander.....	First Class Clerk.....	1,700
M. P. McElhinney.....	do.....	1,700
C. Stanton.....	do.....	1,600
J. S. Webster.....	do.....	1,450
M. F. Walsh.....	do.....	1,450
F. H. Cunningham.....	do.....	1,400
S. B. Kent.....	Second Class Clerk.....	1,400
J. B. Halkett.....	do.....	1,400
A. H. Belliveau.....	do.....	1,400
W. W. Stumbles.....	do.....	1,400
V. H. Steele.....	do.....	1,400
A. Halkett.....	do.....	1,300
J. A. Murray.....	do.....	1,150
T. Aumond.....	do.....	1,100
J. E. McClenaghan.....	do.....	1,000
D. C. Campbell.....	do.....	1,000
R. Roy.....	do.....	1,000
B. F. Burnett.....	do.....	1,000
M. C. Doyle.....	do.....	950
A. H. Guion.....	do.....	900
J. W. Watson.....	do.....	700
J. M. Lalonde.....	do.....	700
E. W. Gilbert.....	do.....	650
C. W. White.....	do.....	550
J. McCharles.....	do.....	500
J. J. Skelly.....	do.....	450
R. Beaulieu.....	do.....	450
E. B. Williams.....	Private Secretary.....	600
J. Morin.....	Messenger.....	500
R. Archambault.....	do.....	500
M. D. Kelly.....	do.....	330
		\$ 55,230

EXTRA CLERKS.

M. Lamouche.....	\$ 2.25 per diem.
R. E. Tyrwhitt.....	600.00 per annum.
W. J. Quinn.....	400.00 do
C. B. Brophy.....	400.00 do
E. B. Williams, private secretary of the minister,...	600.00 do
L. Bance.....	450.00 do

OUTSIDE SERVICE, MARINE BRANCH.

The number of persons employed in the Outside Service on the 30th June, 1897, was as follows :—

Superintendent of lights and light-keepers, etc., in Ontario and above Montreal	173
Officers of agency in the city of Quebec and light-keepers, fog whistle-keepers, crews of light-ships, etc., at and below Montreal, in the province of Quebec	178
Agent, clerk, messenger, superintendent of lights, light-keepers, fog-whistle-keepers, attendants at humane establishments, etc., in Nova Scotia	205
Agent, clerk, messenger, superintendent of lights, light-keepers, fog whistle-keepers, etc., in New Brunswick	108
Agent, foreman of works, messenger and light-keepers, in Prince Edward Island	45
Agent and light-keepers in British Columbia	16
Officers and crews of Dominion steamers and vessels, including Fisheries Protection Service	394
Coxswains of life-boats	25
Inspectors of steamboats	20
do shipments of live stock	3
Examiners of masters and mates, and clerk to chairman of Board	18
Officers and servants in marine hospital	23
Shipping masters	35
Harbour masters	196
Officers of observatories, meteorological observers, etc., receiving pay	149
Hydrographers and engineers at Ottawa	7
Receivers of wrecks	45
Wharfingers	145
Making a total of	1,785

For the previous year the number was 1,736. In addition to the 1,785 mentioned above there were 70 registrars of shipping, who act under the direction and control of this department, but are, at the same time, collectors of customs at various ports of registration, and receive no salary or fee in their capacity of registrars. There are 93 measurers and surveyors of shipping throughout the Dominion, who act as officers of this department, and are remunerated from their fees of office, although in addition to such office, many of them hold positions in the customs service. Also, in addition to the above, by Orders of Council of the 21st of April and 2nd of December, 1874, the chief officer of customs at each port in the provinces of Quebec, Nova Scotia, New Brunswick, British Columbia and Prince Edward Island, where no separate shipping office has been established, is to be held and deemed a shipping master, is to receive the fees, make the yearly returns to the department, and act in that capacity under its directions.

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LIFE-SAVING SERVICE.

Mr. Alfred Ogden, part of whose duty consists of inspecting the life-saving stations in the Maritime Provinces, has furnished his report, but as it deals with the details of the stations and repairs nothing new can be said of this service in a general way.

MESSENGER PIGEONS.

Two years ago the department transferred the pigeon loft from Halifax to Hazel Hill. It was believed that as this point is nearer to Sable Island, some of the difficulties previously experienced might be overcome. Mr. S. S. Dickenson has not been able to report success with regard to training the birds and the department is therefore considering the question of discontinuing this service.

STEAMBOAT INSPECTION.

The total number of steamboats reported in the several districts in the Dominion is 1,354. Of this number 96 are new vessels, as reported by the Chairman of the Board of Steamboat Inspection; the gross tonnage being 224,865.22. Fees were collected for inspection amounting to \$24,395.45. The amount received from engineers for certificates was \$619.50 and from inspection of tow barges \$80, making the total receipts from Steamboat Inspection and Engineers Certificates \$25,094.95. The expenditure was \$26,837.83, showing an excess expenditure over receipts of \$1,742.88.

In connection with casualties, the loss has fortunately been very small. So far as reported, only one person appears to have lost his life, this occurred on the coast of Vancouver Island when the steamer "Spinster" was wrecked and the captain drowned.

The report of the Chairman of the Board of Steamboat Inspection forms an appendix to this report.

The following is a comparative statement of the receipts and expenditure in connection with Steamboat Inspection :—

	Receipts.		Expenditures.	
	\$	cts.	\$	cts.
For the fiscal year ended June 30, 1870.....	12,521	29	7,379	18
do do 1871.....	10,369	96	8,321	00
do do 1872.....	11,710	43	8,500	00
do do 1873.....	15,412	75	11,205	54
do do 1874.....	15,603	19	10,291	58
do do 1875.....	15,011	90	12,199	81
do do 1876.....	13,811	24	13,081	86
do do 1877.....	15,858	42	12,073	01
do do 1878.....	12,431	25	13,228	28
do do 1879.....	12,331	16	13,076	46
do do 1880.....	15,424	02	11,854	34
do do 1881.....	16,905	49	12,211	65
do do 1882.....	15,277	78	14,835	97
do do 1883.....	12,577	36	16,209	02
do do 1884.....	15,371	79	21,893	28
do do 1885.....	13,343	66	23,235	04
do do 1886.....	14,087	76	21,775	57
do do 1887.....	12,701	20	22,837	80
do do 1888.....	12,550	14	21,430	45
do do 1889.....	12,576	18	22,313	03
do do 1890.....	19,859	18	20,989	52
do do 1891.....	21,644	72	22,183	76
do do 1892.....	20,994	84	22,736	59
do do 1893.....	25,295	35	24,386	95
do do 1894.....	24,835	47	25,961	36
do do 1895.....	24,630	56	26,385	88
do do 1896.....	24,002	32	26,321	27
do do 1897.....	25,094	95	26,837	83
	462,283	27	494,776	03
Deduct receipts from expenditure.....			462,283	27
Balance to debit of fund.....			32,492	76

The following list contains the names of the inspectors of boilers and machinery and hulls and equipments of steamboats, viz :—

Name.	Position.	Address.
Edward Adams.....	Chairman of Board of Steamboat Inspection.....	Ottawa.
M. P. McElhinney.....	Inspector of Hulls and Equipments.....	do
I. J. Olive.....	do do.....	St. John, N.B.
S. R. Hill.....	do do.....	Halifax, N.S.
William Evans.....	do do.....	Toronto, Ont.
Thos. Donnelly.....	do do.....	Kingston, Ont.
P. D. Brunelle.....	do do.....	Quebec.
R. Collister.....	do do.....	Victoria, B.C.
John Dodds.....	Inspector of Boilers and Machinery.....	Toronto, Ont.
J. Johnson.....	do do.....	do
T. P. Thompson.....	do do.....	Kingston, Ont.
Wm. Laurie.....	do do.....	Montreal, P.Q.
L. Arpin.....	do do.....	do
J. Samson.....	do do.....	Quebec, P.Q.
J. P. Esdaile.....	do do.....	Halifax, N.S.
H. L. Waring.....	do do.....	St. John, N.B.
J. A. Thompson.....	do do.....	Victoria, B.C.
G. P. Phillips.....	do do.....	Rat Portage, Ont.

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METEOROLOGICAL SERVICE.

Efforts have been made to bring the monthly weather reviews of this service up to date. It is proposed in future to forward each monthly review to the printers and to give a short description of the weather and brief articles on climatology.

The Departments of Agriculture in Ontario, Manitoba and British Columbia realize the importance of reliable meteorological data in connection with statistics of crops, acreage under cultivation, etc. Monthly charts containing notes on the leafing of trees, and flowering of plants and other information are published. In August last year the publication of a daily weather chart was commenced, containing information gathered from meteorological observations taken each day at eight a. m. This chart is displayed in Toronto at the Board of Trade, Harbour Master's office and at some of the public schools. Private individuals obtain the chart, paying for it \$4 per annum. The forecasts of the weather are telegraphed to 33 ports in the Maritime Provinces and also to all the principal ports on the Great Lakes. The value of these forecasts will be seen by reading the report of the Director.

SIGNAL SERVICE.

The reports of the Superintendents of Signal Service at Quebec and Halifax contain information valuable to mariners. Mr. H. J. McHugh is Superintendent of this service at Quebec and Captain H. V. Kent of the Royal Engineers, at Halifax.

LIVE STOCK SHIPMENTS.

In last year's report the statements furnished by Mr. George Pope and Mr. E. B. Morgan, inspectors at Montreal, contained the total number of live stock shipped from the port of Montreal for the season of 1896. The statement of the month of November is not included in the published statements in Appendix No. 7, as the Appendix was printed in the month of November whilst this report was going through the press. Very recent returns show that the total number of cattle shipped from Montreal, during the season of 1897 is 117,247, an increase of 10,799 over 1896. Part of the increase was due to the fact that some United States cattle, in bond, were shipped from the port of Montreal. The total number of sheep shipped during the same time, was 60,638, a decrease of 15,882 from the shipment of the season of 1896. The number of horses shipped during 1897 was 10,051, being 370 less than last year. The total number of United States cattle in bond, shipped from Montreal numbered 12,221. From Quebec were shipped 3541 cattle, 3758 sheep and 88 horses. The total from Montreal and Quebec is as follows : 120,788 cattle, 64,396 sheep and 10,139 horses.

RECORDS DESTROYED BY FIRE.

On the 11th February last the roof of a large portion of the western block was destroyed by fire.

The records of this department for a great number of years, were stored in a large room in the upper story of the building. In this room a number of the reports of the department, from Confederation, were carefully arranged for reference. The correspondence from Confederation up to the year 1890 also had been carefully arranged and

placed away in cupboards for future reference. The large record books containing a record of the letters received and the answers to the letters were also placed in the same room. In addition to this, all the merchant shipping forms and forms relating to the outside service, as well as the inside service of this department, were also kept in the same room.

When it was found that the contents of the room were in danger, a great effort was made by a number of the clerks of the department to save the records, forms and books. This effort was partially successful and the correspondence for the last ten years with all the letter press books and some of the record books, containing synopses of the letters, were saved from the ravages of the fire. The fire made such rapid headway that it entered the room and consumed a large portion of the inflammable stuff, before the effort ceased to save valuable papers.

ICE BOAT MAIL SERVICE.

This service began on the 24th of January, 1897, when the "Stanley" ceased to make daily trips and was continued until the 24th day of April. During this time the following service was performed:—

Number of mail bags carried.	4,721, as against 4,316 in 1896.		
Extra baggage carried, lbs.	1,425	do	1 019 do
Number of strap passengers carried.	151	do	145 do
Number of passengers hauled in the boats.	14	do	12 do

The expenditure for the boat service was \$9,112.30, which included wages, cost of boats and gear. The receipts from passengers and baggage amounted to \$372.75.

In connection with the communication between Prince Edward Island and the mainland, representations had been made from time to time, concerning the possibility of conveying mails and passengers by steamer during the greater part of the winter season, between Capes Traverse and Tormentine. Many of the inhabitants of the island have held the opinion, that communication could be kept up between these points, which are not nine miles apart, by a suitable steamer during the greater part of the winter. It had also been stated by them and others interested, that the route being a short one, would be more advantageous for the travelling public and a more direct route for the conveyance of mails than to Pictou, by the SS. "Stanley." Petitions have been sent to Parliament embodying these views and very strong representations have been made by members of Parliament, in the same connection.

During the session of 1896-97 a sum was voted by Parliament with a view of making the experiment. The sum was not more than sufficient to charter and fit out a vessel and pay the wages of a crew for the purpose of testing the practicability of the scheme. An officer of the department was given instructions to examine all suitable vessels in the Dominion, with a view of selecting one sufficiently strong, well equipped and powerful to make her way through moving ice.

No vessel exactly suitable could be found for the purpose, as vessels for navigation in ice must be specially constructed and of a suitable model. The best vessel, however, that could be procured for the experiment was the "Petrel," owned by the Collins Bay Rafting and Forwarding Company. The "Petrel" is a steel tug boat of very strong

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build, of 22 nominal horse power and draws $9\frac{1}{2}$ feet of water. This steamer made several trips across the strait during the winter, and during these trips careful observations of the tides, leads in the ice, the force of the ice against a vessel endeavouring to work her way through it, and the best and most convenient places for landing, were made.

As the "Petrel" was allowed to remain until the opening of navigation in the spring, an officer on board made careful notes respecting the difficulties presented to steam communication, and in what month these obstacles were the greatest. The thickness of the ice and the quantity passing through the strait, backwards and forwards, are matters upon which the department desired information, to be able to arrive at some conclusion, respecting the possibility of keeping up steam communication at the capes.

The steamer entered upon the work of observation about the 12th of December, 1896, and remained until the 4th May, 1897, considerable data having been obtained for future consideration. The experiment, however, was not on the whole a success. In the early part of the season a heavy storm came on and icebound the "Petrel" for over a mile. Continuous and determined efforts were made by the captain and crew, to cut the steamer out beyond the coast or board ice, to enable her to make the crossing through the moving or floating ice. These efforts were, however, not successful. The ice was found to be about two feet in thickness, and although every possible expedient was resorted to, it was not found possible to release the steamer from her ice-bound condition, until towards the spring.

REMOVAL OF OBSTRUCTIONS TO NAVIGATION.

The sum of \$5,000 was appropriated by Parliament for the removal of obstructions to navigation. By reference to the statement of expenditure it will be seen that the sum of \$631.86 was expended for the fiscal year. A statement in detail will be found in the report of the chief engineer of this department under the heading of removal of obstructions, in Part II. of this report. The expenditure is given in detail for the amount that has been expended during the calendar year and, therefore, includes payments which have been made since the ending of the fiscal year.

Tenders were invited in all cases with the exception of two; these exceptions were the removal of the "Little Wissahickon" by the Dominion steamer "Petrel," and the "Maple Leaf," removed by the owner.

LEGISLATION.

During the session of 1896-97 an Act was passed entitled, "An Act further to amend the Steamboat Inspection Act," and an Act entitled, "An Act to amend the Act respecting the protection of navigable waters."

COASTING TRADE OF CANADA.

By the provisions of chapter 83, Consolidated Statutes of Canada, being an Act respecting the Coasting Trade of Canada, no goods or passengers can be carried by water from one port in Canada to another except in British ships, but the Governor in Council may, from time to time, declare that the Act shall not apply to ships or vessels of any foreign country in which British ships are admitted to the coasting trade of such country, and to carry goods and passengers from one port or place to another in

such country. The Parliament of Canada was empowered to pass the Act alluded to under the provisions of the Imperial Act, 32 Vic., chap. 11, intituled: "An Act for amending the Law relating to the Coasting Trade and Merchant Shipping in British Possessions," which came into operation in this country on its proclamation by the Governor General on the 23rd October, 1869.

It was ascertained that the following countries, viz., Italy, Germany, the Netherlands, Sweden and Norway, Austro-Hungary, Denmark, Belgium and the Argentine Republic, allowed British ships or vessels, to participate in their coasting trade on the same footing as their own national vessels—the ships of Italy by Order in Council of the 13th August, 1873; those of Germany by Order in Council of the 14th May, 1874; those of the Netherlands by Order in Council of the 9th September, 1874; those of Sweden and Norway by Order in Council of the 5th November, 1874; those of Austro-Hungary by Order in Council of the 1st June, 1876; those of Denmark by Order in Council of the 25th January, 1877; those of Belgium by Order in Council of the 30th September, 1879; and those of the Argentine Republic by Order in Council of the 18th May, 1881, were admitted to the coasting trade of Canada.

EXPEDITION TO HUDSON'S BAY AND STRAIT AND CUMBERLAND SOUND.

An expedition was fitted out and started from Halifax on the 3rd of June last for Hudson's Strait and Bay. The main object of the expedition was to ascertain the duration of the navigable season and to make observations of the movements of the ice, in Hudson's Strait, more particularly. Information had been obtained by former expeditions, sent out by this department, but that information was not considered of a sufficiently definite character, to determine the season of navigation for commercial purposes. It was also felt that much information could be procured, regarding the fisheries of Hudson Bay and Strait and Cumberland Sound.

Although the primary object was to ascertain the value of the waters as a commercial route, it was also believed that much valuable information might be procured by landing geological parties at different points, on the shores of the Strait and Bay, for surveying purposes. Arrangements were accordingly made to carry out these intentions.

A representative of the province of Manitoba accompanied the expedition in the commercial interests of the province.

The whaling steamer "Diana" of St. John, Newfoundland, was chartered for the service at \$1,400.00 per month, the expense of the crew and supplies was borne by the department.

The "Diana" left Halifax on the 3rd of June last under Commander William Wakeham, and entered Hudson Strait on the 22nd of June. The vessel met considerable ice in the strait all the way through, by which she was retarded and did not enter Hudson Bay until the 12th of July; from this date several trips were made in and out through the strait, in July, but no further trouble from ice occurred. During the summer, a run was made to Cumberland sound and the whaling stations established in Baffin's Land and on the shores of the sound, were visited. About the 17th July a cargo of coal was sent from North Sydney and delivered on board the "Diana" at Nachvak during the first week of August. In September the "Diana" returned through the strait and crossed Hudson Bay to Fort Churchill. On her way back the two exploring

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parties belonging to the Geological Survey which had been landed soon after the arrival of the "Druid," were taken on board again and the steamer returned with them to St. John's, Newfoundland.

After the Geological Survey parties were landed at St. John's the expedition returned to Hudson Bay, cruising in and out of strait and remained there until the 24th of October. The risks of navigation becoming great, the commander decided to return to Halifax. The "Diana" passed out of Hudson Strait on the 30th of October last and on the 11th of November after a rough passage reached Halifax. The unused supplies were landed at Halifax and will be sold by auction. The "Diana" was sent to St. John's and delivered in accordance with the charter party, which provided that the vessel should be delivered on the 1st December.

The amount voted by Parliament was \$40,000, and it will be found that the expenditure has been kept within the vote.

I have the honour to be, sir,

Your most obedient servant,

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
1st December, 1897.

CHIEF ENGINEER'S DETAILED REPORT ON CONSTRUCTION AND MAINTENANCE OF LIGHTHOUSES AND OTHER AIDS TO NAVIGATION UP TO 31ST OCTOBER, 1897.

To the Deputy Minister
of Marine and Fisheries,

SIR,—I have the honour to submit the usual annual report of work done in the construction and maintenance of aids to navigation up to the 31st October last. In consequence of the early preparation of the report this year the period embraced covers only ten months instead of twelve as usual.

Lighthouses, fog alarms, buoys, beacons, and other aids to navigation throughout the Dominion of Canada are administered by the Department of Marine and Fisheries. The construction of new buildings is under my direct supervision; the maintenance of existing stations is controlled by the several agents of the department, and the periodical inspection of the stations is made by inspectors resident in the different provinces, the agents in Prince Edward Island and British Columbia fulfilling the double duties.

The numbers and distribution of the several aids to navigation throughout the Dominion are shown in the following table :

DISTRICT.	Light-stations.	Lights.	Keepers.	Light-ships.	Fog-whistles.	Fog-horns.	Fog-bells.	Fog-guns or bombs.	Whistling-buoys.	Bell-buoys.	Gas-buoys.
Province of Ontario.....	184	235	177	3	2	11	3			5	2
Light-ships.....	3	3									
Province of Quebec.....	117	155	138	2	2	9		9			10
Light-ships.....	8	8			3		1				(4 with bells)
Province of Nova Scotia.....	171	179	176	1	10	6	2	1	16	14	
Fog-alarms.....	2	2									
Light-ships.....	1	1									
Province of New Brunswick.....	93	118	101	1	4	8		1	4	3	
Fog-alarms.....	3	3									
Light-ships.....	1	1									
Province of P. E. Island.....	36	58	42			1			3	1	
Province of British Columbia.....	16	20	18		1	5	4			1	
•	635	783	652	13	22	40	10	11	23	24	12

* Light-ships and fog-alarms where there are no lights are in these two columns included in the total number of light stations and lights in the Dominion.

Supplies for the lighthouse service are purchased in bulk, under contract, except in the case of articles of which only small quantities are required, in which case they are purchased locally in the open market. These supplies are distributed from the stores at each district head-quarters, usually under the personal supervision of the Inspectors of Lights, who inspect the stations when delivering the supplies. They also arrange for all small ordinary repairs and the periodical painting of the buildings. These routine duties are not alluded to in describing the repairs executed at the several stations.

Work of construction and extensive repairs are usually executed under contract ; minor repairs are done under the light-keepers' supervision, or by foremen employed in the several districts.

Light-keepers and fog-alarm engineers are expected to make any small repairs that can be reasonably expected of unskilled workmen, without charge, and are also called upon to do all painting required at their stations, being allowed some assistance when the buildings are so high as to require hanging scaffolds.

ONTARIO LIGHTHOUSE DIVISION.

This division includes the lighthouses and other aids to navigation in that part of the province of Quebec lying west of Montreal, all the lights in the province of Ontario, and the lights on Lake Winnipeg, in the province of Manitoba.

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The number of lighthouses, lighted beacons and light-ships maintained by the Dominion in the Ontario division, as above described, is 232, located at 184 different stations.

The number of light-keepers in this division paid directly by the Government is 174, but in several cases assistants are employed by keepers and paid by them out of the allowance made by the Government for that purpose.

There are in Ontario 2 fog whistles, 11 steam fog-horns and 2 fog-bells, operated by machinery, all located at light-stations, as well as 5 bell-buoys and 2 gas-buoys.

Besides the lights maintained by this department as above described, there are in Ontario the following aids to navigation; three lights on swing bridges, a system of lights on the Murray Canal, maintained by the Department of Railways and Canals, 4 pairs of range lights on the Detroit and St. Clair Rivers, maintained by the American vessel owners principally interested, 12 wharf lights maintained by the municipalities or corporations to which the wharfs belong, and two range lights maintained by local interests at Pine Tree Harbour.

Seven of these last described stations are aided by this department to the extent of being furnished with the necessary oil for their maintenance.

A steamer is chartered yearly for the supply of the light-stations on the River St. Lawrence and the great lakes, between Montreal and the head of Lake Superior, and the lighthouses are supplied and the stations inspected on this trip, which occupies about seven weeks, by Mr. Patrick Harty, Superintendent of Lights. Mr. Harty also inspected the lights on the Ottawa River between Ste. Anne de Bellevue and the Joachims Rapids in the month of June. A few small lights on isolated waters, including Lake Temiscamingue, Lake Nipissing, Lake Simcoe and the Bay of Quinté, were not inspected. The lights on Lake of the Woods were inspected by the chief engineer in September.

NEW AIDS TO NAVIGATION.

Papineauville Range Lights.

The village of Papineauville is situated on a bay or lagoon running parallel to the main channel of the River Ottawa and is a port of call for steamers and barges, which obtain access to the bay through a dredged cut about a mile and a half below the village. To mark the entrance, which was very blind at night, two temporary lights were established last autumn on the sides of the cut. This arrangement was not however satisfactory, and in June last the lights were removed and permanently established on the main land opposite, and in the axis of the dredged entrance.

The lights are fixed white catoptric lights, shown from square tubular lanterns hoisted on masts, with a box to receive the lantern at the base of each mast. The masts and boxes are painted white and the lights should be visible two miles in the line of range.

The front mast stands on the north shore of the bay, $1\frac{1}{4}$ miles east of Papineauville wharf, on land about 5 feet above the summer level of the river. The mast is 15 feet high and the light is elevated 20 feet above the summer level of the river.

The back range mast stands on the public road 282 feet northerly from the front mast. It is 15 feet high and the light is 30 feet above the summer level of the river.

The two lights in one mark the axis of the dredged channel below Chabot's Point, from the main channel of the River Ottawa to the channel in the Bay.

The work was done under the direct supervision of the chief engineer.

Back Range light at Port Dover.

For the accommodation of the car ferry boats running all the year round between Port Dover and Conneaut, it was found necessary to establish a second light at Port Dover which, in range with the light on the outer end of the west breakwater pier would lead in to the railway wharf through the best channel. The design adopted for this lighthouse consists of a skeleton steel frame work surmounted by an inclosed wooden lantern, the whole painted red and 45 feet in height from the base to the vane on the lantern. The light, which was put in operation on the 11th June last, is fixed red catoptric, elevated 45 feet above the lake level. The building was erected for the department by Mr. W. H. Noble, foreman of works, who procured the steel work from Messrs. Rice Lewis & Son, Toronto, and had it put together at the Saint Lawrence Foundry, Toronto. The total cost of the building was \$386.65. The tower stands on an unused part of one of the streets of the village, and permission was given to the department by the municipality to use the site.

Flower Pot Island Light and Fog-bell.

To increase the safety of large and fast steamers entering Georgian Bay, a lighthouse and fog-bell are being established on the north-easternmost point of Flower Pot Island, Georgian Bay, in the north riding of Bruce, Ontario. Pending the completion of the permanent buildings a temporary light has been shown from a lens lantern hoisted on a pole.

The work is being erected under contract by Mr. J. C. Kennedy of Owen Sound, his price being \$1,137. It is expected that the permanent light and fog-bell will be in operation on the opening of navigation in 1898.

Lights in Lake of the Woods.

To accommodate the very large increase in traffic on Lake of the Woods, induced by mining, lumbering and agricultural development, additional lights have been provided on the lake. One of these, erected on Ferris Island, off the extreme west point of Bigsby Island, was put in operation on the 16th September last. The lighthouse stands 75 feet back from the water's edge, on the west end of the island, on a granite rock 14 feet above the ordinary level of the lake. It is a square wooden inclosed building, surmounted by a square wooden lantern, the whole painted white. Its height, from the sills to the vane on the lantern is 28 feet.

The light is a fixed white light elevated 36 feet above the water. It should be visible 11 miles from all points of approach by water. The illuminating apparatus is dioptric, of the seventh order.

The building was erected under contract by Mr. T. M. Harrington, of Keewatin, for the sum of \$467.50. The total expenditure in connection with the erection of this light has been \$525.37.

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Two range lights were put in operation on the 17th October last, in Bishops Bay, to lead through the Bay, from Bishops Point to the small islands north-east of Royal Island, clear of shoals on each side of the channel. The front building stands on a small island lying about 200 feet north of the north-east extremity of Royal Island.

The lighthouse is a square wooden tower with sloping walls, surmounted by a square wooden lantern, the whole painted white. The height of the tower, from the ground to the vane on the lantern, is 20 feet.

The light is a fixed white light elevated 17 feet above the summer level of the lake, it should be visible five miles from all points of approach by water. The illuminating apparatus is dioptric of the seventh order.

The back range tower stands on the north shore of Royal Island, near its east end. It is a square wooden tower with sloping walls, surmounted by a wooden lantern, the whole painted white. It is S. 30° E. about 400 feet distant from the front range tower. The height of the building from the ground to the vane on the lantern is 28 feet.

The light is a fixed white light elevated 26 feet above water; it should be visible five miles in and over a small arc on each side of the line of range. The illuminating apparatus is catoptric.

These two buildings were erected by Mr. T. M. Harrington at a contract price of \$639.50, the total expenditure in connection with their establishment being \$747.37.

LIGHT DISCONTINUED.

The light and fog-horn heretofore operated by the proprietors of the wharf at Richards Landing, North Channel, were discontinued this season, and the illuminating apparatus and fog-horn lent by the department were returned to the stores, as the proprietors of the wharf were not willing to continue the service under the terms of the original agreement made with the department.

IMPROVEMENTS AND REPAIRS AT EXISTING STATIONS.

Pointe Claire.—The erection of a new lighthouse on the pier was proceeded with last winter and spring, as indicated in last year's report, and the light was shown from the new building on the opening of navigation this year.

The foundation is of steel filled with concrete, and is a rectangular pier 36 feet long, 26 feet wide and 9 feet high. It is painted brown.

The lighthouse building which surmounts it is a rectangular wooden building painted white, with a brown roof. From the apex of the roof rises a square wooden lantern, painted red. The height of the building from the pier to the vane on the lantern is 33 feet.

The light is fixed white, elevated 35 feet above the summer level of the river. It should be visible 11 miles in the channels. The illuminating apparatus is dioptric of the 7th order.

The work was under the direction of Mr. W. H. Noble, foreman of works, at a cost of \$1,738.12, this sum including repairs to concrete pier as well as the erection of the new tower and dwelling.

L'Orignal.—As indicated in last year's report, a new lighthouse has been built at L'Orignal, on the Ottawa River. Mr. Noble being employed at Belle Isle, the work was placed in charge of Mr. J. M. Gee, of Ottawa, and was completed at a total cost of \$777.39.

The lighthouse stands on the point which extends farthest north into the river, 2,340 feet east from the outer end of the public wharf. The site is 120 feet back from the water's edge, on sloping ground 20 feet above the summer level of the river.

The lighthouse is a square wooden tower, surmounted by a square wooden lantern, the whole painted white. It is 43 feet high from the ground to the vane on the lantern.

The light is fixed white, elevated 57 feet above the summer level of the river and should be visible 12 miles from all points of approach by water. The illuminating apparatus consists of a pressed glass lens. The new light was put in operation in September last.

Point Pleasant.—On the opening of navigation last spring, the lamps with reflectors heretofore used at this station were replaced by a dioptric apparatus of the 7th order. By this change a large saving in the consumption of oil is made and the light becomes of equal intensity in all directions. The lantern platform and roof were recovered with galvanized iron and the lighthouse tower put in good repair this autumn.

Port Dalhousie.—As indicated in last year's report, the Department of Railways and Canals have removed the decayed cribwork top of the East pier and have replaced the portion above water by a concrete structure. This department has, in conjunction with this work, replaced the cribwork foundation of the outer range lighthouse by a concrete foundation. The work was done under the direction of Mr. W. H. Noble, prior to the opening of navigation in the spring of 1897, at a cost of \$672.78. It is now necessary to replace the back elevated walk between the two light towers; this will be done next spring, when bents of steel angles will be substituted for the wooden bents heretofore used.

River Thames.—On the opening of navigation last spring the lamps with reflectors used in the back range light tower were replaced by a dioptric apparatus of the seventh order. This change should save considerable oil while the light should be of greater intensity in all directions.

Cove Island.—The locomotive boiler made for this station by Messrs. John Inglis & Sons, of Toronto, as mentioned in last year's report, was landed at the station, last spring. To make room for two boilers it was necessary to enlarge the fog-alarm building and to erect a separate woodshed. This work was done under directions from the Chief Engineer, by Mr. George Currie, light-keeper, and the boiler was erected in position and connected by Messrs. Wm. Kennedy & Sons, of Owen Sound.

Mississauga Strait.—The new locomotive boiler built for this fog-alarm by John Inglis & Sons, of Toronto, was delivered at the station this spring. To accommodate this larger boiler in addition to the old boiler, it was necessary to enlarge the fog-alarm building, which was done under contract by Mr. Daniel McColman, his price for the addition required being \$188.20. The new boiler was placed in position and connected with the machinery by workmen from the establishment of Wm. Kennedy & Sons, of Owen Sound.

Western Islands.—When the lighthouse and fog-alarm station were established on Double Top Rock, it was anticipated that the buildings, landings, etc., might be damaged

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by the winter sea, and some work in connection with the boat landing was postponed until the keeper had a year's experience of the action of the waves. It was found, last spring, that the damage done was done by the sea and the ice at the north side of the dwelling, and also to the tramway leading from the boat-house to the derrick. Repairs were accordingly made last summer. The shingles on the north side of the dwelling were relaid, and the sheathing doubled. The sheathing on the exposed side of the kitchen was also strengthened, and shutters were supplied to the exposed windows. Thirty feet of tramway were rebuilt, in the most substantial way, and a launchway was provided on the south side of the island off the rock to enable the keeper to land his large boat. This and other small repairs required to put the station in order were completed under the direction of Mr. W. H. Noble, at a cost of \$303.36.

Rainy River.—It was found impossible to strengthen the foundations of the light-house and range light at the mouth of Rainy River last winter, as intended. In consequence of delay in communicating with the man to whom the contract was awarded, the ice broke up before the work could be done, and it has therefore been postponed. During the summer, the range lights were maintained on pile foundations, as previously, and small temporary repairs were made at a cost of \$78.09.

The following less important repairs have been made at light-stations in this Division :—

Station.	Nature of Repairs.	\$ cts.
Campbell Island.....	Repairs to tower	37 00
Caron Point	Repairs including new cribwork founda'n	249 12
Colchester Reef.....	Painting and repairs.....	43 27
French River.....	Repairs to dwelling.....	25 00
Stonehouse Point.....	Repairs to tower.....	21 47
Goderich	Recovering lantern	20 00
Griffith Island.....	Whitewashing and painting tower	50 20
Kincardine	Painting lighthouses and dwelling	46 00
Lachine Pier.....	Repairs to lighthouse, including new lantern top.....	55 00
Middle Island	Repairs to lantern.....	29 31
Mohawk Island	Whitewashing and painting tower.....	112 75
Nottawasaga Island..	Repairs to lantern	30 00
Pelée Reef.....	{ New smokestack	140 00
		{ Painting.....	25 00
Port Stanley	Repairs to tower and pier.....	497 31
Sulphur Island.....	Repairing pier to protect boat-house....	30 00
Snug Harbour.....	Repairs.....	45 00
Thunder Cape.....	Painting and repairs.....	34 55

BUOYS AND BEACONS.

Gas Buoys in Lake Erie.—The gas buoys marking Pelée Passage, Lake Erie, described in last year's report, have continued to give great satisfaction to mariners. They were taken up for the winter by the D. G. S. "Petrel," on the 18th November, 1896, their positions being then marked by spar buoys. They were placed again in position by a hired tug on the 5th June, 1897, and have been kept supplied with gas,

through the good offices of the Lake Carriers' Association, by the United States lighthouse tender which supplies the American gas buoys.

Since these two Canadian gas buoys were established a large number have been established by the United States Lighthouse Board on the St. Lawrence River and the Great Lakes and the gas-buoy system has proved a very great boon, especially to heavy draught steamers

Change in Detroit River Buoys.—When the Canadian buoys at the mouth of River Detroit were set out on the opening of navigation this year, the two buoys marking the exterior of the shoal off Bar Point and Big Creek, respectively, which were theretofore red barrel-buoys, were replaced by red spar-buoys, similar to the other spar-buoys in the river.

Beacon on One-Tree Island.—A wooden, whitewashed, day-beacon has been erected by the Collins Inlet Lumber Company on One-Tree Island, in the western entrance to Collins Inlet, north shore of Georgian Bay, Ontario.

There were no other changes in the buoys in this district. Contracts which had expired were replaced by new ones, and the buoys, generally, were maintained in a manner satisfactory to mariners.

QUEBEC LIGHTHOUSE DIVISION.

The Quebec division extends from Montreal to the end of the Strait of Belle-Isle, covering a coast and river service of over 1,200 miles, comprising all the lighthouses in the Richelieu River and Lake Memphremagog, as also all the lighthouses, light-ships, gas buoys, beacons and fog-alarms in the River St. Lawrence, Saguenay River, Baie des Chaleurs, Gulf of St. Lawrence, Strait of Belle-Isle, west coast of Newfoundland, and Labrador. This division is under the control of Mr. J. U. Gregory, Agent of the Department of Marine and Fisheries at Quebec.

The Agent is also Shipping Master; attends to the requirements of the British Board of Trade in connection with shipwrecks and distressed seamen, casualties at sea, and is receiver of wrecks and supervisor of wharfingers in the province of Quebec; is also a Fishery Officer for that province.

The Agent's staff at Quebec consists of Mr. L. A. Blanchet, chief clerk and accountant, also deputy shipping master; Mr. Alphonse Hamel, clerk; Mr. N. Fitzhenry, storekeeper, and Mr. G. D. O'Farrell, lighthouse inspector.

The workshops are under Mr. Ernest Roy, master carpenter, and Mr. G. Vézina, master ship-smith. The gas works are under Mr. G. Bélanger.

The steamers at the disposal of the agency the past year were the "Druid," which attended to gas and other buoys, as well as beacon service below Quebec, and the "Aberdeen" which came from Halifax to supply the lights in the River and Gulf of St. Lawrence, Strait of Belle-Isle, Anticosti, Magdalen Islands and Baie des Chaleurs, and also attended to Fisheries Service. The lights above Quebec were supplied by passenger steamers or by rail, as proved most economical or convenient.

There are in this division, 155 lights, at 117 stations; 8 light-ships, 3 of which are supplied with powerful steam fog-whistles; 9 explosive bomb signal stations in connection with lights; 2 steam fog-whistles and 9 steam fog-horns; 10 gas buoys, 4 of which are supplied with bells; 140 wooden buoys and 59 beacons.

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NEW AIDS TO NAVIGATION, AND IMPROVEMENT IN EXISTING AIDS.

Fog-Alarm at Belle-Isle.—A special vote of \$20,000 was included in last year's supplies, for the establishment of a first class fog-signal station at Belle-Isle light station. After full inquiry into the best signal to adopt, it was decided to establish a double siren, operated by compressed air, similar to the machines used at the best English fog-alarm stations. The necessary machinery is being procured by the department, from England, from the Trinity House, which has large experience in equipping these signals. An oil engine for compressing air is being provided, but it is proposed to operate the machinery by water power, utilizing the outlet of lakes in the vicinity of the lighthouse, which give a head of 126 feet, and reserving the oil engine for use in case of failure of the water power from any cause. During the past summer season Mr. Noble, foreman of works, has been engaged in preparing the station for the erection of the necessary buildings and machinery and has erected a siren building below the lighthouse, has dammed the outlet to the lakes and laid the pipes for the water power and has prepared the site for the power building. This work has involved an expenditure of \$2,345.01. It is hoped to have the station in operation during the coming season of navigation.

Ile à la Pierre.—The new lighthouse on Ile à la Pierre was completed previous to the opening of navigation in the spring of 1897, as indicated in last year's report.

The foundation is of steel filled with concrete, in the form of a frustum of a cone, 26 feet in diameter at the base, 20 feet in diameter at the top and 16 feet high. It is painted brown. The lighthouse which surmounts it is an octagonal wooden building painted white, with a brown roof. From the apex of the roof rises an octagonal wooden lantern painted red. The height of the building from the pier to the vane on the lantern is 33 feet.

The light is a fixed white light, elevated 45 feet above the summer level of the river. It is visible 13 miles in the channels. The illuminating apparatus is dioptric of the seventh order.

The work was done under the supervision of Mr. W. H. Noble, foreman of works, at a total cost of \$3,309.59.

Saint Thomas, Montmagny.—On the 13th August, 1896, a fire destroyed the mast and shed from which a light were exhibited, on the outer end of the Government wharf at Saint Thomas de Montmagny, and seriously damaged the wharf. The wharf has been repaired and the mast light has been replaced by a light shown from an inclosed galvanized iron lantern, standing on a square platform supported by an open frame work, above the slip at the outer end of the wharf.

The lighthouse building stands 26 feet above the wharf. The light is a fixed light elevated 26 feet above high water mark, showing white in the channel, and red to the westward of the channel. It should be visible towards the entrance of the harbour three miles.

A back range light has also been established on the west shore of the harbour, 1971 feet S. $\frac{1}{4}$ W. from the light on the wharf. It is a fixed white light, elevated 44 feet above high water mark and should be visible 3 miles in the line of range. It is shown from an inclosed galvanized iron lantern standing on an open wooden frame work tower, and is painted white. The height of the tower from the ground to the vane on the lantern is 36 feet. The two lights in range S. $\frac{1}{4}$ W., lead up the channel to the Govern-

ment wharf and Price's lumber wharfs, but the entrance should not be attempted by any one not having local knowledge.

The two buildings were erected by the Department of Marine under the superintendence of Mr. E. P. Bender, who was in charge of the repairs to the wharf for the Department of Public Works. The total expenditure in connection with the construction of the two buildings has been \$361.90.

Removal of Semaphore from Lotbinière to Cap Santé.

In consequence of the completion of the dredged channel through Barre à Boulard, in the River St. Lawrence, between Quebec and Montreal, to a depth of 28½ feet and a width of 500 feet, the semaphore maintained since 1894, on the high bank at Lotbinière, was no longer required there. It has consequently been removed to the north shore of the river and erected on the 70-foot bank, at a point about five-eighths of a mile below Cap Santé church, and is now used to indicate the depth of water on Ste. Croix bar, where dredging operations are in progress.

The least depth on Ste. Croix bar, as indicated on the Public Works Department chart of the Ship Channel, is 22 feet, and the gauge is set to the same zero as the chart. On Cap Santé shoal, due south from the semaphore, there is a small spot with one foot less water than on Ste. Croix bar. The method of operating the semaphore is indicated in the "Tide Tables for 1897," published by the Montreal Harbour Commissioners.

The semaphore is maintained by the Sincennes-McNaughton Company, in connection with their contract for the maintenance of buoys and beacons, between Montreal and Quebec. The total cost of removing the semaphore was \$382.89. The work was in charge of Mr. B. H. Fraser, Assistant Engineer of the Department.

PRINCIPAL REPAIRS AT EXISTING STATIONS.

Anticosti, Heath Point.—The interior of the lantern was cleaned and painted, and the lamps and reflectors were properly adjusted, and the windows re-glazed where required. A portion of the clapboarding of the tower, carried away by a storm in the fall of 1895, was replaced and painted, and a new floor laid in the cellar of tower. A part of the deal floor in the stable and barn was renewed and the interior of the tower painted during last winter. The necessary material, including cement and lumber, were sent down to the station from Quebec, the cost of material, &c., amounting to \$72.31. The work was performed by the keeper.

Anticosti, South Point.—A new smokestack was made in the Agency's blacksmith shop at Quebec for the fog-horn boiler, at a cost of \$44. The new boiler was placed in position, special scows having to be made to float it while landing. The large boat at this station was repaired at a cost of \$46.75. The total expenditure incurred amounted to \$116.47.

Anticosti, South-west Point.—The boat at this station, lost in a storm in 1893, was replaced, at a total cost, including ironing, sky-light, covering forward, sails complete, with other spars and gears, of \$156.25.

Anticosti, West Point.—200 loads of stone and gravel had to be put in the wharf to replace that carried away by storm on the 21st and 22nd November, 1896, from the northern part of the stone breakwater. The work was done by the keeper with local

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assistance at a cost of \$70. The boat at the station also underwent some repairs at a cost of \$40.

Bellechasse.—The lantern gallery which was leaking, was repaired and glazing done anew by a local carpenter at a cost of \$15, and new stairs put in at a cost of \$1.50. The boat was also repaired at a cost of \$13.

Belle-Isle.—General repairs were done at this station, the deals and shingles required having been sent down from Quebec on the Government SS. "Aberdeen," the cost of repairs amounting to \$48.50. The lantern gallery of lower light was redecked and covered with zinc. A boat saved from the wrecked steamship "Mexico" was purchased for this station at a cost of \$45.

Bird Rock.—Extensive repairs were carried out at this station, the work being performed by two carpenters sent from Quebec on the SS. "Aberdeen." The buildings at this station were very much decayed, and an expenditure of \$564.66 was required to put them in good order for years to come. The principal repairs consisted in renewing the platform on the south side of the rock, and repairs to store and boat-house, to forge, oil store, workshop, gun-house, shed for the boiler and winch; small repairs to the tower and dwelling; recovering the lantern gallery with canvas; making new flag-staff and wooden foundation for same; a new hoisting spar for steam crane; new trolley car for south side landing, and repairs to the bannister of sidewalk. The steam winch was also repaired.

Brandy Pots.—A good strong serviceable boat was supplied this station at a cost of \$116.25. The boat formerly in use at this station, after eighteen years' service, was much decayed and got broken to pieces during the severe weather. Repairs and ironing of the old boat and of a canoe were made at a cost of \$65.

Cape Salmon.—Repairs were done to the fog-alarm boiler and machinery. The pipes injured by frost were renewed, as well as globe-valves and two stop-valves of steam pipe and two cocks placed on exhaust pipe to regulate the sounds of the fog-horn. The two boilers were connected together placing the spare boiler in readiness for use in case of emergency, the injectors were sent to Quebec for repairs. The whole machinery was thoroughly overhauled, the total cost of repairs amounting to \$171.10.

Mr. Arthur Simard, the former keeper, who had dug out and cleared a suitable harbour for boat was paid the sum of \$27.50 for his work.

Cape Bauld.—A boat-house was erected and repairs made to the fog-alarm building and coal-shed, as well as repairs to five small bridges and a portion of the road to the lighthouse, the work being performed by the keeper with the assistance of a carpenter from Quebec.

The large bridge at this station requires some repairs which will be performed later when the necessary material has been brought down from Quebec on the supply steamer.

An iron tank of 400 gallons capacity, made in the workshops in Quebec, was supplied for the fog-alarm, and two injectors were sent down for the boilers.

Cape Despair.—Ceiling of second story of lighthouse was repaired, the necessary material having been sent down by the supply steamer. The brass framing of lantern was fixed and the top of lantern painted in red and a new flagstaff erected by the crew of the "Aberdeen" while the vessel was there delivering supplies. The oil store was repaired as also the dwelling at a total cost of \$34.

Cape Gaspé.—100 spruce deals and 3,000 shingles were supplied to the keeper at a cost of \$22.50, and he attended to the repairs required to the store and gun-house. A new post was procured for the crane at a cost of \$2, the old one not being safe.

Cape Ray.—A new coal-shed was erected by the keeper with local assistance, and small repairs made to the fog-alarm building at a cost of \$72.50, including material and workmanship.

The tower and coal-shed were given two coats of paint and repairs made to the canvas covering. Two new iron tanks were made at the agency's workshops in Quebec to replace the old ones worn out in the fog-alarm. Two inspirators were also supplied for the boilers. Nine copper ventilators were also supplied at a cost of \$13.50.

Cape Rosier.—The necessary material for repairs to the floors, ceilings, &c., in the dwelling and engine-room, procured at a cost of \$55.00, was sent down by the supply steamer, and the work was done by the keeper. Two inspirators were also supplied the boilers.

Carleton Point.—Repairs were made to flooring, stairs and foundation of tower, and to top of lantern to prevent leaking, at a cost of \$15.00.

Etang du Nord.—Repairs were done to the storehouse and chimney, and doors and windows made at a cost of \$42.65. The necessary material for a fence was sent down and the keeper did the work of putting it around the station.

Fame Point.—The ceiling of the rooms in tower and the repairing of the lantern gallery and stone foundation of the oil store were done by a local mechanic at a total expenditure of \$43.50.

Forteau.—Extensive repairs were made to the tower and a new coal-shed and oil store were erected, the work being done by two carpenters sent from Quebec. The building here was erected in 1855 and cost over \$86,000, and as no great repairs had been done since, the improvements carried out this year were required to maintain the station in good order.

The coal shed, although a more recent structure than the tower, was too small and in bad order, and it was cheaper to build a new one of the proper size, than repair and enlarge the old one. The total cost of repairs at this station was \$496.94. An inspirator was also supplied for the boiler.

Green Island.—This is the oldest lighthouse station in the River St. Lawrence, having been established in 1808, and extensive repairs and improvements were required.

The lantern which had given 88 years' service was not fit for further use. Mechanics were sent to take down the lantern, and all the material that could be utilized in building an improved one was brought up to Quebec, and a lantern was erected under the supervision of Mr. Ernest Roy. The wrought iron castings were made in Messrs. Terreau and Racine's foundry, and all the wooden and iron work made in the Agency's workshops. The glass in lantern was replaced by larger glass and the No. 1 lamps replaced by mammoth flat wick lamps.

The total cost of new lantern, including all material and workmanship as well as travelling expenses and board of labourers amounted to \$1,897.25.

The top part of the tower upon which the lantern rests was in very bad order and causing much injury to the stone masonry, and the wooden beams supporting tower were all rotten and the copper sheathing covering had all to be renewed. Repairs were also made to the clapboarding of the tower, and to the store house and oil store, and

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new chimney tops, new floors, wainscoting and new windows were made by workmen sent from Quebec, at a total cost of \$135.00.

Greenly Island.—Owing to the removal of the fog-alarm building, a wire handrail about 900 feet long was erected from the lighthouse to the new site to enable the keeper to reach the fog-alarm during strong winds and when the path is covered with ice. The total cost of work, wire and iron posts, amounted to \$40.00

Isle aux Prunes.—The pier under the newly erected angle iron tower needed considerable repairs, planking, strengthening with ties, &c., and the work was attended to by two carpenters sent from Quebec, the total cost of which amounted to \$154.75, including material, workmanship, travelling expenses and board of labourers.

A small shelter shed to allow the keeper to pass the night in while on duty was erected at a cost of \$30.00

Isle aux Raisins.—The wainscoting of tower was renewed, a competent carpenter of the locality doing the work as well as the painting at a cost of \$88.00. A small flat boat was also procured for the station at a cost of \$12.00.

Isle de Grâce.—Mr. Louis Beaulac of Sorel, under the supervision of Mr. James Howden of the Public Works Department, was entrusted with the repairing of the portion of the breakwater in front of the light which had been carried away about 60 feet from its proper position, by the ice, with the iron plating torn off and broken, and which had to be replaced. Additional repairs were also made to strengthen the pier, &c., at a total cost of \$72.00.

Isle Ste. Thérèse.—The ice caused considerable damage to the pier of the back light at Isle Ste. Thérèse in the spring of 1896. Two sides and a good portion of the top had to be replanked with deals, and four of the top beams renewed. The iron plates as well as the facing were completely gone and had to be renewed. The total cost of repairs, workmanship, material and board of carpenters amounted to \$334.95.

Lark Islet.—The upright boiler being found completely worn out, it was replaced by a new one of the locomotive type, and this placed alongside the other locomotive boiler, and the two boilers connected to the two operating fog-alarm machines. A mason sent down from Quebec made the brick foundation and ash box for the new boiler, and covered it with asbestos, and repaired the asbestos covering of the boiler in use. A competent boilermaker and a competent machinist went down to the station with Mr. Leon Samson, second engineer of "La Canadienne," to make all the necessary repairs to the boiler and machines. The parts requiring to be sent to a machine shop to be repaired were entrusted to Messrs. Carrier, Lainé & Co. of Levis. The work of repairs is still going on and everything will soon be put in first-class order.

Lavaltrie.—Urgent repairs were made to the pier under the back-light. Two toises of stone were placed around the pier, the planking of one corner was renewed, two new iron corner plates were put in to replace some old ones; some deals were put on the top and side of pier, and the ironing of the small pier was re-fastened and the large pier was strengthened to hold the additional weight of the new angle iron tower, with new timbers for the anchor plates. The small pier under the front tower had nearly all the top planking renewed and two-thirds of side planking also made new; four new pieces were placed around the top edge and two new plates of iron for corners. The total amount of these repairs was \$280.63.

Lower Traverse Light-ship.—The vessel was placed on Mr. Geo. T. Davies's shipways to have her bottom scraped and painted and have other repairs made. The rivets on the starboard side of the stern, from lower part to height of lower hawse-pipe were renewed by overlapping stern with a 7-16 steel plate riveted from side to side. Two protection plates on starboard side, 8 feet long, 2 feet 6 inches wide and $\frac{3}{8}$ inch thick which were worn were renewed. The rudder was unhung and new pintles fitted; the rudder chain was also renewed. The deck was overhauled, caulked and repaired, and a new companion way made to replace the old one aft, and the mainmast was wedged. The hull was scraped clean and painted and the boat davits overhauled.

The total cost of the repairs amounted to \$921.49.

Maquereau Point.—The pathway to the lighthouse being in bad condition; \$73 were allowed to the keeper to pay for assistance necessary to remove all stones and obstructing trees, repair the bridges and put the roadway in good order.

Matane.—The chimney was repaired at a cost of \$5. The old boat was also repaired by Mr. G. L. Pelletier at a cost of \$22.

Montée du Lac.—The landing steps at this station and a portion of the plank were renewed, the old being rotten, requiring 2,163 feet of lumber, the whole cost of repairs including material and workmanship amounting to \$176.98.

Pointe de Monts.—Repairs were made to oil store and new flooring laid in the tower room by a carpenter sent from Quebec. The large sail boat was also repaired, and a new canoe purchased at a cost of \$20. The stable and barn were re-clapboarded. The old style No. 1 lipped lamps were replaced by mammoth flat wick lamps.

Point Rich.—The storehouse and barn at this station being very old and rotten, a new one was made in Quebec, ready to be put together at the station, and the keeper will erect it with a few days' assistance of a man from the locality. The cost of the building, labour and material included, was \$115.05.

Portneuf (en haut).—A small shed was erected over the well, and a spout provided at a cost of \$8.50. The fence around the front tower was repaired, the keeper being allowed the services of a carpenter for four or five days to assist him in doing the work, at a cost of \$7.50.

Red Island Lightship.—Repairs to the boilers and machinery of the vessel were carried out during the winter, the work, including the spring outfitting of the vessels, cost \$1,208.29.

Sainte Croix.—The spring inundation and ice removed the lighthouse out of its position, doing considerable damage, the keeper not being able to live in the tower for several months. The lower story was entirely crushed in and the braces, floors, &c., all strained and broken. On the north-east side, the tower was open its whole length, 30 feet high, and the three big posts which were its main supports were broken at the base. The department expecting to re-arrange the light in the near future, extensive repairs have been postponed, but the tower being damaged and in an unsteady position, carpenters were sent from Quebec to make temporary repairs. The total expenditure, including rent of rooms for the keeper while the repairs were being proceeded with, amounted to \$354.46.

Seven Islands.—The storehouse was re-shingled at a cost of \$12. A leak in the upper part of the tower was stopped, and the upright post of the lifting crane was renewed by a carpenter sent from Quebec. The hoisting post of this crane was renewed

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a few years ago, but the old upright post above referred to was the same in use since the crane was built many years ago. The total expenditure amounted to \$83.44. The keeper was also provided with a small strong canoe which he could handle himself on the rocks surrounding the station.

Sorel.—In consequence of the bad state of the Richelieu Company's wharf at Sorel, on which the range lighthouses stand, it was found necessary for the safety of the buildings to remove each of them 8 feet shorewards from its old site, so as to make them bear on more secure portions of the foundation. This change was made under Mr. Noble's superintendence, at a cost of \$95.09.

White Island Reef Light-ship.—Repairs were made to the boiler and machinery, and the vessel generally fitted out for the season, at a cost of \$350.04.

BUOY AND BEACON SERVICE.

Gas Buoys.—The Quebec district has in operation 10 gas buoys, 4 of which are supplied with fog-bells operated by four hammers put in motion by the action of the waters. Each of these buoys has the name of its respective station painted on its side.

There are two spare spherical gas buoys on the Queen's Wharf, where are also situated the gas works, supply tanks, &c.

The total cost of this service for the financial year ending 1896-1897 was \$2,812.98.

Wooden, can and spar buoys and beacons.—The buoy and beacons under the Quebec Agency comprise all those situated in the Rivers Richelieu, Saguenay and St. Lawrence, in the Gulf of St. Lawrence and Baie des Chaleurs.

The total cost of this service including contracts for the wintering, repairing, replacing, taking up and renewing buoys and beacons for the last fiscal year, was \$4,019.04.

The usual numbers of buoys and beacons were repaired and painted and renewed, and eight spar buoys were built as usual and placed on the following stations to replace larger buoys when taken up for the winter, viz:—Beaujeu Bank, west end; Crane Island Flats, Crane Island Patch, Middle Ground, St. Roch, Channel Patch, Pilgrims Shoal and Barrett Ledge.

Gulf beacons.—Last winter, notice was given to mariners that the day beacons formerly maintained on the south or Gaspé coast of the Gulf of St. Lawrence had become unnecessary in consequence of the establishment of several lighthouses along the same coast and had therefore been allowed to fall into decay. Mariners were consequently warned to remove from the charts the beacons at St. Ann Point, Martin River, Pleureuse Point, Frigate Point and Fame Point.

Mariners were also notified that six beacons on the shores of the Island of Anticosti would be kept in repair as heretofore.

During the past season, three steel framed beacons were erected on the Labrador coast, to replace wooden beacons formerly on the same sites. The materials were provided and made in the Agency's workshops at Quebec and were erected by the crew of the steamer "Aberdeen." The beacons have the form of a tripod, with slats on the sides and are painted white; one is on Whale Island, at the entrance to Bonne Espérance harbour, Esquimaux Islands, and is surmounted by a top mark in the form of a disk or globe; one on Flat Island, off Great Meccatina Island, has a top mark in the form of an inverted triangle or pyramid; the top mark of the third beacon on Outer Islet, at the entrance to Coacocho Bay, is diamond-shaped.

NOVA SCOTIA LIGHTHOUSE DIVISION.

This division, in charge of Mr. J. Parsons, agent of the department in this province, comprises 180 lighthouses, exhibiting 192 lights, 1 light vessel, 16 steam fog-alarms, 23 hand fog-horn stations, 2 fog-bells, 17 automatic whistling buoys, 14 automatic bell-buoys, 102 iron can buoys, about 700 spar and other small buoys, 8 stationary beacons, 16 life-saving stations, 3 humane establishments, 4 signal stations, and 1 steamship, the "Newfield."

The stations have been inspected by Mr. C. A. Hutchins, superintendent of lights. The boilers and machinery at the fog-alarm stations have been inspected by Mr. D. Stevens, inspector of Government boilers, and the life-saving stations by Mr. Alfred Ogden.

CHANGES AND ALTERATIONS.

Hobsons Nose.—The catoptric light has been removed and a fifth order dioptric apparatus established in its stead, greatly improving the efficiency of this light.

Peggy Point.—The catoptric apparatus was removed on the 29th March last and a dioptric illuminating apparatus of the fifth order established in its stead.

On the night of 2nd June, an explosion occurred in the lantern, which did considerable damage to the new dioptric apparatus, necessitating the re-establishment of the catoptric apparatus until repairs can be made.

Abbot Harbour.—The pole light was duly removed from the southern end of Abbot Island to the mainland opposite, in accordance with the intention expressed in last year's report.

Green Cove, Port Mailland.—A small tower has been erected on the outer end of breakwater, in place of the lantern mast formerly used. The work was done under the supervision of Mr. Dodwell, resident engineer of the Department of Public Works, during the progress of new work on the pier.

Glasgow Point.—A new tower has been erected and light put in operation instead of former pole light, and wire fencing has been put up to inclose lot.

Cheticamp Island.—The old tower has been removed from the west side of the dwelling, and a new square wooden tower 19 feet at base and 25 feet high, erected in the north side of the dwelling, surmounted by the iron lantern transferred from the old tower. The dwelling house has been put in a thorough state of repair. The work was done under the supervision of Mr. John Chisholm, local labour being employed. The lantern glass was put in with rubber strips.

Caveau Point, Cheticamp.—Two small towers will be erected and put in operation this fall on the eastern side of Eastern Harbour to mark the channel leading up to its entrance.

Merigomish.—The light heretofore maintained on Kings Head was discontinued on the 1st July last.

Improvements in the entrance to Louisborg Harbour.

In view of the increasing importance of Louisborg Harbour, consequent upon its adoption as a coal shipping port, it was deemed advisable to improve the aids in the

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entrance. When the automatic whistling buoy was replaced on the opening of navigation this year, it was moored in a new position 3 miles outside Louisbourg lighthouse and about $1\frac{1}{2}$ miles south of its former position. This change was made so that vessels approaching Louisbourg in thick weather might be enabled to pick up the whistling buoy as a point of departure for entering the harbour, clear of all outlying dangers.

At the same time, a red iron conical buoy was moored in 30 feet water, on the west extremity of the shoal extending from Nag Rock to mark a sharp turn in the deepest channel, and the two red spar buoys marking the shoaler water channel off Nag Rock were made more distinctive by placing on the first or more southerly spar a cone-shaped top mark and on the more northerly spar a spherical top mark.

On the 20th October, 1897, two leading lights were to be put in operation in the harbour. The front light will be shown from a tower erected upon a low gravelly point which projects into the harbour on its west shore. The tower stands 2,950 feet S. 58° W. from the Roman Catholic church, and 33 feet back from ordinary high water mark.

The tower is a square wooden building with sloping walls, surmounted by a square wooden lantern, the whole painted white. The height of the tower, from the ground to the vane on the lantern is 28 feet.

The light will be a fixed red light, elevated 26 feet above high water mark. It should be visible 7 miles from all points of approach by water. The illuminating apparatus is dioptric, of the seventh order.

The back tower stands on the north side of the main road, 1,330 feet N. 67° W. (S. $88^{\circ} 15'$ W. true) from the front one. The building is similar in every respect to the front one.

The light will be a fixed red catoptric light, elevated 54 feet above high water mark. It should be visible 7 miles in, and over a small arc on each side of, the line of range.

The two lights in one, bearing N. 67° W., lead into the south-west arm from the Atlantic Ocean clear of all dangers. The least water on the line of range outside of Nag Rock shoal conical buoy is 45 feet.

These two lights were erected, under contract, by Mr. Norman H. McNeil, of Sydney, the contract price being \$393.

It is thought that with all these improvements in the entrance to the harbour vessels of the deepest draught should be able to enter at any time in perfect safety.

REPAIRS AND IMPROVEMENTS.

Meaghers Beach.—A new boat was supplied, and the exterior wall of tower pointed all over with cement mortar; the chimney was taken down to roof and rebuilt; the plank gangway from keeper's dwelling to tower almost completely renewed. New steps and a portion of flooring fitted in the cellar. The oil store was also fitted with new sills and repaired, and re-shingled all over. Some repairs were also done to the breakwater.

Jeddore.—The lantern glass was all renewed and reset with rubber strips. The foundation walls were pointed, and the roof of woodshed and doors of barn and boat-house repaired. A new crane was erected for hoisting boat and supplies at landing stage. The roofs of the barn and oil-store were reshingled, the lantern deck repaired and the water spouts on dwelling also repaired.

Egg Island.—About 60 feet of the boatslip was rebuilt. A part of the plank walk between the house and tower was replaced.

Wolf Island.—A new boat was supplied.

Beaver Island.—The outside of foundation walls of cellar was sheathed and the steps leading to dwelling repaired.

Wedge Island.—A cribwork protection wall, 150 feet long, 10 feet wide at base, and 6 feet high, securely fastened with iron bolts and ballasted throughout with stone, was erected on the eastern side of boathouse to prevent the wasting away by the sea of the clay bank. The work was done under the supervision of Foreman of Works McLellan, with local help. All the lantern glass was taken out and reset with rubber strips.

Whitehead.—A new boathouse was built at landing 35 feet x 17 feet. A new platform was also erected around capstan and the lantern deck recovered with canvas.

Crow Harbour.—The roof of boathouse was re-shingled, a drain opened up from the cellar to bank and a new drain pipe laid.

Scattarie.—10 pairs new sashes fitted in old window frames of dwelling, and new porch built to dwelling.

Low Point.—The shed adjoining dwelling was repaired, and the sides and roof reshingled. New window frames and sashes were fitted in bedroom, and a leak was stopped over window on west side.

Point Aconi.—The fence inclosing lot was repaired and partially renewed. The oil store was moved back from edge of cliff and the sides reboarded and shingled.

McKenzies Point.—Repairs were made to the tower; the sills and lower ends of three corner posts and eight studs being renewed and part of two beams. The boarding was renewed 10 feet up from base, the clapboards stripped off and the walls shingled. The entrance door and sill were renewed and a new storm door made. The broken plaster was renewed and extra braces put in corner posts. The lantern deck was partially renewed and a new door fitted. The woodshed attached to dwelling was repaired, the materials and labour being procured locally and the work done under Mr. McLellan's superintendence.

Black Rock Point.—A new set of B lamps was supplied. The roof was reshingled, a new sash put in cellar window, and a new floor laid in cellar and living room.

Merigomish.—The lighthouse lot was newly fenced and plaster repaired in two rooms.

Carriboo.—A wire fence was erected inclosing lighthouse property.

Amet Island.—The boatslip and breakwater were repaired.

Chebucto Head.—Decayed wood was replaced with new on nine sides of the lantern between the glass and deck. Lantern rail renewed, a dormer window built on south side of roof of dwelling room, lined with 3½-inch spruce sheathing and panel door fitted to room, the work being done under Foreman McLellan with local labour.

Sambro.—In the keeper's dwelling, three sills, three window frames and six pairs of sashes were renewed. Two flues were taken down and rebuilt of smaller size, and

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twenty yards of plaster repaired, and a pantry made off kitchen. The porch door sill was renewed and the doors repaired. A new mantel placed in the sitting-room, and part of stairs and two sills of bedroom attached to dwelling were renewed and two new storm sashes made.

The water spouts and conductors on barn were renewed, and hinges placed on the doors.

One sill of porch, two doors and frames renewed in the lighthouse, and also part of floor. The lantern floors were recovered with galvanized iron, and the foundation walls pointed.

Peggy Point.—The catoptric apparatus was replaced by a fifth order dioptric. In consequence of damage by fire on the night of June 22, all the lantern glass was renewed, comprising twenty-four panes in two sizes. The ventilator was renewed and a new lamp table erected. A new false roof was fitted in lantern to protect the illuminating apparatus from the rain.

Quakers Island.—A new fog-horn was supplied, the walls of kitchen shingled and an outside door fitted.

Hobsons Nose.—The catoptric apparatus was removed on April 23 and a fifth order dioptric illuminating apparatus fitted up in its stead, thereby improving the efficiency of this light. Some slight repairs were made to the breakwater and boatslip.

Little Hope.—The masonry part of breakwater which was undermined in places and damaged by the sea has been repaired. The large boulders rolled in by the sea at the landing place have been removed and the slip rebuilt. A protection cribwork block has been constructed on the southern side of boatslip, for the protection of boats landing. A new boat was supplied and the buildings painted.

Peases Island.—Lamps changed from silver burner to mammoth flat wick. Three new reflectors supplied and the buildings painted.

Cape St. Mary.—Chimney in dwelling taken down outside roof and rebuilt. The plaster in hall repaired and foundation wall under lighthouse pointed with cement mortar.

Isle Haute.—The buildings were painted, the lantern deck repaired and recovered with canvas. The roof of woodshed was reshingled, a drain opened and pipes laid deeper to carry off water from cellar. Three lamps changed from silver burner to large flat wick.

Parrsboro.—The roof of passage-way was reshingled. A new stove pipe was fitted in lantern and a new water pipe laid from tank to sink in kitchen. The cellar was bricked up and the floor concreted. Two new lamps were supplied.

Cape Sharp.—60 feet of iron pipe were supplied to lead water from spring to house.

FOG-ALARMS.

Cranberry Island.—Two injectors, an operating valve and a new pop safety valve were fitted to boiler, The surface blow pipes and feeds to pump were renewed. Brass bearings were furnished and the pump lined up and the machinery generally overhauled. A new spindle to operating valve and 40 grate bars, 200 feet of iron pipe and 30 feet of suction hose were furnished.

Scattarie.—A Crosby automatic machine was fitted, an injector supplied and the blow off pipe repaired. The boiler was caulked and dome flange refitted. The try cocks and reflectors were repaired. Eight feet of the sill under entrance door was renewed. The old clapboards removed from sides of building and shingled with cedar shingles. The engine-room floor was covered.

St. Paul Island.—A new boiler built by Matheson & Co., of New Glasgow, has been fitted up as a duplicate. The old boiler is being retubed and repaired generally and necessary repairs made to engine house.

Chebucto Head.—The hoisting winch was overhauled and a new wire rope supplied. An injector was fitted to boiler.

Shelburne.—A new plank cover made to reservoir, and the boiler patched and overhauled.

Yarmouth.—50 feet of discharge hose supplied, two injectors fitted and the Crosby machine repaired.

Brier Island.—A new wooden building is being erected in place of the whistle house burned down in March, 1896, the work being carried on under the supervision of Foreman McLellan, the materials and labour being procured locally. The sum of \$200 was expended in repairing the road from Westport to this station, over which coal and other supplies have to be hauled.

Point Prim.—One boiler was retubed and an injector fitted to the other. The tank in engine room was recovered, a new fall supplied for hoisting winch and 300 feet of fire hose supplied.

Cape d'Or.—70 feet of suction hose were supplied and the following repairs made to the building :—

At the whistle house, two new sills, walls stripped of old clapboards and shingled with cedar shingles, and roof reshingled and lead flushing placed around chimney on roof. The ceiling was sheathed. A new bench and locker fitted, the concrete floor completed, and a new fence erected on edge of cliff in front of building.

At the dwelling house, the old clapboards were renewed and the walls shingled with cedar shingles, and the foundation walls and the chimney pointed, the work being done by Mr. McLellan, and the materials and labour procured locally.

St. Paul Island.—The old boiler and engine underwent some repairs and a new boiler was conveyed to the island last November. During the winter, the staff moved it from Atlantic Cove to the alarm station, and it is being placed in position.

The old boiler is retained and it is thought that it will last as a stand-by some four or five more years.

There were no wrecks or casualties during the year. One Hunt hand gun with patent projectiles was procured from the John P. Lovell Arms Co. of Boston, and shipped to the island. Owing to precipitous shores and no roads, it was decided to get this gun which one man can carry and which will cast a line to any vessel wrecked on the island.

Sable Island.—At No. 1 station, a new watch house was built and the carpenter shop repaired, and raised one foot, and new sills put in and 9 feet added to length. A new front sill put in horse stable, with new doors. Girt and general repairs to front and interior alterations and repairs. At the superintendent's dwelling, the ell was

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shingled and new floor laid in dining-room. The dairy was raised one foot, the walls and roof reshingled and new doors and window frames put in. A new boat tramway and repairs made to surf-boat and cradles. A new ox cart body was also made.

At No. 4 station, the wagon house was finished. The interior of the sailors' house was altered and repaired and a new chimney built, and the dairy sheathed. A wagon body was made for rocket apparatus and wagon repaired. The boat cradles were also repaired.

At the West End light, a new woodshed was built and repairs made to the house and barn.

The hay on the island was a fair crop, and all the vegetables planted did fairly well, the locusts doing little damage. Ten beeves were killed, weighing 5,602 lbs. ; they were killed at intervals and distributed fresh to all the stations. Thirteen pigs weighing 1,563 lbs. were killed during December and January. The usual stock of 90 head of horned cattle and about 125 wild ponies are at present in first-rate condition.

44 wild ponies were shipped off the island and sold at Halifax.

63 barrels of cranberries were also sent to Halifax.

BUOY SERVICE.

Blonde Rock Automatic Buoy.—This buoy is lifted every three months now, owing to the difficulty of keeping it in place ; the steamer "Lansdowne" performing the work.

Chebogue Ledge Buoy.—This buoy with its moorings was overhauled by the steamer "Lansdowne" on 21st November, 1896, and again on the 8th June, 1897.

Old Man Can Buoy.—This buoy is looked after by the steamer "Lansdowne," being replaced twice a year.

It was shifted on the 21st November, 1896, and again this spring.

Pease Ledge.—The can buoy on this ledge was lifted by the "Lansdowne" on the 21st November, 1896, and on the 11th June last, and thoroughly overhauled.

Roaring Bull Can Buoy.—This buoy in November, 1896, also on 8th June, 1897, was removed and replaced by another one, the steamer "Lansdowne" doing the work.

Trinity Ledge Bell Buoy.—This buoy was removed and replaced 16th November, 1896, also in June, 1897, by another buoy, the "Lansdowne" performing the work.

\$124.76 was paid for new chain for this buoy.

Yarmouth Automatic and Bell Buoys.—The steamer "Lansdowne" looks after these buoys, removing them twice a year, viz., in the fall and spring, and replacing each of them with another buoy.

Johns Ledge Buoy.—This buoy was also looked after by the steamer "Lansdowne" and replaced on the 21st November, 1896, and on the 9th June, 1897.

North-west Ledge Buoy.—This buoy is also removed and replaced twice a year by the steamer "Lansdowne."

The past year it was removed and replaced on 13th November, 1896, and on 8th June, 1897.

Bantam Automatic Buoy.—In February, 1897, the moorings parted and the buoy went ashore at Baccaro Point where it was secured by fishermen, who were paid \$48.00

salvage. The buoy was subsequently brought to Halifax by the "Lansdowne" and repaired at a cost of \$150.00. The moorings were lost.

Lurcher Automatic Buoy.—This buoy is lifted by the steamer "Lansdowne" and replaced with another one every fall and spring.

It broke from its moorings in February last and was picked up by the steamer "Newfield" and taken to Yarmouth for repairs. Another buoy was placed in position on the Lurcher Shoal by the "Newfield."

On the 13th March, 1897, the buoy was picked up adrift and towed into Westport by fishermen, with loss of 38 fathoms of chain and stone. Salvage to the amount of \$150.00 was paid to the steamer "Westport" for saving the buoy.

It was replaced on 19th March, 1897, by "Newfield." The "Lansdowne" placed buoy on the 3rd June, and on the 23rd July the buoy had again disappeared and has not since been recovered.

The "Lansdowne" replaced the buoy on the 27th July, 1897.

Old Woman.—On the 21st November, 1896, the "Lansdowne" visited the position of this can buoy, and found that it had broken from its moorings and gone adrift. Another buoy was placed in true position, and on the 11th June, 1897, the "Lansdowne" again visited this buoy, making a thorough examination of it and replacing it.

North-west Ledge Buoy.—On 6th February, 1897, the buoy disappeared and has not since been recovered. Another buoy was moored in its place.

Sambro Automatic Buoy.—On the 21st October, 1896, the buoy was picked up adrift with partial loss of moorings.

S. W. Breaker—Sambro Can Buoy.—On 29th May, 1897, the buoy had disappeared and has not since been recovered.

The Sister's Bell Buoy.—On 29th October, 1896, the bell was lost off buoy. On 4th December, 1896, the "Newfield" lost 45 fathoms of chain and mooring stone in consequence of chain fouling when heaving up. On 24th August, 1897, the buoy was picked up adrift with loss of 27 fathoms of chain and mooring stone.

Cape Canso Automatic Buoy.—On 15th February, 1897, lost mooring stone, buoy adrift in ice.

Cape Breaker Bell Buoy.—Lost 15 fathoms chain and stone, buoy adrift in ice.

Louisbourg Automatic Buoy.—Lost mooring stone, buoy adrift in ice.

Broad Cove Can Buoy.—On 21st March, 1897, the buoy went adrift. It was recovered with loss of moorings.

Brig Rock Conical Buoy.—On 20th November, 1896, the buoy was picked up adrift with loss of moorings. Salvage paid \$25.00.

Shag Bay Breaker Conical Buoy.—In October, 1897, the buoy was picked up adrift and brought in. Salvage paid \$25.00.

Additions.—The four spar buoys to mark the danger zone owing to the annual target practice of the troops on McNabs Island, Halifax Harbour, have been placed at intervals between Thrum Cap Shoal and the Eastern Passage. The spars are painted red, and are surmounted by cross-heads painted red and white.

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ADDITIONS TO COAST BUOYS.

Cat Rock Bell Buoy.—A bell buoy was placed by the steamer "Lansdowne" on the 3rd June 1897, 1,000 feet S.S.W. from Cat Rock in 10 fathoms of water, Yarmouth Light (Fourchu) bearing N.N.E. and West Cape N.N.W. Cat Rock is marked on buoy in white letters on a black ground. On the 27th July, the "Lansdowne" changed the position of the buoy, so that it is now moored in 12 fathoms of water (low₂ water), $\frac{3}{10}$ mile from Cat Rock.

NEW BRUNSWICK LIGHTHOUSE DIVISION.

This division comprises all the lighthouses and other aids to navigation within the boundaries of the province, both on the Bay of Fundy and on the Gulf of St. Lawrence coast. The large buoys maintained by the Government on the Nova Scotia coast of the Bay of Fundy are attended to by the steamer "Lansdowne" under the direction of the New Brunswick agent but are otherwise under the control of the Nova Scotia agent.

This division is under the charge of Mr. F. J. Harding, agent of the department at St. John, N. B.

The lights, &c., were inspected by Mr. John Kelly, inspector of lights.

There are in this agency 122 lighthouses, 1 light-ship and 12 steam fog-alarms.

The number of keepers and engineers in connection with the lighthouses and fog-alarms, is as follows:—85 light-keepers, 7 light-keepers and engineers of fog-alarms, 13 engineers and 6 assistant engineers—110 in all.

The method of supplying the lights varied in accordance with locations. The supplies for the St. John River, Grand Lake and Washademoak Lake lights were shipped by regular local steamers, and a separate bill of lading furnished for each station.

The supplies for the Miramichi River Lights were sent by the Light-ship "Jennie" and by regular lines of steamers or schooners trading to the different points.

The Bay of Fundy lights were supplied by the steamer "Lansdowne" and those in the Bay des Chaleurs district were supplied by rail. In all cases, the supplies have been delivered in the most convenient and economical way.

REPAIRS AND IMPROVEMENTS TO EXISTING LIGHTS.

Bathurst Light.—A new front beacon light is in course of erection at this station, under contract by Mr. G. C. Sutherland, his contract price being \$350.

The back tower had the sheathing renewed and the inside of lantern was painted.

The dwelling had new floors laid and side walls and ceilings sheathed.

Big Duck Island Fog-Alarm.—The old boiler at this station was repaired and a few new tubes placed in it. A new piston and an automatic valve were furnished.

The water tank was rebricked and cemented up four feet. The floor of engine-room was levelled and cemented.

Bridges Point Light.—The abutments of this lighthouse were whitewashed. The trees on the river bank have been cut down, so that at present there is no obstruction to the light.

Cape Enrage Alarm and Light.—A new abutment was built during the year. It is 25 feet long, by 12 feet wide and 12 feet high. A new boathouse was also built, 20 feet by 10 feet, and a new derrick erected. A winch and rope for handling boat was supplied, which can be worked conveniently by two men. The cost of these repairs amounted to \$240.

Grand Manan Fog-Alarm.—A new abutment has been built to the south-east side of the fog-alarm station, 32 by 35 feet, and at centre of abutment is 22 feet high requiring 108 logs from 10 to 35 feet long, at a cost of \$300 for labour and material.

One of the brick piers under the whistle house was also renewed.

Grindstone Island Alarm and Light.—A new boat has been furnished this station for winter service.

Head Harbour Fog-Alarm and Light.—Some new plank has been put in walk and breakwater.

In the engine-room, the old upright boiler has been removed and a new locomotive boiler placed in the foundation, and under-bents replaced, and new brick and cement floor laid.

The dwelling-house was painted inside. The coal-shed was shingled, and a new derrick erected.

Hillsborough Pier-Light.—During the month of November last, the abutment or pier, from which this light was shown, was carried away and the light destroyed.

A light was maintained during navigation this year, by the keeper, at his own expense, as supplies had not been sent him by the agency.

Letête Fog-Alarm.—The cylinder of the alarm has been raised and levelled up and all the machinery put in good order.

Lightship "Jennie"—Miramichi.—The vessel has been painted red from rail to water-line, being given two coats.

The bulwarks, masts, and house on deck, were given two coats of white paint, and underdecks, forward and aft, were whitewashed.

The ship's bottom was scraped and caulked where needed, and painted with copper paint.

The poop deck was repaired and bitts replaced, and two new ones furnished.

The work was done by Mr. R. R. Call at a cost of \$145.

Negro-Town Point.—The lantern had three iron windows put in. A new boat-landing was built at this station, a number of piles being driven into the clay and iron rails, 65 feet long, laid thereon, with three planks laid up sides and centre bolted to iron cross-bars, the cost amounting to \$125.

A new boat was also furnished the keeper.

Neguac Range.—Three logs were placed around the sea-wall of the lighthouse, and new planking in the platform.

A new boat was supplied this station for lighting the range-light across the gulch.

Neguac Wharf.—New planks were put in the walk around the base of the building.

The range-light at this station was changed during the year to the east side of the public wharf, from the old block which was becoming unsafe, as the bar at the Middle Ground was changing.

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Partridge Island.—Some small repairs were made to the machinery in the fog-alarm. A new shed, 90 feet long and 20 feet wide, was built over the reservoir, 100 feet distant from the main building.

Five storm-sashes were supplied for dwelling, and a porch built for kitchen.

Passamaquoddy Bay.—The steps and platform around the base of block were repaired. The boats were also repaired and painted.

Point Lepreaux.—The boat shed was shingled and a cellar made under the dwelling house, the floor laid and walls sheathed.

Six new lamps were furnished and six reflectors resilvered.

A new derrick was erected at the station, as the old one fell while discharging cargo of coal. The road from the landing to the lighthouse was repaired.

A storm and telegraphic signal for vessels was established at this station.

The usual repairs were made to the boilers and machinery of the fog-alarm. The coal shed had two sills renewed and new plank placed in floor.

Pokemouche.—The boathouse at this station was raised about three feet, as sand had drifted and filled up shed.

Quaco.—Considerable trouble was experienced with the roof of the lighthouse tower and dwelling house, from leaks destroying the plaster, and the stays and railings of the top landing decaying. These had to be taken out and replaced anew, canvas being put under same, on top of the old canvas, and a good coat of thick paint applied between the coverings, and three coats laid on the new canvas.

A new finish was placed all around the projection at the deck and new flashings around the base of lantern. Chamfered edge pieces were put down the corners of the tower and new flashing placed around the windows.

The roof of dwelling was shingled and new flashings put all the way up the roof, where it joins the tower.

A telephone has been erected from lighthouse to Hotel Exchange.

The shingles on the roof of the fog-alarm building were taken off and new flashings run down the valleys of same and reshingled. A door was cut from coal shed to engine-house.

New canvas was placed around the horn on the roof and the inside of alarm and boilers painted. The floor under the boilers was levelled and cemented.

Reeds Point.—The three red lights are run by electricity, shown from a lamp post, which during the past spring has been raised fifteen feet higher than formerly, in order that the lights may be more clearly distinguished from the other electric lights along the harbour front, which were about the same height.

The cost of above improvement amounted to \$45.70. The lights have given good satisfaction. The cost of their maintenance is \$150.00 per annum.

Richibucto.—\$25.00 was allowed for repairs to boathouse, and a piece of land extending from the boathouse to low water mark was leased at an annual rental of \$200.

Shippegan.—An addition to the dwelling 17 feet by 12 feet was built by the keeper, the department only allowing him the cost of material, which amounted to \$60.00.

South-west Head.—A new drain was laid from the dwelling to the side of the bank, 90 feet of galvanized iron pipe was laid from the well to the house, and a new pump was put in the kitchen.

A telephone was established at this station connecting it with Seal Cove ; the disused telegraph line being utilized.

Swallow Tail.—A cellar, 12 x 8 x 5 feet was made under the dwelling, with a drain. The platform of derrick was repaired and a window put in in coal shed.

North Tracadie Range.—The main lighthouse tower was removed from the southern side of the gully to the northern side and placed on a block 25 feet by 32 feet and 7 feet high. The eastern and southern sides, as well as the top, were planked with spruce plank.

The beacon light is 192 feet from the main light, and an elevated walk on scantling bents runs from the main light to beacon.

The cost of the improvements was about \$295.

Southern Wolf.—A portion of the breakwater was faced and a new barrel put in winch of derrick.

Wards Point.—The lighthouse was repaired around the eaves of the tower and door of light. The window had flashings inserted over it.

BUOY SERVICE.

The buoy service in most of the ports of the New Brunswick Agency was performed under contract, under the supervision of the harbour masters.

The coast buoys of the New Brunswick district and part of Nova Scotia in the Bay of Fundy were attended to by the steamer "Lansdowne."

Bell Boat off Partridge Island.—This bell boat was brought up to the city on the 24th September, 1896, to be inspected, a buoy of the Trinity pattern being anchored in its place.

The boat was replaced by the steamer "Lansdowne" on the 18th November, 1896, being moored with two anchors forming a bridle.

The cost in connection with buoy repairs amounted to \$117.70.

Black Point Automatic.—This buoy was removed and replaced by the steamer "Lansdowne" on 31st October, 1896.

The cost for repairs to this buoy during the year amounted to \$60.49.

Lepreaux Automatic Buoy.—Twice a year, the steamer "Lansdowne" removes this buoy. It was removed and replaced 22nd October, 1896, by another buoy, with new moorings and also on the 25th May, 1897.

Quaco.—These buoys three in number, two bell buoys and one can buoy, are lifted every fall by the steamer "Lansdowne."

Quaco Reef Bell Buoy was replaced on the 17th May, 1897.

Quaco Ledge Bell Buoy was replaced on the 22nd May, 1897.

Quaco Shoal Can Buoy was replaced on the 22nd May, 1897.

Roaring Bull.—The can buoy on this danger was, in November, 1896, also on 8th June, 1897, removed and replaced by another one, the steamer "Lansdowne" doing the work.

Marine and Fisheries—Marine Branch.

Southern Wolf.—This whistling buoy was removed last fall, 16th October, 1896, and again this spring on 29th May, 1897, and another buoy anchored in its place, the "Lansdowne" performing the work.

Split Rock Automatic Buoy.—The work of placing and replacing this buoy is done every fall and spring by the steamer "Lansdowne."

The work was done on 28th October, 1896, and 25th May, 1897.

Tide Boards at St. John Suspension Bridge.—Two tide boards have been erected in the neighbourhood of the Suspension Bridge over the River St. John, in the city of St. John, N. B., to indicate to vessels the clear headroom under the bridge at various stages of the tide.

One of the boards is fixed to the face of the rock at the north-west end of the bridge; the other is on Cushings Wharf, about 2100 feet above the bridge. The boards are painted white, with black figures one foot high, which run from 70 to 80. The reading on the board indicates the distance in feet from the water to the under part of bridge.

PRINCE EDWARD ISLAND AGENCY.

This division is under the charge of Mr. Artemas Lord, who is agent of the department at Charlottetown, assisted by Mr. Milton Walsh as foreman of works and warehouseman.

There are in this division 58 lights at 36 stations, and one fog-horn, under the charge of 42 keepers. There are 3 automatic whistling buoys and 1 bell buoy. The majority of the lights are situated on headlands and serve the general purposes of navigation, the remainder being harbour lights intended particularly for the benefit of fishermen, harbours in this province are buoyed by the department under contract; the buoys being under the general supervision of the agent.

In consequence of the lighthouse schooner "Prince Edward" having become unsafe for heavy cargoes and outside work, as well as becoming too small for the requirements of the agency, the supply and inspection of lights and buoy services has been done by the agent, accompanied by Mr. Walsh, in the tug "Wm Aitkins" owned by Mr. Wm. H. Batt, of Charlottetown.

NEW AIDS TO NAVIGATION.

Darnley Basin Range lights.

Two range lights to guide through the entrance into Darnley Basin, have been established and put in operation.

The lights are fixed green catoptric lights, visible three miles in the line of range, shown from open skeleton framed towers with inclosed square wooden lanterns, the whole painted white.

The front range tower stands on the farm of Mr. Charles Taylor, on the west side of Darnley Basin and south of the entrance, at a point 510 feet back or south from the shore. It is 15 feet high from base to vane, and the light is 55 feet above high water mark.

The back light tower stands 380 feet S. 14° E. true from the front light; it is 21 feet high and the light is 64 feet above high water mark. To enter Darnley Basin, the

two lights should be brought in one in the ship channel when a vessel is inside Fish Island shoal, and lead in with a depth of from 4 to 5 feet at low water.

These towers were erected at a cost of \$82.90.

In consequence of the establishment of the above range lights, the red light formerly exhibited from a mast 400 feet S. by E. $\frac{1}{2}$ E. from the main light on Fish Island, to lead into the entrance to the same channel has been discontinued and abandoned.

Cascumpeque Harbour lights.

The range lights in Cascumpeque Harbour, on the north of Gulf of St. Lawrence coast of Prince Edward Island, which had been temporarily discontinued and again put in operation on the 15th June, 1897, and which will hereafter be known as the Northport range lights, have been improved by substituting for the masts heretofore used open skeleton lighthouse towers, and by changing their position, to give a better lead through the existing channel.

Each tower is an open framed wooden building surmounted by a square wooden lantern and has its side facing the channel slatted to make it more conspicuous as a leading mark. The whole building is painted white. The lights are as heretofore fixed red and should be visible three miles over a small arc on each side of the line of range.

The front range tower stands on the bank 990 feet W. $\frac{1}{4}$ N. from the position formerly occupied by the front range mast near the outer end of the Queen's Wharf. It is 29 feet high from the ground to the vane on the lantern. The light is elevated 31 feet above high water mark.

The back range stands 1125 feet W. $\frac{1}{4}$ N. from the front one, it is 41 feet high and the light is elevated 42 feet above high water mark.

Two additional range lights have been established on Savage Island, inside the sand hills on the south side of Cascumpeque Harbour. The lights are fixed white catoptric lights, shown from lanterns hoisted on masts, with a small hut at the base and a diamond shaped day beacon at the head of each mast, the whole structure painted white.

The front mast stands on the north-east part of Savage Island, and is 22 feet high. The light is elevated 35 feet above high water mark and should be visible 5 miles in the line of range.

Vessels entering Cascumpeque Harbour keep the Savage Island range lights in one until the Northport range lights are nearly closed when they should change their course for the Northport range, being careful not to overrun the line of range, as the channel at the point of intersection is narrow and the tide strong.

The Northport range leads in to the wharf clear of all obstructions.

The cost of the erection of the Savage Island Range Lights was \$53.90.

REPAIRS AND IMPROVEMENTS.

Outer Murray Harbour Range.--The timber block upon which this tower stands having become in an unsafe condition, to make it safe for last fall's gales, the block was encased with hemlock boards, and strong double corner posts of 6-inch scantling were bolted to the corner posts of the tower, the lower ends being firmly bedded in the beach sand and gravel, a large flat stone having been first embedded at each corner, to rest the supporting posts upon, at a cost of \$19.89. A new block will be built this fall.

Marine and Fisheries—Marine Branch.

Souris East Light.—The mast light on the end of the breakwater, was carried away last season and a temporary mast was erected, pending the completion of repairs. A new block has since been constructed, at the outer end of the breakwater, and a permanent mast and hut placed upon this new block. This work was completed by Mr. Walsh in July last and cost \$81.64.

East Point Light and Fog Alarm.—A change of keepers was made at this station, and on the new keeper taking charge, both boilers of the fog-alarm gave out, and before the repairs were finished, both boilers had to be retubed, it being found that the tubes were all more or less defective and should come out. These repairs cost \$179.10 for materials and machinists' labour.

North Rustico.—Large repairs to protection work around the points of the beach have been going on, under contract, all season and are not yet completed.

New London.—At this station, the front range open post tower has been largely renewed this season, under the superintendence of Mr. Wm. Bell, harbour master, at a cost of \$74.63 for materials and labour. This front range was moved, farther north, so as to have the lights when in range indicate the best water.

The beach upon which the inner or main tower stands being badly cut away by gales and wash of the sea, 100 loads of good long brush and some 50 or 60 loads of stone were procured and placed between the tower and the shore to stop the sand cutting out and insure the safety of the tower.

Darnley Point.—The masts, from which red range lights were exhibited at Darnley Point, have been replaced by open framed square wooden towers, surrounded by inclosed lanterns. These towers are painted white and are made more conspicuous as day beacons by having slats on the side facing the line of range. The height of each tower is 25 feet; the heights of the lights above water and their character have not been changed. These towers were erected under the superintendence of Mr. Walsh at a cost of \$170.01 for material and labour and are a vast improvement on the unsteady mast arrangement.

Indian Point Light.—Large repairs are being made to the breakwater at station under contract, at a cost of \$685. This spring, during the breaking up of the ice, a strong south-west wind drove the ice over the breakwater, carrying away the boathouse and smashing the keeper's rowboat. A new boat has been supplied, costing \$30.00.

BRITISH COLUMBIA LIGHTHOUSE DIVISION.

This division comprises all Canadian waters on the Pacific coast and is under the charge of Captain James Gaudin, agent of the department at Victoria, who also acts as inspector of lights.

There are in this province 16 light stations, at 6 of which are steam fog-alarms, and at 4 others bells rung by machinery. There are also two beacon lights in Victoria Harbour, and two similar lights in Nanaimo Harbour, which as aids to navigation are highly appreciated.

The lights are in charge of 18 light-keepers, some of whom supply assistance out of the salaries allowed.

The lights were supplied by the Dominion steamer "Quadra," Captain J. T. Walbran, master, and the fog-alarm machinery at the several stations received the annual inspection of the chief engineer of the "Quadra."

NEW AIDS TO NAVIGATION AND IMPROVEMENTS TO EXISTING AIDS.

Bare Point.—A lighthouse was erected on Bare Point, Horse-shoe Bay, Chemainus settlement, on the east coast of Vancouver Island.

The lighthouse stands on the extremity of the point, 24 feet back from the water's edge, and 12 feet above its level. The building consists of a square wooden dwelling, carrying a square wooden lantern on the apex of the cottage roof. It is 30 feet high from the sills to the vane on the lantern, and is painted white throughout.

The light is a fixed white light, elevated 36 feet above high water mark ; it should be visible 13 miles from all points of approach by water. The illuminating apparatus is dioptric of the 7th order, and will be visible about 10 miles.

Brotchy Ledge.—A beacon is in course of construction on the ledge.

Cape Beale.—This station, the westernmost of the lighthouses in the Dominion, is situated at the entrance of the easternmost channel leading into Barclay Sound. On account of recent discoveries of mineral wealth, this portion of the coast is attracting attention and is growing in importance. In order to meet the requirements of navigation, this has been made a signal station, where vessels can communicate by telegraph with their owners or agents. A set of signals and a powerful telescope have been supplied at a cost of \$50.00. An expenditure of \$100.00 has been incurred in putting the Bamfield Creek in a serviceable condition, giving access to the lighthouse by this means, when the ordinary landing is impracticable through bad weather.

Carmanah.—To add to the efficiency of this station, the keeper has invented a system of night signals by means of coloured lamps and has been given permission by the department to use it—this doubtless will prove of great benefit to navigation generally.

Scarcely a winter passes without this station giving relief to shipwrecked seamen, and for their benefit the government has provided a supply of blankets and medicines for their use.

An expense of \$70.00 has been incurred in clearing the boat landing from the accumulations gathered during the winter gales. The work was performed by day labour under the superintendence of Mr. Owen, chief officer of the "Quadra."

Race Rocks Light.—A permanent reservoir to replace the large wooden one rotten through age has been excavated out of the solid rock at a cost of \$416.00 for labour. This will prove permanent, cost less than a wooden one and is of larger capacity.

Fisgard Light.—An expenditure of \$300.00 has been incurred for steel shutters to protect the lantern from concussion when firing the heavy guns on Rodd Hill Battery, which is situated immediately behind the lighthouse. These shutters have proved highly satisfactory.

Discovery Island.—A supply of pickets has been provided to fence in the Government property, to keep out cattle and sheep, which proved troublesome.

East Point Saturna Island.—On account of the scant rainfall at this point, during the greater part of the year, it was found necessary to provide more water storage during the rainy season and three large tanks were obtained under contract from the Victoria Machinery Depot of Victoria, at a cost of \$219.55.

Sand Heads Fraser River.—Three protective pile beacons or dolphins have been established to the eastward of the lighthouse to protect the foundations against the drift timber and ice in stormy weather.

Marine and Fisheries—Marine Branch.

The light-keeper and his assistant have been instrumental in saving the lives of several fishermen during this season.

Point Atkinson.—The storing capacity of the reservoir for the fog-alarm has been increased by building the retaining walls three feet higher, this work was done by the crew of the "Quadra," with the assistance of a stonemason at a cost of \$12.

The Victoria and Nanaimo Harbour lights exhibited from beacons in the harbours, give good satisfaction and are highly appreciated by the local navigators.

The beacons have on several occasions been knocked down through careless navigation and re-erected at the expense of the navigator.

BUOYS AND BEACONS.

Parthia Shoal.—Marks to clear Parthia Shoal, in the first Narrows of Burrard Inlet, have been established.

Two masts are erected on Brockton Point, 90 feet southward of the bell tower, which, in one, mark the fairway south of the shoal. Each mast is 30 feet high and is painted white. The back mast stands 195 feet S. $72\frac{1}{2}^{\circ}$ E. from the front one.

Also, two masts, each 20 feet high, surmounted by a drum and painted white, erected on the south shore of the Narrows, the more easterly mast distant 1,500 feet S. $61\frac{1}{2}^{\circ}$ W. from Brockton Point bell tower, the more westerly mast distant $4\frac{1}{2}$ cables 24° W. from the east mast. These two masts on the south shore show the east and west limits of Parthia Shoal.

Beacon Rock.—A stone beacon 14 feet high, surmounted by a staff and lattice work ball 8 feet high, the whole painted black and showing 10 feet above high water, has been erected on Beacon Rock, in Nanaimo Harbour, Vancouver Island.

Clayoquot.—A rock with 8 feet on it at low water spring tides, situated in Brown-ing Passage, Clayoquot Sound, on the West Coast of Vancouver Island, has been marked by a red spar buoy.

The extreme north-east end of Stubbs Island Sand Spit, in the same vicinity, has also been marked by a small black iron can buoy moored in $2\frac{1}{2}$ fathoms.

False Narrows.—The best water in this strait, between Pylades and Northumber land Channels, has been marked by three single pile beacons and one spar buoy, all coloured red, and by two black spar buoys. This channel is dangerous but is much used as a short cut by masters of steamers having local knowledge. The depth at high water is only about 3 fathoms.

The whole respectfully submitted,

WM. P. ANDERSON,
Chief Engineer and General Superintendent of Lighthouses

1st December, 1897.

PART II

STATEMENT OF EXPENDITURE—STATEMENT OF REVENUE—CHIEF
ENGINEER'S REPORT—METEOROLOGICAL SERVICE—MAGNETIC
OBSERVATORIES—SIGNAL SERVICE—BOARD OF EXAMIN-
ERS OF MASTERS AND MATES—LIVE STOCK SHIP-
MENTS—STATEMENT OF WHARFS—LIFE BOAT
STATIONS—STATEMENT OF SICK MARIN-
ERS' DUES — MESSENGER PIGEONS—
REWARDS FOR HUMANE SERVICE--
STEAMBOAT INSPECTION.

Marine and Fisheries—Marine Branch.

APPENDIX No. 1.

GENERAL SUMMARY of Expenditure for Fiscal Year ended 30th June, 1897.

Service.	Amount.	Total.
	\$ cts.	\$ cts.
Ocean and River—		
Maintenance and repairs, Dominion steamers.	136,940 11	
Examination of masters and mates.	3,536 29	
Rewards for saving life &c.	5,955 19	
Investigations into wrecks, &c.	565 25	
Registry of shipping.	531 65	
Tidal service.	13,166 20	
Removal of obstructions on navigable rivers.	631 86	
Winter mail service.	21,931 05	
		183,257 60
Lighthouse and Coast—		
Salaries and allowances of lightkeepers.	202,726 78	
Agencies, rent and contingencies.	15,011 49	
Maintenance and repairs to lights, &c.	209,375 71	
Construction of lights.	10,910 30	
Repairs to wharfs.	1,795 56	
Signal service.	5,986 12	
		445,805 96
Scientific Institutions—		
Observatory, Toronto.	3,324 05	
do Kingston.	500 00	
do Montreal.	500 00	
Meteorological service.	63,073 66	
Hydrographic surveys.	12,352 99	
Longitude of Montreal.	243 42	
		79,994 12
Marine Hospitals—		
St. Catharines hospital.	500 00	
Kingston hospital.	235 80	
Sick seamen.	34,947 59	
Shipwrecked and distressed seamen.	2,301 31	
		37,984 70
Miscellaneous—		
Steamboat inspection.	26,837 83	
Hudson's Bay expedition.	19,091 32	
		45,929 15
FISHERIES.		
Salaries and disbursements of fishery overseers and fishery guardians.	99,731 64	
Fish breeding.	27,330 73	
Fishery protection service.	99,357 49	
		226,419 86
Building fishways, &c.	176 46	
Legal and incidental expenses.	3,910 51	
Canadian fishery exhibit.	829 29	
Distributing fishing bounty.	4,997 93	
Oyster culture.	4,359 49	
International Fisheries Commission.	1,355 92	
		15,629 50
Behring Sea award.	3,388 86	
Behring Sea commission.	30,207 26	
		33,596 12
Carried forward.		1,068,617 01

GENERAL SUMMARY of Expenditure for Fiscal Year ended 30th June, 1897—*Concluded.*

Service.	Amount.	Total.
<i>FISHERIES.—Continued.</i>		
	\$ cts.	\$ cts.
Brought forward.		1,068,617 01
Vessel to replace "Vigilant"		9,991 97
Newfoundland bait license fees.....		267 31
Steamer "Coquitlam"		1,046 02
Licenses United States vessels.....		479 32
Fisheries and yacht exhibition.....		389 99
Investigating charges against Government officers.....		1,243 74
F. C. Gilchrist.....		133 33
Fishing bounty.....		154,389 77
Civil Government salaries.....	62,438 05	
do contingencies.....	12,363 32	
		74,801 37
		\$1,311,359 83

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

A. W. OWEN,
Accountant.

Marine and Fisheries—Marine Branch.

APPENDIX No. 2.

STATEMENT of Revenue of Marine and Fisheries Department for the Fiscal Year ended 30th June, 1897.

Service.	Amount.
	\$ cts.
Casual Revenue (sale of shipping forms, \$102.75; sundries, \$5,250.87).....	5,353 62
Capes mail service.....	439 07
Dominion steamers.....	9,543 12
Examinations masters and mates.....	3,754 00
Fines and forfeitures.....	125 00
Harbours, piers and wharfs.....	9,491 73
Cattle inspection.....	2,150 11
Steamboat engineers' certificates.....	699 50
	31,556 15

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

A. W. OWEN,
Accountant.

APPENDIX No. 3.

ANNUAL REPORT OF THE CHIEF ENGINEER OF THE DEPARTMENT OF
MARINE AND FISHERIES.

The Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit a report of the work done by the various branches under my control during the past ten months. This embraces most of the technical work at the department's headquarters, including the construction and maintenance of lighthouses, lightships, fog-alarms, buoys and beacons; the supervision of construction and repairs of Dominion steamers, construction and repairs of life-boats and life-boat stations; the administration of the vote for the removal of wrecks and obstructions in navigable waters; tidal and current surveys; hydrographic surveys in Canadian waters, and the publication, examination and correction of hydrographic charts; construction and repairs to fish hatcheries; engineering points in connection with the maintenance of fish-passes; supervision of surveys of oyster beds; examination of applications for foreshore, wharf and water lots as they affect the interests of navigation; preparation and publication of notices to mariners and hydrographic notes, &c.

There are special staffs appointed for the tidal observation work and for the hydrographic survey work; the remainder of the work of the branch is attended to by the general staff of the office.

OFFICE WORK.

A large proportion of the work done by this general staff consists in the construction and maintenance of light buildings and other aids to navigation. Full details of the work done in this connection last year are contained in the annual report of the Deputy Minister. Plans and specifications for all important new buildings and repairs are made or supervised in Ottawa.

The following table indicates the work done in the draughting room during the past ten months:—

Land surveys.....	30 plans received.	6 plans designed.	39 copies made.
Lighthouse towers and dwellings....		14 “	47 “
Wharfs, piers, &c.....	4 “	3 “	7 “
Fog-alarms.....		1 “	4 “
Outbuildings.....		1 “	3 “
Details.....	3	3 “	5 “
Buoys and apparatus.....		3 “	32 “
Machinery.....	4 “		
Oyster areas.....	2 “		2 “
Charts.....	1 “	1 “	
Charts under construction.....		1 “	
Miscellaneous.....	12 “	2	33 “
Total plans for 10 months to October 31st, 1897.....			262
Charts received and recorded.....			40
“ “ “ entered in chart book.....			33
Photographs received and recorded.....			18
Specifications written.....			19
Notices to mariners issued (comprising 116 subjects).....			53

I desire to place on record my appreciation of the assistance at all times rendered me by all the members of my staff. The work of the office was greatly interfered with and increased, and has since been seriously hampered, by the fire of

Marine and Fisheries—Marine Branch.

the 10th February last, which drove the department temporarily out of the West block, and which destroyed the draughting rooms of my branch. Thanks to the prompt and intelligent action of my assistants all the valuable plans, specifications, and title deeds in the branch were saved, but the office furniture and receptacles for the records were lost, and much work and confusion ensued in consequence, and we are still very much cramped for room and filing receptacles. The necessity for fireproof accommodation for our records is evidenced by the fact, to quote only two illustrations, out of many that might be offered, that if the field notes of the Bay of Quinté survey or of last year's work by Mr. Stewart on Lake Erie had been burned, work that cost in the one case \$5,000 and in the other \$20,000 would have been entirely and irrecoverably wasted.

Mr. W. H. Noble, foreman of works at headquarters, was employed throughout the winter and early this summer on important repairs to light stations in Ontario, and has been occupied since July in erecting buildings and making preparations for the installation of fog sirens on the island of Belle Isle. The machinery for the fog signal is being manufactured under the direction of the English Trinity House and when completed and installed will doubtless be the most efficient and powerful fog signal in Canada.

PERSONAL INSPECTIONS.

During the past year I have, as in former years, made several inspection trips to different parts of the lake and sea-coasts, for the purpose of locating new lights, surveying lighthouse sites, inspecting light buildings or investigating complaints. In February last I visited Gannet Rock light station in company with Captain Spain, to examine the working of the light in consequence of complaints made against it on the occasion of the wreck of the SS. "Warwick."

In August I visited Partridge Island station and investigated into complaints made by St. John pilots and others against the present fog signal, a 10-inch steam whistle. A number of experiments were instituted with a view to comparing the efficiency of this whistle with other forms of whistles and with whistles differently located. The results of these investigations proved that any aberrations in sound were caused by topographic conditions which could not be overcome by any change in the instrument or by any slight change in its position.

In September I visited Lake of the Woods, surveyed a lighthouse site, located two others and generally inspected the whole of the most important channels of the lake and the navigation of Rainy River to Fort Frances. In consequence of the rapid development of this part of Ontario, through settlement, lumbering and mining, a large steamboat trade has sprung up on Lake of the Woods and Rainy River which requires considerable assistance in the form of improved aids to navigation.

BUOYAGE.

In last year's report I explained that it was the aim of the department to gradually replace wooden lighthouses and foundations by structures made of more durable materials. Pursuing the same policy in connection with our coast buoys we are gradually replacing the wooden buoys heretofore used by larger iron and steel buoys. A contract has lately been let for the construction of thirty-nine steel can and conical buoys to be distributed to our several agencies for use as spare buoys and to replace worn-out buoys. The aggregate cost of these buoys will be \$5,192.

The buoyage of Dominion waters has grown rapidly and there are now about 300 districts, comprising harbours, bays, navigable rivers and lakes marked directly by the Dominion of Canada with about 3,000 buoys of various kinds.

Nearly all the larger buoys on the more exposed portions of the coast, and all gas buoys, whistling buoys and bell buoys are maintained directly by this department, the government steamers under the control of our agents being utilized as buoy tenders. In Quebec, fifty buoys, including ten gas buoys are so maintained;

in Nova Scotia, thirty-one signal buoys are kept in position and twenty-four steel buoys are directly under the agency; in New Brunswick, nine signal buoys and a number of can buoys are under departmental control; in Prince Edward Island three signal buoys, and in British Columbia about sixty buoys of various descriptions are maintained by the agency.

In some districts the harbour masters attend to the buoyage; in others, buoys are under the control of local harbour boards and in these cases I have not yet been able to get a list of the buoys. In the remaining cases buoys are maintained under a contract system, the contractors undertaking to maintain the buoys according to a strict specification, for a bulk sum per annum. These contracts usually run for a period of three years. There are about 180 contracts now in force. The work in connection with the maintenance of the buoy service and the preparation of contracts is attended to by Mr. W. W. Stumbles. Appended (Inclosure A) is a preliminary list of the buoys in the Dominion, under departmental control.

In addition to the buoys, there are a large number of unlighted day beacons on our coasts but I have not yet been able to obtain a correct list of them.

REMOVAL OF OBSTRUCTIONS.

The vote for the removal of obstructions, administered by this branch, was utilized to a large extent this year, as will appear from the following tabular statement of wrecks and other obstructions successfully removed:—

Obstruction.	Locality.	Removed by	Cost.	
			\$	cts.
"Little Wissahickon".....	Lake Erie.....	D. G. S. "Petrel".....	43	50
"British Eagle".....	New London, P.E.I.....	M. Reid.....	274	74
Wreck of boat.....	Tignist, P.E.I.....	E. Gallant.....	20	00
Boulder.....	Parrsboro'.....	E. W. Beatty.....	5	60
"Sturgeon".....	Wallace, N.S.....	J. D. Patton.....	59	75
"The Princess".....	Charlottetown.....	D. Small.....	155	85
Securing floating bog.....	Rat Portage.....	J. W. Short.....	16	44
Str. "Cottrell".....	Detroit River.....	Michigan Wrecking Co.....	400	00
"Adams".....	Lake Erie, near Colchester Reef.....	do do.....		
"Grand Traverse".....	Colchester Lighthouse.....	Pfhol & Son.....		
"Murray".....	Port Stanley.....	D. G. S. "Petrel".....		
Old hull.....	Bear River, N.S.....	George R. Weir.....	33	00
"Maple Leaf".....	Kingsville, Ont.....	Owner.....		

HYDROGRAPHIC SURVEYS.

The hydrographic survey of the Great Lakes has made good progress during the present year. The steamer "Bayfield" has been employed during the season as usual. Mr. Stewart completed the survey of Lake Erie in July as expected, and then resumed the survey of Lake Huron, being occupied chiefly between the Duck Islands and False Détour. I submit herewith, (Inclosure B.) his report of progress to 31st October. Mr. George W. Hyndman, of Charlottetown, was added to his staff when the "Bayfield" was commissioned last spring. I have to draw attention to Mr. Stewart's report on the condition of the surveying steamer. It is probable that extensive repairs will be necessary to fit her for next season's work. Mr. Stewart will, it is hoped, complete two fair sheet plans of this year's work on Lake Erie, early in the winter, to add to the sheets already submitted. They will be forwarded when completed to the Admiralty, which has published all the charts of surveys recently made on the lakes, and from the three sheets and the American

Marine and Fisheries—Marine Branch.

survey of the south shore, a complete chart of the lake correct to date will doubtless be prepared for the use of mariners.

A fair sheet chart of the eastern part of the Bay of Quinté, from Kingston to Deseronto, has been completed, and it is proposed to have the same issued under the auspices of the Admiralty.

The master of the Dominion steamer "Quadra" has this year forwarded several hydrographic notes concerning British Columbia waters, including the location of several rocks and corrections of existing charts. The results of his work have from time to time been communicated to the hydrographers of Great Britain and the United States, and embodied in our notices to mariners.

TIDAL OBSERVATION WORK.

In consequence of the material reduction of the vote for the tidal and current survey, it was necessary to abandon for the season all work in connection with observations of current. The sum allotted for the service barely suffices for the maintenance of the seven tide gauges previously established; and to utilize the records obtained from them, which are yearly increasing in value, some help will have to be given the engineer in charge, and some additional outlay incurred to pay for computation. It is also important that tidal differences for the regions commanded by these gauges should be determined while they are all in good working order. This would require the placing of temporary gauges during the summer season. A beginning was made at this in 1896. Mr. Dawson spent the summer in visiting and inspecting the several tide gauge stations. His report of progress for the season is hereto annexed. (Inclosure C.)

I am particularly anxious to have an investigation of the currents between Cape Breton Island and Cape Race undertaken, as soon as the necessary funds and a steamer can be allotted for the work. The large number of wrecks that have occurred on the south-east shore of Newfoundland and the concurrent testimony that there is a strong draught in that direction emphasize the fact that such an investigation would have eminently practical results.

The expenditure on the survey of tides and currents to date is given below. In these amounts there is no charge for the steamer used in the survey during three months in the seasons of 1894, 1895 and 1896; but the anchorage appliances and equipment for the survey are included. The amounts also include the original construction of the principal tidal stations and the recording instruments for them, maintenance and supplies for these stations, salaries of observers, the expense of the observations at the temporary stations during the summer season of 1896, with travelling expenses and incidentals, and also the cost of reducing the results of the observations and calculating tide tables from them, so far as this has yet been done.

Fiscal year	1891-1892.....	\$ 711 59
do	1892-1893.....	5,099 17
do	1893-1894.....	10,187 91
do	1894-1895.....	11,507 24
do	1895-1896.....	9,627 45
do	1896-1897.....	7,134 56
Voted for	1897-1898.....	2,500 00

Last spring, application was made to the Canadian Government by the United States Coast and Geodetic Survey office for permission to land a party at Seymour Narrows, on the east coast of Vancouver Island, for the purpose of obtaining tide gauge records at this point, in the general interests of commerce and navigation, their Pacific coast tide tables requiring data which could only be conveniently obtained by taking observations in the Narrows for an extended period. I understand that a party has been located at this place during the past year. I also learn that the publishers of the British Columbia Almanac are indebted to the United

States Government for the tide tables of British Columbia waters which they issue. I beg to draw attention to the desirability that tidal observations in British Columbia waters should be made and the records reduced for use by our own service. We have been supplied with two years' records of the tide gauges maintained by the Department of Public Works at the Fraser River and Victoria, the latter station lately transferred to Esquimalt. If these records could be worked out they would probably give results more accurate than anything yet obtained respecting British Columbia tides, which are very irregular and very interesting.

Respectfully submitted.

WM. P. ANDERSON,
Chief Engineer.

31st October, 1897.

[Inclosure A.]

LIST OF BUOYS MAINTAINED BY THE DEPARTMENT OF MARINE
AND FISHERIES IN CANADIAN WATERS.

ONTARIO.

Amherstburg	33
Bay of Quinté (three contracts)	31
Bois Blanc.....	7
Burlington Bay.....	..
Byng Inlet.....	..
Collingwood	14
Fiddler's Elbow	1
French River .....	..
Gananoque Narrows	5
Georgian Bay	11
Green Shoal	1
Grosse Point	6
Kaministiquia.....	10
Kennedy Shoal.....	1
Kingston	16
Little Current	6
Lake of the Woods	144
Lone Rock, bell buoy	1
Midland	6
Murray Canal and Presqu'île Bay	23
Napanee.....	14
Niagara, bell buoy.....	1
Orillia.....	6
Owen Sound.....	..
Parry Sound	17
Pembroke	20
Point Pelee, gas buoys	2
Port Rowan.....	10
River Thames.....	7
Rondeau	6
Lake Nipissing.....	32
Snake Island.....	..
Sault Ste. Marie.....	20
do Canal Approaches.....	24

Marine and Fisheries—Marine Branch.

ONTARIO—Continued.

Trenton	11
Point au Baril.....	18
Surprise Shoal, bell buoy.....	1
Penetanguishene.....	10
Red Horse Rock.....	1
St. Joseph's Channel.....	4
Port Arthur.....	1
Lake Simcoe.....	8
Pancake Shoal, bell buoy.....	1
Tin Cap Shoal.....	2

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QUEBEC.

House Harbour, Magdalen Islands.....	6
Bersimis and Outarde Bay.....	10
Carleton Point.....	1
Chicoutimi.....	13
Cock Point.....	1
Gaspé.....	5
Lachine and Lake St. Louis.....	23
Lake St. Francis.....	36
Matane.....	...
New Richmond.....	3
Paspebiac.....	1
Percé.....	2
Richelieu River (two contracts).....	42
Rivière des Prairies.....	10
Rivière Ouelle.....	...
St. Roch des Aulnaies.....	...
St. Thomas.....	8
North Channel, Island of Orleans.....	10
Cape Cove.....	6
Bonaventure.....	1
St. Lawrence River between Montreal and Quebec.....	264
Eschourie Rock.....	1
Grand Entry.....	5
Amherst Harbour.....	8
Richelieu Rapids, bushes.....	...
Maintained by Agency, gas buoys.....	10
“ “ smaller buoys.....	40

506

NEW BRUNSWICK.

Bathurst.....	26
Bay Verte.....	30
Beaver and Black's Harbour.....	9
Bay du Vin.....	4
Belleisle.....	4
St. John River.....	68
Black Land Gully.....	12
Buctouche.....	15
Campobello.....	10
Caraquet.....	20
Cocagne.....	11

NEW BRUNSWICK—Continued.

Dalhousie and Restigouche	9
Didgequash	5
Dorchester	3
Grand Lake and Salmon River	68
Grand Manan	24
Great Shemogue	7
Harvey	7
Letete and Back Bay	21
Lepreaux	3
Little Shemogue	6
Little Shippegan and Miscou	8
Magaguadavic	13
Miramichi	14
Musquash	7
Neguac	12
Oak Bay and Restigouche	6
Oromocto	14
Pisarinco	5
Quaco	3
Richibucto and Albion	28
Richibucto, Kingston and Brown's Yard	50
Shediac	11
Shippegan	16
St. Andrews	14
St. Croix Ledge	11
Tabusintac	17
Tracadie	19
Washadamoak	2
West Isles	22
Maquapit and French Lakes	24
Grande Anse	4
Petit Rocher .....	...
North West Arm Miramichi	6
Marsh Point	1
Dipper Harbour	3
Buctouche River	18
Tynemouth Creek	2
Maintained by Agency. Signal buoys	9
do Can buoys	2

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PRINCE EDWARD ISLAND.

Bay Fortune	3
Beach Point	3
Bedeque	11
Cardigan, Lower	5
Cardigan, Upper .....	...
Cascumpec	26
Charlottetown	42
Cove Head	2
Crapaud	6
East River	16
Egmont Bay	10
Georgetown	13
Goose Harbour	2

Marine and Fisheries—Marine Branch.

PRINCE EDWARD ISLAND—Continued.

Grand River.....	10
Indian Rocks.....	1
Malpeque.....	7
Miminegash.....	3
Little Channel.....	2
Montague.....	6
Murray Harbour.....	26
New London.....	20
Orwell and Vernon River.....	6
Pinette.....	5
Rollo Bay.....	3
Rustico.....	5
Savage Harbour.....	2
Souris.....	4
St. Peters Harbour.....	8
Summerside.....	11
Tracadie.....	3
West Point.....	1
Wood Island.....	1
Egmont Bay.....	2
Brae Harbour.....	3
Maintained by Agency. Signal buoys.....	3

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NOVA SCOTIA.

Advocate Harbour.....	5
Apple River.....	8
Arichat.....	16
Avon River.....	5
Barrington.....	35
Bear River.....	12
Beaver Harbour.....	2
Birchton.....	5
Canso and St. Andrews Passage.....	26
Cape Negro or North-East Harbour.....	14
Caribou.....	6
Cheticamp.....	12
Chezzetecook and Petpiswick.....	6
Christmas Island and Barra Strait.....	11
Clarks Cove, West Bay.....	3
Clarks Harbour.....	15
Cockerwit Pass and Woods Harbour.....	15
Crow Harbour.....	3
D'Escousse.....	8
Chester.....	5
Digby and Annapolis.....	7
Dover.....	3
Great Bras d'Or.....	4
Guysborough.....	3
Hay Cove.....	8
Ingonish, South Bay.....	8
Isaacs Harbour.....	11
Janvrin.....	4
Jeddore.....	11
Ketch Harbour.....	13

NOVA SCOTIA—Continued.

L'Ardoise.....	3
La Have.....	8
Lennox Passage.....	16
Little Narrows.....	10
Liverpool.....	3
Lockport.....	6
Lunenburg.....	9
Lunenburg, South.....	9
Lunenburg, Middle South.....	16
Louisbourg.....	6
Mabou.....	12
Mahone Bay and Chester.....	13
Main-à-Dieu.....	6
Margaree Harbour.....	9
Martins Brook.....	6
Merigomish.....	6
Monsellier.....	10
McKinnons Harbour.....	4
Musquodoboit.....	5
Northport.....	11
North Sydney.....	5
Parrsboro.....	6
Petit de Grat.....	11
Pictou.....	1
Popes Harbour.....	3
Port Hood.....	6
Port Le Tour.....	11
Port Medway.....	9
Pubnico.....	15
Pugwash.....	8
River John.....	3
St. Anns.....	2
St. Marys River.....	8
St. Peters Bay.....	16
St. Peters Inlet.....	11
Sambro.....	9
Shag Harbour.....	12
Sheet Harbour.....	9
Shelburne.....	10
Tatamagouche.....	18
Terrence Bay.....	3
Three Fathom Harbour.....	5
Tidnish.....	5
Tusket.....	17
Upper Prospect.....	4
Wallace.....	5
West Bay.....	3
Westport.....	3
Weymouth.....	13
Whitehead and Torbay.....	32
Yarmouth.....	50
Smiths Island.....	1
Ship Rock.....	1
Harbour au Bouche.....	1
Sydney.....	2
Shulee.....	8

Marine and Fisheries—Marine Branch.

NOVA SCOTIA—Continued.

East Bay Bras d'Or.....		1
Port Felix.....		7
Maintained by Agency.....	(Whistling buoys)	17
“ “	(Bell buoys)	14
“ “	(Can buoys)	24

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BRITISH COLUMBIA.

Gossip Reef	(Wooden can)	1
Gabriola Reef.....	(Iron can)	1
Lighthouse Island	(Wooden can)	1
Point Grey.....	(Iron can)	1
Spanish Bank.....	(Wooden can)	1
Sturgeon Bank	(Iron nun)	3
Jesse Island	(Wooden can)	1
Horsewell Reef.....	(“ “)	1
Reef Point, M.I.....	(“ “)	1
Clarke Rock.....	(“ “)	1
Qualicum.....	(“ “)	1
Comox Bar 1.	(“ “)	1
Comox Bar 2.....	(“ “)	1
Kelp Reef	(Spar)	1
Burnaby Reef.....	(“)	1
Kelp Point, Baynes Sound.....	(“)	1
Village Point “	(“)	1
Somass R. Alberni.....	(“)	5
Victoria Harbour.....	(Wooden cage)	3
“ “	(Wooden can)	1
Esquimalt Harbour.....	(“ “)	1
“ “	(Iron nun)	1
Nanaimo	(Wooden cage)	10
Sand Heads, Fraser River.....	(Iron)	10

50

[Inclosure B.]

HYDROGRAPHIC SURVEY,
OTTAWA, 6th November, 1897.

W. P. ANDERSON, Esq.,
Chief Engineer,
Department of Marine and Fisheries.

SIR,—In connection with the Hydrographic Survey of Canada, I have the honour to report as follows:—

The whole winter of 1896-97 was taken up in the preparation of fair sheets for the engraver. Two copies of the sheet “Port Colborne to Long Point, Lake Erie,” were finished and sent, one to the British Admiralty and one to the U. S. Hydrographer at Washington.

Besides these two copies of “Long Point to Pointe aux Pins” have been partially completed.

On 24th April Mr. G. W. Hyndman, of Charlottetown, P.E.I., was appointed assistant and has performed the duties assigned him in a careful manner.

On 26th April the steamer "Bayfield" with complete party of five officers, two engineers and eighteen of a crew on board, left Owen Sound for Lake Erie, this being the earliest start yet made by the survey.

The work of the previous autumn was continued west to Pelee Point during the months of May, June and July, when the survey of the Canadian shore of Lake Erie was finished.

During these months 50 nautical miles of shore line was traversed, 500 miles carefully sounded from boats over shallow water, and 1,200 miles sounded from the vessel to an average distance of twelve knots from the shore or as far out as fixings could be obtained.

Off the shore of Lake Erie surveyed this season very few shoals were found, none between Pointe aux Pins and Pelee Point, and only half a dozen within a mile of the shore between Morpeth Pier and the village of Clearville.

A careful survey was made of Rondeau Harbour, the only harbour of refuge between Pelee Point and Long Point, and it was found that the anchorage space will only accommodate one small vessel of moderate draught, as the shallow bank from the bottom of the bay is gradually extending south. The water between the piers is holding its own very well, but at certain directions of the wind it is extremely difficult to make fast to the piers or to hold on.

A meridian distance was run between Rondeau Harbour and Pelee Island, using three box chronometers and observing with a Hadley sextant on alternate days at each point, for six days. The meridian distance was found to be 46' 44" 7", giving the longitude of Rondeau Lighthouse 81° 54' 17" 8" west from Greenwich.

The latitude and longitude of the observation spot at Pelee Island have been taken from the survey of northern and north-western lakes by the United States corps of engineers.

Observations for the latitude of Rondeau Main or Back Lighthouse were taken upon 8 nights, with an eight-inch transit theodolite, giving a mean result of 42° 15' 32" 3" north.

The hydrographic survey of the Canadian shore of Lake Erie has taken two seasons and a half to complete, and has cost \$38,608.95.

There were traversed 350 nautical miles of shore line, sounded from boats over the shallow or dangerous water 1,500 miles, and from the vessel 3,000 miles, as far out from shore as fixings could be obtained.

Between Port Colborne and Long Point some very dangerous and little known shoals and banks have been carefully and accurately charted. A survey of this portion of the lake was very much needed, and no doubt the new chart will prove of great value to the marine interests.

Between Long and Pelee Points there are no outlying dangers, and a captain using his lead in thick weather should never get into trouble.

It is intended to publish this survey in two coast sheets, the eastern one to embrace the east end of the lake as far as the west end of Long Point, and the other taking in the remainder. The first sheet should be on sale before the opening of navigation in 1898.

During the first week in August a move was made to the south shores of Cockburn and Grand Manitoulin Islands, Lake Huron, and a survey of the water between Drummond Island and Duck Islands, including False Detour Channel and Mississauga Strait, started. In this area are many dangerous and little known reefs, notably the Magnetic Reefs off the south-east shore of Cockburn Island, in the approach to Mississauga Strait. There are also many dangers in the channels through the Duck Islands that have never been charted. Whilst these have been omitted, one shoal has been placed on the chart $1\frac{1}{2}$ miles off the south-east entrance to Mississauga Strait, where no shoal exists. In this area, that has been only partially surveyed, 50 miles of shore line have been traversed, 500 miles sounded from boats and 300 miles from the vessel in the deeper water. It is intended to carry out the soundings to a distance of ten knots from shore.

No observations for latitude or longitude have as yet been taken in this vicinity.

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Careful observations for the declination of the magnetic needle were obtained, at False Detour Channel, Burnt, Great Duck and Outer Duck Islands and also at Cove Island and Owen Sound, with a new field unifilar magnetometer. These reliable declinations will no doubt prove of great value in the preparation of future isogonic charts of the locality.

The weather, upon which so much depends with us, has been very fair. During the whole season we had no gales and few strong winds that completely stop work.

During the coming winter, the time of my assistants and self will be fully taken up in the completion of the roughs of the season's work, the preparation of fair copies for the engraver and the publication of a second edition of the "Georgian Bay and North Channel Pilot."

On October 25th the steamer and party reached Owen Sound, of which harbour I made a careful resurvey, as many changes have been made there since the last. The steamer has been laid up there and the crew paid off on October 30th, making the longest season in the history of the survey.

I have the honour to be, sir

Your obedient servant,

WM. J. STEWART,
Hydrographic Surveyor.

(Inclosure C.)

SURVEY OF TIDES AND CURRENTS IN CANADIAN WATERS.

OTTAWA, 6th November, 1897.

W. P. ANDERSON, Esq., C.E.,
Chief Engineer,
Department of Marine and Fisheries.

SIR,—I have the honour to submit the following report on the progress of this survey. A general examination of the currents in the Gulf of St. Lawrence has been carried on by this survey in the three seasons of 1894, 1895 and 1896, by which the currents in the interior of the Gulf, and in the straits connecting it with the ocean, have been examined with special reference to the leading steamship routes which pass through it in various directions. The investigation has included the currents found at the three angles of the Gulf, namely, (1) in Cabot Strait which forms the main entrance to the Gulf, between Cape Breton and Newfoundland; (2) in the Strait of Belle Isle; and (3) at the entrance to the St. Lawrence and around the Island of Anticosti. The currents met with in the open Gulf have also been examined and their direction traced; and much information has been collected from seamen and fishermen as to the currents, and with reference to the drift of the ice in winter and spring. The character of these currents as ascertained, and the nature of the general circulation in the Gulf in relation to the St. Lawrence River and to the Ocean, are described in my last Report of Progress dated 26th January, 1897. (See the annual report, Department of Marine for 1896; pages 70 to 105.) The behaviour of the current in the Strait of Belle Isle is more fully given in the previous Reports of Progress dated 31st October, 1895, and 13th April, 1896. (See annual report, Department of Marine for 1895; pages 80 to 87, and Plate I.)

The United States Hydrographic Office have drawn attention to the results obtained by this survey, by republishing a diagram and explanation of the nature of the current in the Strait of Belle Isle, in their "Pilot Chart for the North Atlantic" for the month of March, 1897; and also a summary on the "Current circulation

within the Gulf of St. Lawrence" in the "Pilot Chart" for July, 1897. A "Notice to Mariners" based upon the information obtained, was also issued by the United States Hydrographic Office in January, 1896. Two extended summaries of the Reports of Progress have now been given in the "Annals of Hydrography and Maritime Meteorology" by Dr. Schott, of Hamburg. The reports have also been reviewed in the "Scottish Geographical Magazine;" the "Annales de Géographie," Paris; and Dr. Petermann's "Mittheilungen," Germany; and the work has been favourably noticed in the "Journal of Commerce," of Liverpool. A short review of the work from its inception, and of the results arrived at, appeared in "Nature," London, 22nd April, 1897.

Little attention has yet been given to the currents in Northumberland Strait and around Prince Edward Island; or to the tidal currents of the Lower St. Lawrence from Anticosti to Quebec, as some knowledge had first to be obtained of the Gulf currents and their relation to the ocean. A further examination of the currents in the Strait of Belle Isle is also desirable, to obtain more complete data for its tidal character. The work has been carried on with the assistance of one of the supply steamers of the lighthouse and buoy service, which has been placed at the disposal of this survey for the three months of July, August and September, in each season, which was as long as it could be spared from its other duties; but it has proved unsuitable for the purpose, as it is so slow and unwieldy as to add materially to the difficulty of carrying out the work to advantage, and the time allowed cuts the season too short, even with the best endeavour to take advantage of every available day, and to make the observations continuous day and night. The further survey of the currents was discontinued this season to save expense to the department; and when it is resumed, a steamer of suitable character and properly equipped for the purpose should be made available for the work; and in some regions one or two schooners, if properly fitted out, could be used with advantage as auxiliaries.

The regions in which the currents most require investigation at present, are on the south coast of Newfoundland and in the Bay of Fundy. On the south coast of Newfoundland it is reported that there is a strong indraught into the larger bays, and to this several wrecks are attributed. The distance from shore that this is felt, and the conditions of wind and tide which give it the greatest strength, should be ascertained; as two of our leading steamship routes follow this coast. I had the opportunity this season of obtaining some preliminary information which will serve as a guide in carrying out this investigation. In the offing of Cape Race, the variation in the Arctic current should be better understood, for information of inward-bound vessels; and no detailed examination has yet been made of this current further north, off the outer end of the Strait of Belle Isle, for the assistance of vessels in making that strait. The currents on the south-western coast of Nova Scotia and at the mouth of the Bay of Fundy have also much importance, and to obtain the necessary tidal data for comparison, a tide gauge should be established at Yarmouth without further delay. In the upper part of the Bay of Fundy, and its arms, the currents are probably more nearly parallel with the coast line, as on the Lower St. Lawrence; but on the other hand, the navigation being entirely dependent on the tide, it comes to be of the first importance to determine the time and height of the tide itself correctly. An examination of these currents should be made while the principal tidal stations now established continue in good working order, as the currents are chiefly tidal, and their behaviour can only be ascertained by direct comparison with a tidal record.

TIDE TABLES FOR 1897.

A marked advance has been made in the amount of tidal information issued during the present year; and this is largely the result of the additional data obtained by the summer observations of 1896. During that season, tidal observations were obtained under the supervision of Mr. H. M. Mackay, at twelve points throughout the south-western portion of the Gulf, extending from Chaleurs Bay along the New

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Brunswick coast and around Prince Edward Island, to Cape Breton Island; as detailed in the last Report of Progress. A large amount of work was involved in the reduction of these observations; as comparisons had to be made between the tides at these points and several of the principal tidal stations; notably the stations at Halifax, St. Paul Island and Anticosti, in order to ascertain to which of these stations the tides in the south-western half of the Gulf of St. Lawrence could best be referred. The observations also covered a sufficient extent to enable the general progress of the tide to be traced throughout this region. It was found that the general course of the tidal undulation which passes across the Gulf from Cabot Strait to the entrance of the St. Lawrence, is complicated by a return undulation; and that this makes the time of the tide nearly simultaneous along the north coast of Prince Edward Island; and this appears also to explain an irregularity known as diurnal inequality which occurs in Northumberland Strait.

The outcome of the investigation was to show that the time of the tide in this region cannot be correctly obtained by a constant difference from a port on the Atlantic coast such as Halifax; but that these tides can best be referred to the station at St. Paul Island, where the tidal undulation enters the Gulf from the Atlantic. The comparison of the observations with that station have furnished a valuable set of tidal differences for the harbours of this region, which will become available when the tidal data for St. Paul Island itself are worked out.

The ports which can be referred to that station include Miramichi Bay, Cape Tormentine, Charlottetown, Pictou, and Souris; and also St. Peter's, Rustico, and Alberton, on the north coast of Prince Edward Island. All of these ports have railway communication, and several of them have the importance of a railway terminus. It was also found that Pictou was the best port of reference for Northumberland Strait, as the tides at Charlottetown are more irregular, either because of wind disturbance, or because of interference from the tide entering the western end of the strait. This is important with reference to the tidal currents in the strait. In the Shediac region, from Richibucto towards Cape Tormentine, the tides are confused, and have at times so small a range as to be scarcely appreciable. In Chaleurs Bay, the tides can be referred to the station at South-west Point, Anticosti, and thus to Quebec. The range of the tide at Carleton, Que., at the head of the bay, is nearly 10 feet; and at Charlottetown, where the highest tide in Northumberland Strait occurs, the extreme range is nearly 9 feet.

The importance of St. Paul Island in commanding this region thus became evident. As the interruptions there have been serious, owing to the difficulty of maintaining a tide gauge in so exposed a situation, the best continuous record yet available was found to extend from October, 1895, to November, 1896, or one complete year. Any breaks in the tide curves were filled by interpolation, the record was carefully reduced to a uniform datum, and forwarded to the Nautical Almanac office for analysis, and the determination of the constants necessary for the calculation of tide tables for that station; and from these, tide tables for the ports above referred to, can be deduced by direct differences.

In order to make the tidal observations of 1896 immediately available for the present season of navigation (1897), a provisional series of tidal differences was worked out, between Pictou and Halifax. From the simultaneous record obtained from the self-registering tide gauges at the two ports, it appeared that the actual difference in the time of high water between these two places was far from constant; as the time of high water at Pictou was found to range from 0h. 53m. to 3h. 23m. later than at Halifax. This range in the difference is largely due to the diurnal inequality which occurs at Pictou; and it serves to show that such tide tables as have been prepared in the past for ports within the Gulf must necessarily be far from correct, when they are based upon a *constant* difference from a port on the open Atlantic. This difference varies regularly, however, between the above limits, in accordance with the declination of the moon; and, without entering into technicalities, it will be sufficient to mention that it was thus found possible to use a *variable* difference as a sliding scale by which to calculate the Pictou tides from the tide tables already prepared for Halifax. The Charlottetown tides were in turn calcul-

ated by means of a constant difference from Pictou, which was the average difference in the time of high water, as found from four months' simultaneous observations from the self-registering gauges of 1896.

In the St. Lawrence River, above Quebec, tide tables were computed for Ste. Croix bar, which is at present the shallowest point in the ship channel, until the dredging operations now in progress are completed. These tables are derived from the tide tables for Quebec, by means of a series of differences in the time of high water and low water, in which allowance is made for the change of level of the water in the St. Lawrence with the progress of the season. Tide tables were also prepared for Father Point, the St. Lawrence pilot station, by means of a constant difference in the time of the tide from Quebec, derived from the simultaneous records of the tide gauges during the two complete years, 1895 and 1896.

The reduction of the observations of the previous season, and the preparation of the above tide tables for the pre-ent season of navigation, was completed before the services of my two assistants were dispensed with in March last. This is the first time that reasonably reliable tide tables have been available for any ports within the Gulf of St. Lawrence, with the exception of Quebec itself; and these tables also enable masters of vessels and pilots to infer with some certainty the direction of the tidal currents which they may expect to meet with, when they know the relation of the current to the tide in Northumberland Strait and in the Lower St. Lawrence. As Pictou has proved to be the best port of reference for Northumberland Strait, the tidal observations have been continued there this season; as this could be done at little more than a nominal expense, as the appliances required were all on hand from the previous season.

The tide tables issued for 1897, and the records on which they are based are as follows:—

Halifax.—The further tidal record found to exist for the years 1851 and 1852, was incorporated with the record of 1860 and 1861 previously analyzed, and the tables for 1897 were calculated from the revised tidal constants derived from the four years' observations.

Quebec.—The tide tables up to this year, are still based upon the record of one full year; namely November, 1893, to January, 1895.

The tide tables for Halifax and Quebec, accompanied with tidal differences for other places, were furnished to the leading British and Canadian almanacs for publication. These tables for a month at a time, have also appeared daily in the *Quebec Chronicle*, with due acknowledgment to this department. The earlier tidal constants for Halifax have also been communicated to the United States Coast and Geodetic Survey, as the basis of calculation for their tide tables for Halifax. Tide tables for Quebec have not yet been published in the United States tables; but the tides of the St. Lawrence are there referred to other ports of reference, some of which are far distant.

Ste. Croix Bar.—These have been issued in company with the tide tables for Quebec, by the Montreal Harbour Commissioners, in their publication entitled "Tide Tables and other information connected with the Ship Channel between Montreal and Quebec;" prepared for the use of the St. Lawrence pilots.

Father Point, the Pilot Station.—Tide tables were prepared in manuscript, and posted at the lighthouse at Father Point, where they are accessible to all the pilots. The secretary of the Pilots' association of Quebec was notified of this; and the tables themselves have been much appreciated by the pilots.

Charlottetown.—Prepared as above described. To save expense of printing, the tables were type-written only; and copies posted at the agency of the department, and the custom house. Supplied also for publication to the following papers:—*The Patriot, The Guardian, The Examiner, The Herald.*

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Pictou.—Prepared and type-written as above; and posted at the agency and the custom house. Supplied also to the following papers:—In Pictou, *The Advocate* and *The Standard*; in New Glasgow, *The Chronicle* and *The Enterprise*.

TIDE TABLES FOR 1898.

The tide tables issued for 1898 will include tables for St. John, N.B., as well as Halifax and Quebec. The tables for Halifax are based upon the four years of the old record above mentioned; and one complete year of the new record has been prepared for analysis. The new record is reduced to the original Admiralty low water datum, used for the chart of Halifax harbour; and this analysis, and the determination of Mean Sea Level, enables the same datum to be carried back to the old observations formerly obtained, and thus to bring them all to a uniform basis. A further year of the Quebec record has also been prepared and analysed, and the basis of the tables extended to include the two years from November, 1893, to January, 1896. The tables for St. John, N.B., are based upon the record extending from April, 1894, to May, 1896, or two full years. The time used in these tables is Standard Time in all cases; and the tidal differences give the time of the tide for other places in standard time also. Eastern standard time is used for Quebec and the Lower St. Lawrence as far as Point de Monts; as this is the best position for the dividing line between the River and the Gulf of St. Lawrence. This line is midway between the 75th and 60th standard meridians, and includes the whole of New Brunswick with the other Lower Provinces, in the region of standard time for the 60th meridian. The tables for St. John, N.B., are therefore given in 60th meridian time, as well as Halifax; and also Charlottetown and Pictou.

These tide tables have been offered as usual to all the leading British and Canadian almanacs willing to publish them. We have unfortunately no Canadian almanac of sufficient breadth, either in Ontario or the Lower Provinces, to be willing to publish tide tables for all three of the principal tidal harbours of eastern Canada. It would therefore be much more satisfactory if the tide tables were published by this department; but to do so, it would be necessary to have a special assistant to attend to their preparation during the summer, and have them in print for the coming year not later than September, in time to furnish them to the almanacs for re-publication before the end of the year. This would enable all the tables to be issued in a uniform way, and accompanied by proper explanations; and in sufficient quantity to distribute to the agents, collectors of customs, pilots and others who should have copies. At present the expense of the printing itself cannot be met; as the appropriation for this survey is reduced for this year to two thousand five hundred dollars; and this has to cover the salaries of the tidal observers, maintenance of stations, inspection and travelling expenses, as well as the cost of calculation and preparation of the tide tables themselves. The present method of publication will therefore have to be continued in the meantime; and it will not likely be possible to prepare again for the coming season of navigation the tide tables for Father Point, Charlottetown and Pictou, so long as the work of the survey devolves upon myself alone without assistance, as there is already a large accumulation of arrears. This is to be regretted, as these tables could now be put upon a better basis with direct reference to St. Paul Island, as already explained.

The tide tables for Halifax, Quebec and St. John, N.B., will appear in *Greenwood's Almanac*, published by Mr. W. N. Greenwood, of Lancaster, England; and the tables for Halifax and Quebec in the *Canadian Almanac*, published by the Copp, Clark Co., of Toronto. The tables for Halifax alone will appear in *Belcher's Almanac*, published by the McAlpine Co.; in *Cogswell's Almanac*, published by Mr. R. H. Cogswell, of Halifax; and in *Brown's Almanac*, published by Messrs. J. Brown & Son, Glasgow. In the *Tide Tables* published by the U. S. Coast and Geodetic Survey, the Halifax tables are calculated from the tidal constants furnished by this survey. The tide tables for Quebec will be given in the publication prepared by the Montreal Harbour Commissioners for the use of the Pilot service. The tide

tables for St. John, N.B., now available for the first time, will appear in *McMillan's Almanac*, published by Messrs. J. and A. McMillan of St. John. In all the above, due acknowledgment is made to the Tidal Survey branch of this department for the tables supplied; and some of the newspapers in the above ports may also issue the tables daily.

These tide tables give the height as well as the time of the tide; which is very important in such harbours as St. John and Quebec, where the rise is so great. The depth of water on the sill of the dry docks at Quebec and Halifax, is also given with relation to the tide, so that vessels may know the depth of water available for entrance to those docks at any high tide.

TIDE TABLES FOR 1899.

As the preparation of tide tables always requires much time, the calculation of the tide tables for Quebec, Halifax and St. John, for 1899, by Mr. E. Roberts, of the Nautical Almanac Office, London, was arranged for in May last. They should thus be ready in good time next year. On account of the present want of means, it was not possible to extend the basis of these tables by the analysis of further record obtained from the self-registering tide gauges; but they will depend for their accuracy upon the same lengths of tidal record, as the tide tables for 1898, as above mentioned.

SUMMER SEASON OF 1897.

During this season the seven principal tide gauges were visited by myself, and a number of improvements made in them. In reaching them the ordinary routes of travel were followed, as the steamers of the department were unable to furnish assistance in the matter. By these routes the furthest of the stations, in the Strait of Belle Isle, is 2,100 miles from Ottawa; and the total amount of travel in visiting the stations was over 6,000 miles, in all conveyances from ocean steamers to schooners. The time occupied was from June 17th to October 18th.

There are three of the tidal stations which are less accessible than the others, and are also without any means of communication during the winter months. These have given much anxiety in the past, as any interruption from failure of the driving clock of the recording instrument, or other cause, was often impossible to remedy for months, and thus involved a serious break in the tidal record. To place such stations in a more satisfactory position, a new form of recording instrument was devised by me, in which the driving clock is made removable, instead of being a fixed part of the instrument; and a duplicate clock is placed at the station for security. (See description in annual report of the Department of Marine for 1896, pages 70-71.) Instruments of this new type have now been manufactured by Messrs. A. Légaré & Co., of London; and this season these have been placed at two of the stations, namely, at Forteau Bay, in the Strait of Belle Isle, and at St. Paul Island. The gauge removed from St. Paul Island was taken to South-west Point, Anticosti, and left there as a duplicate instrument in case of accident; as the two were identical in scale and otherwise, and their driving clocks had already been fitted with an improved and stronger form of escapement for greater security against interruption. By the replacement of these gauges, it also became possible to send two of the old type of instrument to the makers, in Glasgow, to have them fitted with the new escapement. In this way, better security will be obtained for the other stations at which that type of instrument is still in use, as driving clocks with this improvement will be on hand to replace any that may require to be removed for cleaning or repair.

Next to this, the chief difficulty has arisen from the accumulation of gravel and debris, around the inlet which admits the water to the tide gauge. This would be avoided if there were any wharfs at the exposed stations, at which sufficient

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depth of water could be obtained to keep the inlet well off the bottom. As it is, the inlets have to be protected by crib-work; and to put these in thorough repair, it would have been necessary to take men as well as materials to these distant places, as it is not usually possible to hire labour there during the fishing season. As this expense could not be incurred this year, some minor repairs were made, and some expedients adopted which may answer in the meantime.

The heating lamps used in winter to prevent the water from freezing in the tide pipes, have sometimes given trouble by smoking, which is rather a serious matter if it should happen to occur in the night; as the recording instrument may become so clogged with the soot as to be much impeded in its working. The instrument is inclosed in a glass case for protection against this contingency and against dampness; but this oily soot is very penetrating. A better grade of coal oil has been used to avoid this trouble; and this season more thorough arrangements were made for the ventilation of the deep tide wells inclosing the tide pipes, in which the heating lamps have to burn.

At these isolated stations, meridian instruments, named diploidoscopes, are used to obtain the time for the observations. These were inspected and adjusted, by comparisons with the chronometer of a man-of-war, kindly furnished by the navigating officer, or by telegraphic exchange of time with an observatory provided with a transit instrument, as the case might be.

In the sight gauges, on which the datum plane of the observations depends, the connecting line between the tide float and the graduated staff must be of some material which will neither stretch nor rust; and it should also be very light, as it has to be balanced by a counterweight. Copper wire is too soft; and brass wire or chain becomes brittle after a time, apparently because of sulphurous fumes from the heating lamps. This connection has now been made by aluminium chain, which promises to prove satisfactory. It is important that the connection should be permanent and unaltered in length, as the re-determination of the length gives rise to much trouble and possibly also to uncertainty in the result. Several improvements in detail were also made this season at the different stations, and some fittings renewed.

At several of the stations careful levels were again taken this season with a surveying instrument, to check the elevation of the low water datum plane, to which the tidal observations are referred. The result of these, and of the levels previously taken for the better determination of low water datum planes, are given below.

As the vote for this survey for the current fiscal year has been reduced to one-fourth of its former amount, it was not possible to continue the tidal observations this season for the determination of tidal differences in any further region. The saving effected by discontinuing this branch of the work has amounted to nine hundred dollars. This was the cost of equipping the seven temporary stations of last season with recording instruments, and of obtaining short records for comparison at five other points, including travelling expenses and salaries paid to local observers during three to six months; but without counting the salary of the assistant in charge of the work. Observations of this character are much required in the Lower St. Lawrence, the Bay of Fundy, and along the Atlantic coast of Cape Breton Island and Nova Scotia. The time of the tide in these regions, with reference to the principal stations, would thus be known; which would not only be of direct importance locally, but would also be of service to navigation, by helping to bring the time at which the strong tidal currents turn, into relation with the rise and fall of the tide itself.

LEVELS AND DATUM PLANES.

On the charts of rivers and harbours, as on all other charts, the soundings show the depth of the water below the level of the water surface at low water at ordinary spring tides, which is known as the Low Water datum. The determination of this datum can only be made by means of tidal observations; and on the correct

level of this datum the whole question of the depth of water on shoals and bars and the grounding of vessels, must necessarily depend. If this datum has been recorded by a bench mark, at the time the survey for the chart was made, or if it can be correctly determined, the height of the tide can be measured upward from it. The height of the tide at low water or at high water, as given in the tide tables, will then show what increase of depth is available for a vessel in addition to the depth shown on the chart. In the same way, the depth of water on the sill of a dry dock can also be found from the height of the tide, when once the level of the sill with reference to the datum has been determined by means of levels taken for the purpose.

The height of the tide may thus be of quite as much importance to shipping, as the time of high and low water itself. It is also of much consequence in our sea ports to have a reliable datum plane for the construction of harbour improvements; and also for city works; because the discharge of sewers for example, may be affected by the tide. In some cases also, the extent of the fore-shore and the position of low-water mark is important, as it may define the boundary of marine properties. In most of our cities, the question of a good datum plane for reference is in a very unsatisfactory position. Careful attention has therefore been given to this matter in connection with the tidal observations taken by this survey. For this purpose it is necessary to have accurate levels at the tide stations, and to reduce the tidal observations themselves to one uniform plane of reference. The direct measurement of water level during the rise and fall of the tide is obtained from the sight gauge, which is actuated by a float in the same way as the recording instrument itself. The actual level which this shows, has to be determined ultimately from a bench mark in the vicinity of the tide gauge. By referring the tide levels to this bench mark, the low water datum, mean sea level, etc., become definitely fixed. In this way also it even becomes possible to determine after a term of years, whether or not the coast itself is changing its elevation with reference to the mean level of the sea.

The results of the determinations of level and datum planes as obtained from the tidal observations themselves, and special instrumental levels taken for the purpose, will now be given.

St. John, N.B.—Owing to the great fire of 1877 the bench marks and other points of reference were destroyed; and when the tidal observations were begun in 1893, there was no means of ascertaining the datum plane used in the original Admiralty survey of the harbour, or in the later survey of the entrance to the harbour, made in 1887 by the Public Works Department; nor had any permanent marks been established to show the levels of high and low water at spring tides, as determined at the time that the Government wharf and the breakwater at Negro Point were constructed. There was also no City datum in use; as the steep slope of the streets was taken advantage of, to lay out city works by difference of level without reference to any one datum plane.

In these circumstances it was necessary to re-determine the low water datum; and its level was not easy to arrive at, where the tide has so great a range, the extreme range being nearly twenty-nine feet, and the level of low water at spring tides varying so much in consequence. This determination has now been made with great care; by means of the tidal observations themselves; and also from the level of the breakwater at Negro Point.

The levels which will be given, are all referred to a new bench mark which was cut on the granite foundation of the custom house. The lower part of the tide gauge consists of a timber column, fifty-six feet in height, heavily ballasted at its lower end so as to rest firmly on the bottom, and to be unaffected by any movement in the timber wharf against which it stands. The level of the gnomon or zero point of the sight gauge was determined with reference to the bench mark; and the level checked from time to time, to detect and allow for any settlement which might occur. The level of the tide at any moment is then observed by means of a steel tape attached to the tide float of the sight gauge; and from it a constant level is also derived which furnishes a reference plane for the continuous tidal record of the

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recording instrument. The rusting and breaking of the steel tape, and the frequent re-determination of its length, the removal and replacement of the gauge in March, 1894, and an error of scale in the construction of the recording instrument, have involved much revision in the reduction of the levels; but to avoid any technical details, the methods adopted in dealing with these difficulties and the means taken to overcome them, will not be here described; as all outstanding causes of error have been eliminated from the results. To meet the immediate need for some determination of low water level, preliminary values were computed from the early part of the record, which were communicated to the Department of Public Works, and also to the City Engineer of St. John.

The original plans of the breakwater at Negro Point, show the levels of low water and high water at spring tides as adopted during its construction. This low water level is presumably the same as that used in the latest survey of St. John harbour, which was also made by the engineers of the Department of Public Works at about the same date. This breakwater is of crib-work; and the outer end may have settled to some extent. The original plans show the tide levels then adopted to be as follows:—High water at 5 feet 0 inches, and low water at 30 feet 6 inches below planking on top of crib-work. With the co-operation of Mr. E. T. P. Showen of the Department of Public Works, and Mr. D. L. Hutchinson, the tidal observer, levels taken near the inner end of the breakwater were carried across to the tide gauge, a distance of 8,000 feet, by means of simultaneous observations of the level of the surface of the water at high tide on a calm day. This method should give quite as close a result as the levels do; as the top of the breakwater itself is uneven to the extent of about two inches; as the following levels show. The elevation of the planking of the breakwater at 150 and 250 feet from the shore end, was found to be as follows, the bench mark on the custom house being 100·00:—

At 150 feet.	Planking, north side.....		76·89
do	do south side.....		76·79
At 250 feet.	do north side.....		76·70
do	do south side.....		76·64
Mean elevation at 150 feet, where the settlement is presumably the least.....			76·84
Low water, as above defined.....			30·50
Hence, original low water datum as adopted when the breakwater was built.....			46·34

A similar determination was made from the level of the Government wharf on the St. John side; the low water datum being shown on the original plans as 31 feet 6 inches below the level of the timber cap of that wharf. The resulting level of the low water datum was 43·57; and this was further checked by comparison with the zero of a tide-board spiked to one of the wharfs, and said to be at the same level as the one used while the survey of the harbour was being made. The level of the zero of this tide-board is 43·78 which agrees nearly with the above; but the indications make it more probable that settlement has occurred here, rather than in the case of the breakwater at Negro Point. The datum as obtained from that breakwater, probably gives the level of low water at spring tides as then adopted, as nearly as it can now be arrived at from existing structures, for purposes of comparison with the new determinations. The tidal observations themselves show that the actual level of low water at spring tides is below this. The uncertainties attached to determinations of this character are obviated for the future by the establishment of a bench mark to which the series of levels now obtained are referred.

The comparison of the various old and new datum planes is given in the following list, together with the levels resulting from the analysis of two complete years of tidal record; namely, from April, 1894, to May, 1896. This record was carefully reduced to one uniform plane of reference by the method above referred to; and the analysis itself was made by Mr. E. Roberts, F.R.A.S., of the Nautical Almanac Office, London. The levels are given in the order of their height; the elevations are all referred to a plane of reference 100·00 feet *below* the Tidal Survey bench mark

cut on the granite foundation at the south-east corner of the custom house; and the heights in feet, above the Tidal Survey datum itself, are also given.

ST. JOHN, N.B.—TIDAL LEVELS AND DATUM PLANES.		Elevation referred to Bench Mark.	Height above Tidal Survey Datum.
		Feet.	Feet.
Bench Mark on custom house, as above described		100 00	55 60
Gnomon or zero-point of sight gauge, since June, 1896		79 94	35 54
Highest high water, at the spring tides of October and November, 1896. Probably about the level of the highest astronomical tide possible, apart from storm disturbance		73 10	28 70
• Mean Sea Level, from the harmonic analysis of the continuous record during two years. Result for the year 1894-1895 = 58 355; result for the year 1895-1896 = 58 347. Mean value		58 35	13 95
Level of low water at spring tides, as determined from the breakwater at Negro Point, as above explained		46 34	1 94
(This is presumably the low water level to which the soundings at the entrance of the harbour were reduced in the survey of 1887, as shown on the chart.)			
Level of low water at spring tides, as adopted in the original survey of the harbour by the Admiralty. Surveyed under the orders of Captain W. F. W. Owen, R. N., in 1844		Unknown.	—
Harmonic Tide Plane, or low water mark at a distance below Mean Sea Level given by the sum of the harmonic constants $M_2 + S_2 + K_1 + O$. Sum of these constants for the year 1894-1895 = 12 560; for the year 1895-1896 = 12 497. Mean value = 12 529. Resulting level of tide plane		45 82	1 42
Public Works datum, adopted by that department in 1896 for construction purposes. Based upon the harmonic analysis of the one month of October, 1895		45 66	1 26
Tidal Survey datum, at 55 60 feet below the bench mark. From this datum the heights of the tide in the tide tables for St. John are measured		44 40	0 00

The plane of reference from which the height of the tide in the tide tables is measured, should if possible be placed sufficiently low that few tides in the course of the year may fall below it; as this gives rise to negative values in the tide tables. Where the range of the tide is so great as it is at St. John, and there is consequently so much variation in the level of low water at spring tides, it is difficult to adopt a low water datum which on the one hand will exclude these negative values, without on the other hand placing it too far below the probable level of low water to which the soundings on the chart of the harbour were originally reduced. If the low water datum is thus placed too low, it makes it appear that the height of the tide gives a *greater* depth on shoals and bars, than will in reality be found upon them. The tidal survey datum for low water as above defined, is still appreciably above extreme low water. During the course of the year 1895, six tides touched or fell below this datum. Also in the calculated tide tables for 1898 there are seven out of the twenty-five spring tides which occur during the course of the year, at which some of the low waters touch or fall below this datum; the lowest tides falling to four-tenths or six-tenths of a foot below it. This datum has therefore as good a position on the whole for a plane of reference for tidal purposes as can be chosen, to avoid the two difficulties above referred to, in a port where the tide has so great a range.

Halifax, N.S.—The low water datum to which the soundings on the Admiralty chart of this harbour were reduced, was recorded by a bench mark in the Dock

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Yard; and the low water datum itself is thus defined on the chart:—"The soundings are reduced to the level of Low Water at Ordinary Spring Tides, viz. 16·08 feet below a Bench Mark cut near the South-east angle of the Sail loft at the Dockyard." This level was carried over to the tide gauge at the Marine and Fisheries wharf when the observations were begun in September, 1895; and the tidal observations from that date have all been reduced to this datum.

The tide tables so far issued, however, are based upon the old records of 1860-1861, and 1851-1852, for which a different plane of reference was adopted. The plane of reference then used has been re-determined by means of comparisons with mean sea level as now ascertained by the analysis of the present series of observations. The results are given below; and also the elevation of the sill of the dry dock, which enables the depth of water available for entrance at any tide, to be found from the height of the tide as given in the tide tables.

The height of mean sea level above the Admiralty datum was first obtained by making a summation of the hourly tidal ordinates during periods of 29 days, or lunar months, out of four months in the opposite quarters of the year. The result was as follows:—

					Feet.
1895.	Nov. 2-30	—Mean Sea Level above Admiralty datum.....			3·134
1896.	Feb. 1-29	do do do			3·604
1896.	May 3-31	do do do			3·270
1896.	Aug. 3-31	do do do			3·472
Average of the four months.....					3·370

It is to be noted that the Royal Engineers' datum for the Ordnance Survey, and also the City datum for Halifax, are both of them different from the Admiralty datum as above defined.

HALIFAX, N.S.—TIDAL LEVELS AND DATUM PLANES.	Above or below Admiralty Datum.
Bench Mark in the Dockyard, as above described, which records the Admiralty datum..	Feet. 16·08
Coping of the Dry Dock	10·97
Mean Sea Level, from the analysis of one complete year, from October, 1895, to November, 1896; 3·371 above Admiralty datum.....	3·37
Harmonic Tide Plane or low water mark at a distance below Mean Sea Level given by the sum of the harmonic constants $M_2 + S_2 + K_1 + O$. Sum of these constants from the analysis of one complete year as above = . Resulting level of tide plane Admiralty datum.....	
Admiralty Datum, or low water at ordinary spring tides. Used as the plane of reference for the new tidal observations, begun in September, 1895.....	0·00
Level of low water used as the plane of reference for the tidal observations of 1860-1861. For the two years, the levels used were at 3·829 and 4·391 feet, respectively, below Mean Sea Level. Average = 4·110; or below Admiralty datum..... (The tide tables for 1896 and previous years, are referred to this plane of reference.)	0·74
Level of low water used as the plane of reference for the tidal observations of 1851-1852. For the two years, the levels used were at 4·658 and 4·628 feet, respectively, below Mean Sea Level. Average for all four years as above = 4·377; or below Admiralty datum..... (The tide tables for 1897 and 1898 are referred to this plane of reference.)	1·01
Sill of Dry Dock at Halifax. Level of the granite sill of the dock, below Admiralty datum	23·49

Hence to find the depth of water on the sill of the dry dock at any tide, add 22·4 feet to the height of high water as given in the tide tables for 1898.

Quebec.—The low water datum to which the soundings on the Admiralty chart are reduced, has been recorded by a bench mark which still exists; and the low water datum itself is thus defined by a note on the chart of Quebec harbour:—“The soundings are reduced to the mean level of Low Water ordinary Spring tides; or 28 feet below a Bench Mark cut in the stonework on the East side of the principal gateway to the Marine and Fisheries department.” The tide gauge for Quebec was erected in October, 1893, at the masonry dry dock on the Lévis side; and instrumental levels have been carried over from this Admiralty bench mark to the dock by Mr. R. Steckel, of the Department of Public Works. The levels were carried across the river from the Quebec to the Lévis side at Cap Rouge; and a bench mark was cut on the dry dock itself on the face of the masonry of the second altar step, on the west side, near the inner end. This bench mark is numbered LXXIV. in Mr. Steckel's series. The elevations of the two bench marks, referred to his datum, are as follows:—Admiralty bench mark = 27·039; bench mark No. LXXIV. = 21·617. The elevation of the bench mark at the dock, above the Admiralty low water datum is therefore 22·58 feet; and this affords a direct means at the dry dock itself of reducing the tide levels to the Admiralty datum. The actual height of the water level during the rise and fall of the tide is obtained from the steel tape of the sight gauge, which is attached to a tide float; and the true level of the gnomon, or zero-point of this gauge is determined with reference to the bench mark. The comparison of the sight gauge readings with those of the recording instrument, enables the datum line to be ruled in on the sheets on which the continuous tide curves are traced.

There are two scales of feet cut on the masonry of the dry dock, one outside and the other inside of the dock gate, which are intended to show the heights above the masonry sill of the dock. When tested by accurate levels, these prove, unfortunately, to be incorrect in the heights they show; and on the average both scales are low; that is to say, the level of the zeros from which the scales count, are from half an inch to three-quarters of an inch below the level of the dock sill itself.

The levels of the various marks above referred to, are given in the following list, in which they are all reduced to the original Admiralty low water datum; and the results of the analysis of the tidal record as regards level, are included also.

QUEBEC.—TIDAL LEVELS AND DATUM PLANKS.	Above or below Admiralty Datum.
	Feet.
Bench Mark at the Marine and Fisheries building in Quebec, which records the Admiralty datum	28·00
Gnomon of the sight gauge at the Dry Dock at Lévis	29·53
Coping of the Dry Dock; average level taken near the dock gate	24·78
Bench Mark No. LXXIV, on the masonry of the Dry Dock, as above described.	22·58
Mean Sea Level, from the analysis of the continuous record during the two years from November, 1893, to January, 1896. Result for the year 1894 = 8·677; for the year 1895 = 8·529; mean value, above Admiralty datum.....	8·60
Harmonic Tide Plane, or low water mark at a distance below Mean Sea Level, given by the sum of the harmonic constants $M_2 + S_2 + K_1 + O$. Sum of these constants for 1894 = ; for 1895 = ; mean value = ; resulting level Admiralty datum	
Admiralty Datum, or low water at ordinary spring tides. Used as the plane of reference for the tidal observations; and from it also the heights of the tide in the tide tables for Quebec are measured.	0·00
Sill of Dry Dock at Lévis—The zeros of the scales of feet cut on the masonry inside and outside of the dock gate do not quite correspond with the level of the sill itself. Average level of the zeros of the two scales, and of the dock sill, below Admiralty datum.....	7·75

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Hence to find the depth of water on the sill of the dry dock at any tide, add 7·7 feet to the height of high water as given in the tide tables.

The levels at Father Point and at South-west Point, Anticosti, are referred to bench marks cut on the surface of the solid rock, above high water mark, in the vicinity of the tide gauges. At St. Paul Island, and Forteau Bay in the Strait of Belle Isle, the iron plate at the top of the iron column of the diploidscope is used as a bench mark. In all cases the elevation of the bench mark itself is taken as 100·00, and all the levels in connection with the tide and the zero of the gauges are referred to this elevation. The true height of the low water datum and mean sea level will thus be determined eventually from the tidal observations themselves. It is also important to ascertain the range of the tide at these stations, so that in using them as reference stations for other ports, the range of the tide may be found in comparison by means of a ratio. In this way the height of the tide, as well as the time, will be brought into relation with the principal stations.

For the summer observations of 1896 the following points were made use of as bench marks:—

Carleton, Que.—Top of pile in the angle between south side of wharf and front of freight shed. Zero of gauge 15·01 feet below top of this pile.

Neguac, N.B.—Bench mark cut on the south-east corner of the lighthouse at Lower Neguac. Zero of gauge 9·37 feet below this bench mark.

Cape Tormentine.—Bolt in rock at head of the railway wharf, about 200 feet south of the track. Zero of gauge at 12·80 feet, and zero of wharf gauge board at 10·80 feet, below this bench mark.

Charlottetown.—On Peake Bros.' building, corner of Water and Queen streets. North end of sandstone window-sill of the most northerly window of the east front. Zero of the gauge at 18·18 feet, and zero of the wharf gauge board at 16·18 feet, below this bench mark.

Pictou.—On the Custom house; west end of the sandstone door-sill at the south side of the building. Zero of the gauge at 19·84 feet, and zero of the wharf gauge board at 18·84 feet, below this bench mark.

Souris, P.E.I.—Circular hole cut in red sandstone and marked B.M., about 90 yards west of shore end of Knight's wharf. Zero of the gauge below this mark 8·00 feet before July 16th, and 6·00 feet after that date.

I have, sir, the honour to remain,
Your obedient servant,

W. BELL DAWSON,
In charge of Tidal Survey.

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APPENDIX No. 4.

METEOROLOGICAL OFFICE.

TORONTO, 17th September, 1897.

Major F. GOURDEAU,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith the twenty-sixth annual report of the Meteorological Service of Canada, this report being for the fiscal year, July 1st, 1896, to June 30th, 1897, with Appendices A and B, reports on the Quebec and St. John observatories, also the report of the magnetic observatory, Toronto, for the same period.

On June 30th there were 149 persons paid for the duties they perform for the Meteorological Service; some of these are paid salaries for devoting their whole time to the work of the service, others for performing observing duties which occupy but a portion of every day, and others again for attending to the display of storm signals.

There are in the Dominion 229 persons who take meteorological observations voluntarily with instruments supplied by this service; 117 of these are in the Province of Ontario, and the major portion of the others in Manitoba, the North-west Territories and British Columbia; in Quebec and the Maritime Provinces there are but very few voluntary observers.

The following have been added to the number of observing stations since my last report:—

British Columbia.

Class II.—

Clayoquot, Vancouver IslandF. Jacobsen.
Cape Scott, Vancouver IslandN. C. Nelson.

Class III.—

McCoy Lake, Vancouver IslandWright Perritt.
Hazleton, Skeena RiverR. S. Sargent.
Hatzic, New WestminsterO. St. V. Ross.

North-west Territories.

Class II.—

Knee Hill, AlbertaG. Barclay Bruce.
Herschel Island, Arctic OceanG. B. Leavitt.
Saskatoon, Saskatchewan.....George Will.
Crooked Lake, Assiniboia.....H. Richardson.

Manitoba.

Class III.—

Deloraine, SelkirkThomas Dandle.
Souris, SelkirkJames A. Moffat.

Ontario.

Class II.—

Windsor, Essex.....	Rev. Thos. B. Smith.
Tilsonburg, Norfolk.....	Charles Phillips.
Chapleau, Algoma.....	J. G. Mulligan.
Kinmount, Victoria.....	C. E. Cole.
Ridgetown, Elgin.....	Thos. Scane, P. L.'S.

Class III.—

Elgin, Leeds.....	P. W. Brown.
Smith's Falls, Leeds.....	G. W. Dunham.
Providence Bay, Manitoulin Island.....	R. F. Ogle.

Quebec.

Class II.—

Abitibi, Lake Abitibi.....	Robert Armit.
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Class III.—

Percé, Gaspé.....	J. X. Lavois.
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Nova Scotia.

Class II.—

Parrsboro, Cumberland.....	W. H. Magee.
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New Brunswick.

Class II.—

Gagetown, Queen's.....	Miss M. L. Peters.
Sackville, Westmorland.....	W. W. Andrews.

The following stations have ceased to report:—

British Columbia.—Class II., Canobie, Vancouver Island, from the continued sickness of Lt. Col. G. H. Elliott.

Ontario.—Class II., Thorold.....Z. W. Durkee, resigned.

“ “ “ Thedford.....James Bissell, “

“ “ “ Chatham..... R. C. Burt, “

“ “ “ Minden..... M. Brown, instruments removed to Kinmount.

Ontario.—Class II., Burk's Falls..... George Whelpton, resigned.

“ “ III., Denbigh.....James Lane, resigned after 14 years steady and prompt attention to work.

Nova Scotia.—Class II., New Glasgow.....A. M. Frazer, resigned and instruments transferred to Parrsboro.

The observers in general have reported with commendable regularity and promptitude, and from condensed information supplied by many in addition to the regular routine of daily observation, a more systematic interest in the work would seem to be developed. An exception may be made in respect to the stations on the Canadian Pacific Railway, the repeated changes in the members of the railway staff would call for amount of instruction and inspection much in excess of what other stations need for similar work.

The Departments of Agriculture in Ontario, Manitoba and British Columbia continue to realize the importance of reliable meteorological data in connection with statistics of crops, acreage under cultivation, &c., and the observers in these provinces continue to manifest increased interest in their duties in this connection.

CENTRAL OFFICE.

Numerically the staff of the Central Office remains the same as at the date of my last report, the only change has been the promotion of Mr. F. N. Denison to the

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position of assistant forecast official. Strenuous efforts have been made to bring the issue of the Monthly Weather Reviews and of the annual reports of this service up to date, both publications having for years been lamentably in arrears; our efforts have met with perfect success as regards the former and with partial success as regards the latter. It is proposed in future that the manuscript of each monthly review shall be forwarded to the Queen's Printer on the 26th of each succeeding month, and that that issue shall, in addition to a description of the weather of the month, contain short articles bearing on the climatology of various parts of the Dominion. The manuscript of the 1895 annual report was forwarded to the printer on December 12th, 1896, that for 1896 is now ready for the printer, and the preparation of the reports of the years 1891-94, inclusive, will be carried on concurrently with those for 1897 and 1898, both of which it is hoped will be printed as soon as possible after the close of each year. As during the two previous years, a monthly chart has been issued showing the meteorological conditions that have prevailed in the Dominion. It contains notes on the leafing and flowering of trees and shrubs, the state of crops, etc. Much interest is taken in this chart by the public in general and voluntary observers have been stimulated by it to increased work. The statistical branch of the office has, in addition to the preparation of the data for current and delayed reviews and reports, been called upon to supply a large amount of meteorological information to the Chief of the Tidal Survey, and also to the Grand Trunk and Canadian Pacific railways and to various private individuals interested in law cases. This last named information is charged for in accordance with an Order in Council of 28th February, 1894.

The work of the forecasting branch continues to increase, a new storm signal station has been opened at Grand River, Que. There are now in the Dominion sixty-seven stations at which signals are displayed when a gale is expected, thirty-two on the great lakes and thirty-five in the gulf and Maritime Provinces. In August last year, the publication of a daily weather chart was commenced. This chart contains the information gathered from the meteorological observations taken each day at 8 a.m. (75th meridian time), at 30 Canadian and 53 United States stations. On it are shown the positions of areas of high pressure and of storm centres, the highest and lowest temperature of the preceding twenty-four hours, the direction and velocity of winds at the time of observation, a summary of expected changes and movements, together with the daily forecasts which are made as far reaching as is deemed expedient by the official on duty. The chart is displayed in Toronto at the Board of Trade, Harbour Master's office, and at a few points frequented by sailors, also to such business persons and newspapers as engage to display them in a manner that the public can see them, also to some of the public schools where it is thought much good will accrue in educating the rising generation in a knowledge of meteorological phenomena. Besides this the chart is supplied to a few private individuals who pay \$4 per annum for it. The chart is much appreciated and much good is likely to result from the public acquiring confidence in forecasts, based on a scientific system of which they are not kept in ignorance and which they can understand although few persons are likely to become as expert in deducing results as is the experienced forecast official at the central office. As in years past the ordinary daily forecasts have been issued with regularity each evening at 11 p.m. and have as heretofore been telegraphed to the greater number of morning daily papers and to every telegraph office in the Dominion east of Qu'Appelle, Assiniboia, at which offices they are displayed on a special form which is placed in a frame supplied by the service. Until three years ago the night forecast was practically the only one issued, but since that time a second forecast made at 10 a.m. each day has been disseminated more and more generally throughout the Dominion: in this every effort is made to make it of value, more especially to mariners, and it is now telegraphed to some thirty-three ports in the maritime provinces and also to all the principal ports on the great lakes, in most cases being displayed and looked after by the harbour masters of the various places. That the bulletin is valued by mariners may be inferred from the following notes culled from many of a similar character sent me in reply to a circular letter addressed to the harbour masters in December last inquiring as to the time of posting the bulletins, etc.

Halifax, N.S.—"The Port Warden, an old sea captain, whose office adjoins the Harbour Master's, says that 'the sailors pay more attention to storm warnings than people think, only they don't talk about it.'

Yarmouth, N.S.—"Yes, it is received between twelve and one o'clock and posted outside of the Tugboat office each day and it is consulted by fishermen and small coasters every day and it is considered an authority as a weather forecast."

Port Morien, N.S.—"The bulletin issued from your office at 10.30 a.m. has been posted regularly and I must say that the fishermen are following the bulletin and finding it correct every time."

Lunenburg, N.S.—"I know of our own vessels going to the West Indies that have waited here in our harbour when your report called for a storm or heavy wind, as well as lots of fishing vessels who have been saved in the same way, and, as before stated, these reports are of good service to all mariners."

Poullamond, N.S.—"It is very beneficial to sailors."

Liscomb, N.S.—"The bulletin has been posted every day in the Post Office window with regularity, and I have no hesitation in saying it is a benefit to both sailors and fishermen and appreciated by both."

Arichat, N.S.—"They are posted in a conspicuous place, and though I cannot say that any disasters have been averted by them during the past year, I can certainly say that many fishermen and masters of sailing vessels have read and examined them and call for that purpose."

Georgetown, P.E.I.—"The morning weather bulletin has for the past year been posted with regularity and I am pleased to inform you is each day eagerly looked for by the fishing boats, fishing and sea-going vessels and by many landmen as well, the correctness of the forecasts being much talked about and commented upon. I consider these reports invaluable, and they would be much missed if discontinued."

Summerside, P.E.I.—"The captains when they want to see the bulletin they have to run around for it; all our mariners complain for not having a storm drum like other ports in the Dominion. The storm drum is what we want in this port."

Annandale, P.E.I.—"The bulletin is much appreciated by mariners and fishermen as well as by the public in general and we hope to be favoured by a continuance of the same next season."

Wood Island, P.E.I.—"They are a great benefit to fishermen on this coast, and also to mariners and I know of vessels and fishing boats remaining in harbour in consequence of the warning, and hope you will forward them again on the opening of navigation."

Campbellton, P.E.I.—"The bulletin is highly appreciated by masters of schooners and boats and frequently consulted before going to sea."

Grand Manan, N.B.—"The bulletins are posted promptly as soon as received, and the fishermen consider them very valuable at this time of the year (December), though I do not know of any particular cases when they have escaped being caught out. The vessels here are all fishing near the shore now, and do not need to go far out. They watch the weather report more particularly for the temperature, as they deal largely in frozen fish, and put great dependency in the daily reports."

Port Arthur, Ont.—"The 'probs.' have been regularly received and posted at this port. They are during season a feature which appears to be of great interest to all people, vessel men, tug and fishermen, farmers and in fact all parties daily con-

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sult them. At the hour of receiving them in the morning we are kept busy answering the telephone calls from mariners, ladies and others who wish to shape their day's doings satisfactorily. The probabilities as issued to this place have been verified to a remarkable degree and are now looked upon as almost certain of fulfilment."

Owen Sound, Ont.—"The morning weather bulletin has been posted regularly up to the 14th instant, in as good a position as could be got, outside my office; right in the centre of the harbour. Although we do not recollect about boats stopping in on account of it, we have no doubt they do so, as it is regularly consulted by the small boats and tugs plying here."

Sarnia, Ont.—"The morning weather bulletin furnished to me from your department has been regularly posted at my office during this season. It is looked for with much interest, and I think is considered of much service. Very frequently I am asked by telephone by vessel masters and shipping men from other parts of the town or along the river what is the nature of the report for the day, and I have noticed several cases when masters of small coasting vessels out-bound have delayed their start till the morning report came in. A small schooner from Southampton stayed in port on account of the report, and her master told me afterwards that if he had been caught in the weather which followed, in the course which he would have been steering, he would in all probability have been forced ashore, near the Sable River. I know another instance where a schooner, I think the "Dauntless," went out one morning, and a few hours afterwards had to run back for the river, having lost her head sails by a norther, damage about \$80. The captain said he had thought of waiting for the report before he started, which, if he had, he would have stayed in port and saved his gear."

Hamilton, Ont.—"The weather bulletin has been posted daily during navigation, and no doubt has been a warning to many vessels and prevented them from going out. We receive the daily weather chart, but think it should be arranged to arrive a little earlier than 6 p.m."

As for some years past, during the summer months, June to September inclusive, a special forecast has each day been made for the benefit of agriculturists, and disseminated by means of the display of signal discs on the baggage van of trains, by which means the forecasts reach districts remote from telegraph offices. Warnings of storms likely to block trains by snow, as heretofore, have been issued to the railways during the winter months, and have apparently been much appreciated. The number of special inquiries by telegraph and telephone continues to increase both from mariners and shippers of perishable goods, and the efficiency of this particular branch of the service has been increased by supplying very full information to the meteorological agents at Port Arthur, Sault Ste. Marie, St. John and Halifax, who, when possible, supply the needed information to those inquiring.

In August, 1896, in order that this service might participate in the international scheme of cloud observations which was being carried on in nearly all civilized parts of the globe in conformity with the recommendation of the International Meteorological Committee, two observing stations, one on top of the School of Science, Toronto, and the other on St. Andrew's Market, 1552.4 metres or 1697.7 yards distant, were equipped with the necessary instruments and connected by telephone. Whenever practicable, observations have been made twice each day, and a most instructive series has been obtained which in conjunction with those taken in other parts of this continent and the world will probably prove of great value in studying the dynamics of the upper atmosphere. Several meteorologists connected with other services have recently commented on the completeness of our arrangements for cloud observations. It is proposed to continue the work until November 30th, proximo.

At a meteorological conference held in Paris in September, 1896, the following resolution was adopted:—

“It is desirable that at least at one station in each country there should be employed simultaneously along with the ordinary thermometer screen, other arrangements such as Stevenson's screen and the French screen, and at all events the aspiration thermometer of Dr. Assmann, large size, in its actual form (Fuess, 1896.) The comparisons should be carried on for at least two years, and if it is found impracticable to publish the observations *in extenso*, the means and extreme values should be given for each month.”

In conformity with this, a thermometer screen of the English pattern has been set up alongside of the regular screen used at the Toronto Observatory, and it is proposed shortly to place in position one of the French pattern, and pursue the investigation in accordance with the resolution.

About a year ago an investigation of the seiche on the Great Lakes and of the connection existing between atmospheric changes and lake undulations was undertaken, it being thought that even leaving out of the question the scientific value of such a work, the study might prove to be of great practical value in forecasting. This work has been carried on by Mr. Denison, who with most creditable and painstaking zeal devised a barograph which records very minute changes in pressure and which placed at the mouth of the Humber River, near Toronto, registers on the same sheet of paper as the fluctuations of water level which are recorded by means of a specially constructed gauge. This investigation is likely to throw light on the meaning of the secondary undulations noticeable on all tidal curves, and has already been the subject of most favourable comment by scientific inquirers both at home and from abroad.

In order to facilitate the instruction of outside observers visiting Toronto, specimens of all our meteorological instruments have been collected together and placed in one of the larger rooms on a table specially constructed for that purpose. We are thus able with a minimum amount of trouble and time to give instruction oft-times asked for by volunteer observers and others interested in the work who frequently visit the Central Office.

Having been authorized by the department to attend a conference to be held in Paris, France, for the purpose of considering questions relating to meteorology and magnetism, I sailed for Europe on September 3rd, and was present at the opening meeting on September 17th. The conference was eminently a success and was attended by representatives from Austria, Belgium, Bulgaria, Denmark, Finland, France, Great Britain, Canada, Queensland, Australia, Tasmania, various German States, Italy, The Netherlands, Norway, Sweden, Roumania, Russia, Switzerland, the United States and Mexico. While in nearly every instance the different countries were represented by the Directors of the Government Meteorological Services, many well known Observatories and Meteorological Societies were likewise represented. The conference met each day for one week. The various questions relating to meteorology and terrestrial magnetism which had been proposed for discussion were carefully considered and it is expected that more complete uniformity of method and more hearty co-operation in meteorological research will result. Scientific institutions and persons in Paris did much to entertain the visitors, and the Honourable the Minister of Education, speaking at a breakfast given to the members on the first stage of the Eiffel Tower, welcomed them to France and spoke of the very great benefit that the weather forecasts of to-day are to the agricultural and shipping interests. While in Paris I visited the various observatories and also the workshops of MM. Richard Frères, makers of meteorological instruments, there obtaining information which will be of very great use to me in purchasing for this service. On return to England I spent several days visiting the observatories at Greenwich and Kew and also the Meteorological Office at London, at each of which institutions I was treated with the greatest courtesy and offered every opportunity of studying the methods employed, whereby I learned many things that will be of use to me in observatory work.

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The following tables I. and II. show the percentage of verification of warnings and forecasts :—

TABLE I.

The following table shows the total number of warnings issued and the percentage verified :—

—	Number issued.	Number verified.	Percentage verified.
1877	743	510	68.6
1878	860	673	78.3
1879	712	591	83.0
1880	889	736	82.8
1881	854	727	85.1
1882	841	658	78.2
1883	1,085	858	79.1
1884	798	663	83.2
1885	830	741	89.3
1886	906	799	88.2
1887	1,093	972	88.9
1888	897	758	84.5
1889	1,126	926	81.3
1890	1,199	987	82.3
1891	1,017	826	81.2
1892	1,161	888	80.7
1893	1,317	1,118	84.9
1894	1,333	1,149	86.2
1895	1,307	1,168	89.4
1896	1,181	1,015	85.9
1897, six months, January 1st to June 30th	339	296	87.3

TABLE II.—METEOROLOGICAL SERVICE.—Number of forecasts and percentage of fulfilment in each district, in each month and in the year from July, 1896, to June, 1897, inclusive.

MONTH.	MANITOBA.				LAKE SUPERIOR.				GEORGIAN BAY.				LOWER LAKE REGION.				OTTAWA VALLEY.							
	Verified.				Verified.				Verified.				Verified.				Verified.							
	Number of forecasts.	Number fully	Number partly	Number not	Percentage	Number fully	Number partly	Number not	Percentage	Number of forecasts.	Number fully	Number partly	Number not	Percentage	Number of forecasts.	Number fully	Number partly	Number not	Percentage					
1896.																								
July	82	59	11	1278.7	.....	.....	.....	.....	.....	126	98	17	11	84.5	128	100	22	6	86.7	116	96	13	7	88.4
August	90	70	13	785.0	.....	.....	.....	.....	.....	120	97	14	9	86.7	119	101	16	2	91.6	100	79	13	8	85.5
September	94	72	13	983.5	.....	.....	.....	.....	.....	122	91	22	9	83.6	121	88	21	12	81.4	111	81	19	11	81.5
October	89	71	9	984.8	.....	.....	.....	.....	.....	122	91	22	9	83.6	123	98	16	9	86.2	103	84	14	5	88.3
November	83	62	11	1081.3	.....	.....	.....	.....	.....	107	64	29	14	73.4	113	68	27	18	72.1	93	63	15	15	75.8
December	90	77	6	788.9	.....	.....	.....	.....	.....	115	82	21	12	80.4	119	94	19	6	87.0	101	84	7	10	86.6
1897.																								
January	81	58	16	781.5	.....	.....	.....	.....	.....	98	73	17	8	83.2	100	72	18	10	81.0	90	66	13	11	80.6
February	70	50	11	979.3	.....	.....	.....	.....	.....	98	63	23	12	76.0	101	65	29	7	78.7	90	70	11	9	83.9
March	81	60	11	1080.9	.....	.....	.....	.....	.....	94	58	19	17	71.8	98	59	18	21	69.4	89	60	15	14	75.8
April	91	67	17	783.0	.....	.....	.....	.....	.....	123	95	20	8	85.4	122	99	16	7	87.7	93	75	11	7	86.6
May	85	66	12	784.7	.....	.....	.....	.....	.....	117	84	18	15	79.5	117	86	19	12	81.6	102	75	13	14	79.9
June	83	51	24	875.9	.....	.....	.....	.....	.....	116	75	25	16	75.4	115	78	25	12	78.7	106	75	9	22	75.0
Totals	1,019	763	154	10282.4	98	69	17	12	79.1	1,358	971	247	140	80.6	1,376	1,008	246	122	82.2	1,194	908	153	133	82.5

Marine and Fisheries—Marine Branch.

TABLE II.—METEOROLOGICAL SERVICE—Number of forecasts and percentage of fulfilment in each district, &c.—Continued.

MONTH.	UPPER ST. LAWRENCE VALLEY.				LOWER ST. LAWRENCE VALLEY.				GULF.				MARITIME.				TOTAL.								
	Verified.				Verified.				Verified.				Verified.				Verified.								
	Number of forecasts.	Number fully	Number partly	Percentage	Number of forecasts.	Number fully	Number partly	Percentage	Number of forecasts.	Number fully	Number partly	Percentage	Number of forecasts.	Number fully	Number partly	Percentage	Number of forecasts.	Number fully	Number partly	Percentage					
1896.																									
July	116	97	14	5	89.7	111	83	15	13	81.5	110	79	20	11	80.9	118	87	21	10	82.6	907	699	133	75	84.4
August	100	83	12	5	89.0	100	86	5	9	88.5	101	84	13	4	89.6	103	83	19	1	89.8	833	683	105	45	88.3
September	113	86	16	11	83.2	106	76	18	12	80.2	108	87	15	6	87.5	114	77	30	7	80.7	880	638	154	77	82.7
October	101	82	13	6	87.6	100	75	11	14	80.5	106	73	20	13	78.3	113	80	19	14	79.2	857	684	124	79	83.4
November	95	64	20	11	77.9	96	71	17	8	82.8	94	70	14	10	82.0	112	69	37	6	78.1	793	531	170	92	77.7
December	102	79	13	10	83.8	110	84	19	7	85.0	113	89	18	6	86.7	126	89	30	7	82.5	876	678	133	65	85.0
1897.																									
January	89	66	14	9	82.0	85	75	5	5	91.2	91	77	10	4	90.1	109	88	16	5	88.1	743	575	109	59	84.7
February	89	64	19	6	82.5	80	61	12	7	83.8	83	62	11	10	81.3	97	60	25	12	74.7	708	495	141	72	79.9
March	89	58	16	15	74.2	84	64	8	12	80.9	90	73	17	10	85.0	108	77	18	13	79.6	733	509	112	112	77.1
April	97	75	18	4	80.6	101	77	16	8	84.1	101	72	23	6	82.7	113	77	23	13	78.3	841	637	144	60	84.3
May	100	68	23	9	79.5	100	60	17	23	68.5	107	66	24	17	72.9	114	73	25	16	75.0	842	578	151	113	77.6
June	109	69	21	19	72.9	101	63	21	17	72.8	102	66	23	13	76.0	111	80	20	11	81.1	941	626	185	130	76.4
Totals.	1,200	891	199	110	82.5	1,174	875	164	136	81.5	1,206	898	198	110	82.7	1,338	960	283	115	80.8	9,963	7,323	1,661	979	81.8

UNITED STATES WEATHER BUREAU.

The Chief of the United States Weather Bureau has continued to interchange reports with this office, and I desire to express my warm appreciation of the uniform courtesy that has characterized all communications from that office.

TIME SERVICE.

The method of performing this work, together with a table showing the discordance at the different observatories, will be found in the report on the Magnetic Observatory.

The report on Quebec Observatory forms Appendix A.

The report on the St. John Observatory forms Appendix B.

LIBRARY.

The number of publications received during the year was 313, being for the most part annual, quarterly, monthly, weekly, and daily reports and periodicals, from the principal astronomical, meteorological and magnetic observatories of the world. The overcrowded state of the library has to a great extent been relieved by the addition of two book-cases containing 160 feet of shelving.

PUBLICATIONS.

A large number of applications have been received from people of the United States for the publications of this service, these coming principally from the western portion. Seven hundred and fifty copies of the Monthly Weather Review and the same number of the Toronto General Meteorological Register were distributed to all parts of the world, 550 copies of the Monthly Weather Chart were distributed to persons in Canada and the United States, and 60 copies of the Daily Weather Chart were posted each day at prominent places in Toronto.

INSPECTION OF STATIONS.

During the past fiscal year 64 stations were inspected, and the necessity of frequent and careful inspection and adjustment of instruments was very apparent. The following stations were inspected by the Director of the Service:—

Halifax, St. John, Fredericton, Yarmouth, Sydney, Charlottetown, Montreal and St. John's, Newfoundland. The instruments chiefly requiring adjustment at these stations were the barometers which when compared with a standard were found in some instances inaccurate. This was more specially the case at St. John's, Nfld., Yarmouth and Charlottetown, where the errors were respectively —03, +02, +02. At St. John's a new site for the instruments was selected.

The following stations were inspected by B. C. Webber:—

North Bay, Renfrew, Rockliffe, Warren, Sprucedale, Norwood, Canoe Lake, and Peterborough. At North Bay and Renfrew, new rain gauges were found necessary, those in use being worn and unreliable. At Sprucedale the thermometer shed had been erected two feet below the regulation height and was resting on a bench, it was also much out of repair. At Norwood the observer declined to continue the observations, so the instruments were properly packed and returned to store. A station was opened at Canoe Lake, and the observer instructed in the use of the instruments. At Peterborough a change of observers having taken place, the incoming observer was instructed in the taking of observations. At other stations inspected, instruments were tested and the usual repairs were made.

The following stations were inspected by H. V. Payne:—

Aurora, Sharon, Georgina, Lindsay, Bobcaygeon, Lakefield, Peterboro', Port Hope, Cobourg, Woodstock, Owen Sound, Presqu'Isle, Trenton, Oshawa, Thorold, Port Colborne, Port Dalhousie, Dalhousie, N.B., Grand River, Gaspé, Percé.

Marine and Fisheries—Marine Branch.

At Aurora the instruments were badly exposed, and a new site chosen. At Sharon the observer having ceased observing, the instruments were taken away. At Georgina thermometers were tested and the minimum instrument was found incorrect. At Lakefield a new thermometer shed was found necessary. At Peterborough, instruments were exposed in the open and were placed in the proper shed. At Cobourg the mast required painting and new hall yards were necessary. At Woodstock, instruments were tested and readjusted. At Port Hope the observer was instructed in the use of the instruments, which were also properly placed. At Trenton a new site was chosen for the signal mast. At Port Colborne the signal mast was found out of repair, and a new position for it was inspected. At Port Dalhousie, instructions were given regarding the signal mast which was not properly stayed, and required painting. At Port Dalhousie when testing instruments, the minimum thermometer was found to be reading 3° too low. At Grand River a storm signal station was established, a mast erected and the agent instructed in his duties. At Gaspé the mast was put in order and the agent was instructed in the use of meteorological instruments.

The following stations were inspected by William Menzies :—

White River, Port Arthur, Fort William, Winnipeg, Fort Osborne, Oak Bank, Qu'Appelle, Indian Head, Regina, Prince Albert, Saskatoon, Henrietta, Battleford, Regina, Moose Jaw, Swift Current, Medicine Hat, Calgary, Edmonton, Banff, Donald, Glacier House, Griffin Lake, Esquimalt and Kamloops.

At White River the observer who had just been appointed was instructed in taking observations and recording them and the instruments were moved to his house. At Port Arthur the observer was instructed in taking observations with wet and dry bulb thermometers, instruments were compared with standards and anemometer moved to a better position. At Winnipeg, instruments were examined and several discrepancies found, the observer being instructed accordingly. At Oak Bank the observer was instructed in the use of the instruments. At Qu'Appelle, anemometer was cleaned and repaired and the observer was instructed in the use of some portion of the cipher code not before understood. At Prince Albert the barometer was leaking and the minimum thermometer was reading 1.5° too high, instruments were adjusted and repaired. At Battleford the tube of the barometer in use was cracked and this instrument was replaced by another. At Regina a new anemometer was placed in position. At Swift Current, instruments were tested and adjusted and the observer was instructed in the proper use of psychrometrical tables. At Medicine Hat the maximum thermometer in use was found defective and was replaced by another, the barometer was also cleaned and adjusted. At Calgary the anemograph which was not working well was adjusted, and all instruments were examined. At Griffin Lake the observer who had assumed charge of the instruments was instructed in taking observations. At Kamloops the observer was instructed in the use of the instruments, which were also moved from his predecessor's house to his own, and full instructions were left regarding the recording and enciphering of the observations. At other stations all instruments were examined and adjusted where necessary and the observers were instructed.

The following stations were inspected by F. Napier Denison :—Orillia, Midland, Barrie, Collingwood, Bognor, Owen Sound, Southampton, Mount Forest, Durham, Port Dover, DeCewsville, Port Rowan, Tilsonburg, Port Stanley, Ridgetown, Essex Centre, Cottam, Windsor, Pelee Island, Amherstburg, Chatham, Sarnia, Stratford and Brantford.

At Midland some repairs to the signal mast were found necessary and were accordingly made, a new site for the mast was also inspected. At Owen Sound the mast required painting, and a new thermometer shed was found necessary. At Southampton a new anemometer was placed in position, the storm signal agent was instructed, and the barometer was cleaned and compared with a standard. At Durham the thermometer shed was quite out of its proper position and was re-erected according to regulation. At Port Rowan the door of the thermometer shed was off and accordingly the shed was repaired. At Port Stanley the anemometer was adjusted and the barometer tested. At Ridgetown the observer was instructed

regarding the use of instruments, also regarding the repair of the thermometer shed. At Essex Centre the thermometer shed was found much out of order and the thermometer was unreliable. At Pelee Island the anemograph was adjusted and instructions given regarding its care. At Sarnia the thermometer was exposed without a screen and a rain gauge was damaged; the necessary instructions were given. At Brantford all instruments were badly exposed and a new site selected. At other stations inspected, repairs were made, and the observers were instructed where necessary.

I have the honour to be, sir,

Your obedient servant,

R. F. STUPART.

MAGNETIC OBSERVATORY.

TORONTO, 17th September, 1897.

Major F. GOURDEAU,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith the report of this Observatory for the fiscal year ending June 30th, 1897.

The disturbance of the magnets by trolley car currents has continued to increase; the photographic traces obtained from the vertical force instrument are now perfectly worthless, but those of the bifilar and declinometer although impaired are by no means ruined, and for ordinary research are nearly as useful as they ever were. The most unfortunate change has been the starting of Sunday street cars, as owing to this the possibility of making accurate absolute determinations has been destroyed.

The photographic instruments, magnetical and meteorological, have been kept in operation throughout the year. Hourly measurements of all curves, with the exception of the vertical force, have been made and the results abstracted, and hourly and daily means struck. Eye observations to control the automatic records have been regularly made at stated intervals, and the agreement has been satisfactory; all the driving clocks worked regularly with the exception of the stoppage of the thermograph clock on the 26th August, caused by the stop shutter working stiffly; this was attended to, and since then no stoppage has occurred. On the 5th of December, the winding cord of the barograph clock was replaced by a new one. Absolute determinations of the magnetic values have been made throughout the year. On the 1st of January, the 6 a.m. and midnight eye observations were discontinued, and the readings have since been taken from the photograph curves to make up the monthly means for the meteorological abstracts. On the 15th April, the observatory standard barometer was cleaned, as the mercury and cisterns had become very dirty. Throughout the year most satisfactory results have been obtained from the sunshine recorder, the self-recording rain gauge and the anemograph. The anemometer for obtaining the Toronto wind record has, for some years past been exposed on the tower of the Royal Canadian Yacht Club at the island. I regret that as during the coming winter there will be no caretaker living at the Island building, it will be necessary to remove the instrument to some other site. In June some of the outside woodwork of the observatory building, and also the roof of the building in which are the offices, were painted, and some of the ceilings were kalsomined, and where it was absolutely necessary walls were papered. The most important magnetic storms occurred on the following dates: July 4th, 1896; August 1st and 6th; September 18th, the needle during this storm moving $1^{\circ} 33' 7''$; October 12th; November 6th; January 2nd; April 1st, 2nd and 20th.

Marine and Fisheries—Marine Branch.

TIME SERVICE.

During the year ended June 30th, 1897, ninety-two observations for time were made in the meridian with the transit instrument, in which 309 standards stars were observed, also one solar observation was taken. The position of the stars used were those given in the "Berliner Jahrbuch." The collimation error of the transit instrument has been determined frequently from micrometrical measurements on the collimating telescope and by reversal on stars. Practically this error has remained unchanged through the year; also the small changes occurring in the azimuth and level errors for years past show the stability and excellence of its mounting. With the equatorial telescope the sun spot observations have been continued, maps of the sun's surface four inches in diameter being obtained on 183 days.

The time exchanges with Montreal, Quebec and St. John have all been registered on the chronograph at Toronto.

The errors of the Toronto clock and of the timepieces used by the different observers elsewhere are computed from the latest observations. The examination of the clock and the chronometer comparisons and transit observations sent in from the observatories at Quebec and St. John has been performed. Since the 1st March last the mean time clock of the Toronto Observatory has been adjusted so as to show absolutely true standard time of the 75th meridian. This is effected by means of weights of different values being put on and taken off the pendulum weight as occasion requires, thus raising or lowering the centre of gravity. An automatic electrical contact has also been added to the clock, so that the true time can whenever required be given automatically to the telegraph and railway companies.

The following table shows the difference between the time by "Standard Observer" and that given at the various exchanges. The sign + indicates that the time as sent from the various observatories is faster than that by the "Standard Observer." The time of "Standard Observer" is obtained by taking the arithmetical mean of the times as determined at Toronto and Montreal.

—	Toronto.	Montreal.	Quebec.	St. John.
1896.	Seconds.	Seconds.	Seconds.	Seconds.
July 3.....	-0 29	+0 29	-0 46	+0 74
do 16.....	-0 28	+0 28	+1 45	+2 00
Aug. 7.....	-0 12	+0 12	-0 75	+0 85
do 25.....	-0 22	+0 22	-1 68	+1 76
Sept. 14.....	-0 36	+0 36	-1 42	+0 78
Oct. 9.....	-0 24	+0 24	-1 77	-1 58
do 23.....	-0 05	+0 05	+0 20	+0 96
Nov. 16.....	-0 08	+0 08	-0 25	
do 30.....	+0 37	-0 37	+7 47	
1897.				
Jan. 8.....	+0 10	-0 10	+0 47	+0 66
do 28.....	-0 07	+0 07	+1 45	+1 00
Feb. 11.....	+0 22	-0 22	-3 06	+1 19
Mar. 2.....	-0 04	+0 04	-0 90	-0 19
do 22.....	+0 35	-0 35	+10 71	-0 09
April 7.....	+0 20	-0 20	+0 35	-0 25
do 30.....	+0 05	-0 05	-0 28	-4 54
May 19.....	-0 06	+0 06	-0 32	+1 61
do 31.....	+0 17	-0 17	+0 84	+1 88
June 17.....	+0 15	-0 15	-0 41	+1 83

I have the honour to be, sir,
Your obedient servant,

R. F. STUPART,
Director.

APPENDIX A.

QUEBEC OBSERVATORY,
 QUEBEC, 28th July, 1897.

To the Director Meteorological Service,
 Toronto.

SIR,—I have the honour to transmit my annual report of the Quebec Observatory for the fiscal year ending 30th June, 1897.

All the meteorological observations were taken as heretofore.

The correct time has been daily given to the city by means of the noon gun, and to the shipping, during the navigation season, by means of the time ball, which is dropped directly from the observatory at 1 p.m. standard time (75th meridian). The ball is hoisted at half mast at 12 hours 30 minutes, and fully hoisted five minutes before dropping it. If any error occurs the ball is again hoisted at half mast, and remains so during one half hour.

There have been four failures of the time ball this year, one of which was on account of the breaking of the chain, and the others because the telegraph line was open and consequently there was no current.

The correct time was also given to watchmakers and others nearly every day.

I have the honour to be, sir,
 Your obedient servant,

ARTHUR SMITH,
Director Quebec Observatory.

APPENDIX B.

ST. JOHN OBSERVATORY, ST. JOHN, N.B.

R. F. STUPART, Esq.,
 Director Dominion Meteorological Service,
 Toronto.

SIR,—I have the honour to present my annual report for the fiscal year ending 30th June, 1897. The chief station routine of meteorological observations and reports have been continued as reported in former years.

The time service has received the usual careful attention and observations of standard stars are frequently made with the transit instrument for the correction of clock errors and rates. The daily time signal has been given to the shipping and others throughout the entire year (Sundays excepted) by dropping the time ball at 1 p.m. local time. The time determined at this observatory is daily transmitted by telegraph over the Intercolonial Railway and connections east of St. John. Frequent calls in person, as well as by telegraph and telephone are received at the observatory for correct time. The 8 a.m. weather bulletin containing the reports of the weather from the different telegraph stations from Chatham to New York, as well as the probabilities and general conditions of the weather throughout the continent, is posted in public places and published by all our daily newspapers. This bulletin is very much appreciated, especially by mariners, who seldom leave port during the

Marine and Fisheries—Marine Branch.

stormy season without consulting the bulletin. In addition to the bulletin a report of our local meteorological conditions is also published by our daily papers.

In this locality appreciation of the meteorological service continues to increase, and I have had many expressions of the value of the forecasts and warnings, issued by the service, from sea captains and others.

A large and interesting number of personal calls are received at the observatory for information in reference to coming weather, for memoranda from the office records for barometer and thermometer comparisons, &c. A considerable amount of time is taken up in answering these inquiries, and it is absolutely necessary that I should have some assistance to properly conduct the duties of this observatory.

Since November last I have been sending the daily forecasts of the wind and weather to St. Martin's by telephone, where it is publicly posted for the benefit of mariners and others at that port.

During the past year a larger number of visitors than usual have been shown through the observatory, and appear much interested in having the various instruments and use explained.

I have the honour to be, sir,
Your obedient servant,

D. L. HUTCHINSON,
Director.

APPENDIX No. 5.

SIGNAL SERVICE.

QUEBEC, 28th September, 1897.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report as to the service for the year ending 30th June, 1897.

As in preceding seasons, reports have been received from the stations in the lower part of the river and gulf recording the weather, wind, condition, location and movement of the ice during the winter and spring months, and during the season of navigation all inward and outward vessels as signalled and seen from the stations.

From the first to the 20th April, three reports per week were obtained and forwarded to the Boards of Trade, Montreal, St. John, N.B., and Quebec, and to Chamber of Commerce, Halifax, N.S., also to the press of Montreal and Quebec; to the agent of the department, Quebec; to the custom house and immigration agent; to agents of steamship lines, tug owners, to the pilots for below and above Quebec; also to Messrs. H. Fry & Co., Lloyd's agents, Quebec.

From the 21st April reports were received daily and forwarded as above, and in addition, the harbour commissioners, North Sydney, during the season of navigation.

The chief superintendent of the quarantine service at Grosse Isle is also supplied with full information as to weather, wind and the incoming of all transatlantic or foreign vessels.

The quarantine doctor at Rimouski is also supplied with a report of the incoming mail steamers, name of station and hour of passing being given when vessel first signalled.

Information was supplied from the bureau here as in past seasons to the agents at Anticosti, Magdalen Islands, Meat Cove, C. B., Cape Ray and Cape Race, Newfoundland, and to St. Pierre Miquelon; from the 13th April, as to the weather, wind, movement and condition of the ice in the Gulf and River of St. Lawrence up to Montreal, for the guidance of any vessel calling for information.

Information as to the wind, weather and ice in the vicinity of Anticosti, Magdalen Islands, Meat Cove, St. Paul's Island, Cape Ray, Newfoundland; is also sent to Point aux Esquimaux in March for the guidance of the sealing fleet.

NAVIGATION.

The Gut of Canso was closed on the 20th January and open for navigation on the 17th April.

The last steamer sailed from Sydney harbour on the 15th January but was not closed for navigation until the 31st. The first arrival from sea was on the 23rd April. Owing to heavy north-east gales, heavy field ice was driven in and the harbour remained closed from the 6th to the 12th May, when all ice disappeared.

Pleasant Bay, Magdalen Islands, was closed by ice on the 1st January, 1897; the last outward bound vessel, the mail steamer "St. Olaf" proceeded on the 21st of December, 1896. The harbour was again open on 4th May, but the ice was not entirely clear until the 20th of the same month.

The operator at Port Mulgrave, Gut of Canso, reported the condition of ice, weather and wind in the Gut as in the past seasons to Halifax, N.S., Pictou, N.S. and Charlottetown, P.E.I., until navigation was closed.

Marine and Fisheries—Marine Branch.

Grosse Isle, quarantine station, reported all transatlantic vessels when given pratique and has proved very satisfactory to the shipping interests.

These reports are free to the department, being transmitted over the Government telegraph line to Quebec.

October 29th, 1896.—The last sailing vessel, the ship "Cleveland," left on this date.

November 20th, 1896.—The last outward mail steamer, the S.S. "Vancouver," left on this date.

November 26th, 1896.—The last outward freight steamer, S.S. "Baltimore," left on this date.

March 24th, 1897.—The SS. "Constance" came out at Indian Cove, where she had wintered, and moored at the Queen's wharf.

March 31st, 1897.—SS. "Constance" left for below.

April 7th, 1897.—The following schooners arrived at Quebec from below: "Merry," "Josephine," "Ste. Anne," "Louise" and "Louisiana."

April 9th, 1897.—The following schooners left for below: "Salmon Queen," "Louise" and "Ste. Anne."

April 18th, 1897.—Pilot schooner left for below.

April 24th, 1897.—The steamers "Savoy" and "Otter" left for below, the former for Anticosti and the latter for the North Shore.

April 25th, 1897.—The steamer "Montreal" arrived from Montreal.

April 25th, 1897.—A steamer reported inwards at Cape Ray.

FIRST ARRIVALS FROM SEA, 1897.

The SS. "Montezuma," Captain Williams, from Barry, Eng., arrived in Quebec at 8.30 a.m., April 29th, and proceeded for Montreal. The captain reported, met heavy field and packed ice for a distance of 180 miles between St. Pierre Miquelon and Bird Rocks.

April 29th, 1897.—The SS. "Fremona" arrived at 3.15 p.m. and reported having met the same ice of the previous steamer.

May 6th, 1897.—The Royal Mail steamer "Scotsman" of the Dominion Line, Captain Maddox, from Liverpool, arrived.

May 7th, 1897.—The SS. "Montezuma" passed outwards from Montreal to London.

FIRST SAILING VESSELS.

May 13th, 1897.—The bark "Peerless" and brigantine "Iruna" arrived from Barbadoes.

Respectfully submitted,

H. J. McHUGH,
Superintendent.

APPENDIX A.

REPORT on ice &c., in the Straits of Belle Isle and west coast of Newfoundland as noted by the Agents of the Department at Belle Isle, Cape Bauld, Cape Normand, Forteau, Greenly Island and Point Rich, Newfoundland, from July, 1896, to June, 1897.

BELLE ISLE.

One iceberg still remains aground, since November 24th, 1896; bearing west about seven miles. No others were seen. The weather this month has been cold, with breezes of wind, fairly bright; snow fell on four days only this month.

Slob ice was first observed on the 2nd December. Sheet ice formed and kept moving in and out of the Straits.

January, 1897.—The ice in the Straits has been extensive sheet ice; no heavy ice came out from the north. From the 21st to the 28th heavy winds prevailed. The iceberg that grounded November 24th, 1896, still remains in the same position. No others were seen this month. An average amount of snow fell during the month. Rain storms occurred on the 5th, 6th, 24th and 25th. From the 15th to the 30th, navigation was open between Cape Bauld and this island.

February, 1897.—A large quantity of ice, passed in and out of the Straits during this month and quite a number of icebergs passed to the south, at quite a distance from here. Fresh to strong variable winds prevailed, but very few snow storms. Though there has been a strong pressure of wind and ice, the iceberg grounded last November still remains in the same position.

March, 1897.—Very little field ice in the Straits during the first part of this month, but owing to very cold weather, the ice made fast in all the inlets. During the latter part of the month winds from the east and north-east prevailed, which brought in a quantity of heavy field ice and blocked the Straits in all directions. Thirty icebergs, some of them very large were noted to the eastward; quite a number passed to the southward some thirty miles distant and only five entered the Straits. Snow fell on the 2nd, 4th, 5th, 12th, 14th and 18th of this month.

April, 1897.—During this month the Straits have been full of ice; though an immense quantity of ice came from the west, it was driven out to sea by the prevailing winds from the 19th to the 22nd. From that date onwards north-east winds prevailed and a great deal of ice was brought into the Straits. No vessels were seen this month.

May, 1897.—This month was little different to last month, with the exception of a good deal of fog and sleet was observed and quite a number of icebergs passing to the south. West north-west winds prevailed, and on the 28th the Straits were clear of ice as far as could be seen.

June, 1897.—This month commenced with fresh to strong gales from east to north-east. On the 7th, the ice commenced to come into the Straits and remained scattered until the 29th. The weather has been cold, foggy and wet. The first steamer passed through on the 27th but did not signal. Schooners bound north have been greatly delayed by ice. No seals seen during the whole winter.

Marine and Fisheries—Marine Branch.

Icebergs.

1896.

November 24th.—One iceberg to the westward.

1897.

March 28th.—30 to the eastward.

March 29th.—30 “ “

March 30th.—30 “ “

March 31st.—30 “ “

April 4th.—36 to the south.

April 5th.—36 “ “

April 7th.—37 to the westward.

April 8th.—41 “ “

April 9th.—43 to the eastward.

May 13th.—13 close in shore.

May 30th.—56 in sight.

CAPE BAULD, NEWFOUNDLAND.

As stated in previous reports, the distance from Belle Isle being but 14 miles, the observations as to wind, weather, etc., vary but little with the latter place. No seals were killed on shore and but one was sighted on the 10th of February; in previous seasons thousands were observed floating up and down with the ice.

CAPE NORMAN.

October 7th, 1896.—First fall of snow, north-east wind.

October 31st, 1896.—First slob ice formed along shore. From the middle of November to the 15th of May snow fell on alternate days. The Strait remained filled with ice until the 20th of June, when the field ice broke up and showed open water everywhere. No seals seen.

Icebergs.

From the 1st to the 24th of October one seen daily.

From 17th to 31st of May seven seen daily.

From the 1st of June to the 30th, from seven to twenty seen daily.

From the 1st to the 30th of July, from five to seventy daily.

Similar weather prevailed off Greenly Island, Point Amour, and from Point Rich, Newfoundland. No seals or icebergs observed, but large quantities of field ice without open spaces of water until the ice disappeared from the Straits.

Respectfully submitted,

H. J. McHUGH,
Superintendent.

APPENDIX B.

THERMOMETER Readings at Belle Isle, from 1st December, 1896, to 31st May, 1897.

Date.	Degrees.	Date.	Degrees.	Date.	Degrees.
1896.		1897.		1897.	
December 1	10	January 29	18	April 1	30
do 2	3	do 30	15	do 2	30
do 3	3	do 31	12	do 3	20
do 4	5	February 1	2	do 4	20
do 5	20	do 2	9	do 5	7
do 6	2	do 3	7	do 6	22
do 7	14	do 4	2	do 7	16
do 8	4	do 5	16	do 8	21
do 9	18	do 6	18	do 9	19
do 10	13	do 7	17	do 10	14
do 11	3	do 8	17	do 11	19
do 12	5	do 9	27	do 12	10
do 13	24	do 10	0	do 13	16
do 14	30	do 11	2	do 14	28
do 15	20	do 12	3	do 15	27
do 16	12	do 13	15	do 16	33
do 17	9	do 14	20	do 17	30
do 18	14	do 15	15	do 18	34
do 19	20	do 16	15	do 19	32
do 20	30	do 17	17	do 20	34
do 21	19	do 18	12	do 21	26
do 22	10	do 19	7	do 22	30
do 23	2	do 20	9	do 23	33
do 24	10	do 21	12	do 24	30
do 25	11	do 22	17	do 25	34
do 26	19	do 23	16	do 26	36
do 27	6	do 24	19	do 27	31
do 28	4	do 25	20	do 28	36
do 29	21	do 26	29	do 29	54
do 30	4	do 27	15	do 30	34
do 31	4	do 28	5	May 1	26
1897.		March 1	18	do 2	33
January 1	13	do 2	4	do 3	36
do 2	7	do 3	6	do 4	30
do 3	27	do 4	20	do 5	36
do 4	0	do 5	20	do 6	26
do 5	20	do 6	20	do 7	14
do 6	38	do 7	12	do 8	27
do 7	32	do 8	5	do 9	33
do 8	1	do 9	3	do 10	33
do 9	8	do 10	13	do 11	34
do 10	16	do 11	22	do 12	36
do 11	16	do 12	21	do 13	33
do 12	32	do 13	26	do 14	30
do 13	0	do 14	12	do 15	36
do 14	13	do 15	9	do 16	37
do 15	3	do 16	3	do 17	40
do 16	14	do 17	34	do 18	47
do 17	13	do 18	16	do 19	44
do 18	29	do 19	19	do 20	33
do 19	1	do 20	22	do 21	40
do 20	15	do 21	27	do 22	41
do 21	18	do 22	27	do 23	38
do 22	6	do 23	31	do 24	46
do 23	27	do 24	30	do 25	44
do 24	38	do 25	30	do 26	41
do 25	30	do 26	26	do 27	44
do 26	22	do 27	33	do 28	41
do 27	6	do 28	25	do 29	44
do 28	14	do 29	30	do 30	46
		do 30	31	do 31	44
		do 31	30		

NOTE.—The black figures denote below zero.

Marine and Fisheries—Marine Branch.

Lowest temperature, 1896, 25th December; highest, 14th and 20th. Lowest temperature, 1897, 21st of January; highest, 24th of January. Highest, February 10th and 26th; lowest, 27th of February. Highest, March 17th; lowest, 1st of March. Highest, April 29th; lowest, 5th and 12th. Highest, May 18th; lowest, 7th.

Respectfully submitted,

MICHAEL COLTON, *Light-keeper.*

H. J. McHUGH, *Superintendent of Signal Service.*

APPENDIX

TELEGRAPH, SEMAPHORE AND SIGNAL

RIVER AND GULF
SOUTH SHORE OF THE

Signal Stations.	Telegraph Offices.	Lighthouse.	Flag Stations.	Semaphore Station.	Marine Miles from Quebec.	Telegraph Co. Working Lines.
1 L'Islet	Tel. Office		Flag..		41	Great North-western Co.
2 Rivière du Loup	do	Lighthouse... ..	do		94	do
3 Father Point	do	do	do		137	do
4 Little Métis	do	do	do		176	do
5 Matane	do	do	do		199	do
6 Cape Chatte	do	do	do		233	do
7 Martin River	do	do	do		258	do
8 Cape Magdalen	do	do	do		292	do
9 Fame Point	do	do	do		322	do
10 Cape Rosier	do	do	do		346	do

NORTH SHORE OF THE

11 Port Neuf	Tel. Office	Lighthouse... ..	Flag..		144	Dom. Govt. and G.N.W. Co. ..
12 Manicouagan	do	do	do		187	do do ..
13 Pointe des Monts	do	Lighthouse... ..	do		220	do do ..

GASPE COAST

14 Cape Despair	Tel. Office	Lighthouse... ..	Flag..		376	Great North-western Co.
15 Pointe Maquereau	do	do	do		398	do

COAST OF NEW

16 Point Escuminac	Tel. Office	Lighthouse... ..	Flag..		450	Dom. Govt. and G.N.W. Co. ..
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ISLAND OF

17 West Point	Tel. Office	Lighthouse... ..	Flag..		333	Dom. Govt. and G.N.W. Co. ..
18 South-West Point	do	do	do		358	do do ..
19 South Point	do	do	do		414	do do ..
20 Heath Point	do	do	do		437	do do ..

MAGDALEN

21 Grosse Isle	Tel. Office	Lighthouse... ..	Flag..		473	D. Govt., W.U. & G.N.W. Co. ..
22 Amherst Island	do	do	do		489	do do ..

CAPE BRETON,

23 Meat Cove	Tel. Office	Lighthouse... ..	Flag..		528	D. Govt., W.U. & G.N.W. Co. ..
24 Low Point	do	do	do	Semaphore ..	580	do do ..

ST. PAUL'S

25 Main Station	Telephone	Lighthouse... ..	Flag..		534	D. Govt., W.U. & G.N.W. Co. ..
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NEWFOU

26 Cape Ray	Tel. Office	Lighthouse... ..	Flag..		551	D. Govt., Anglo-Amer. Cable Co., W.U. & G.N.W. Co. ..
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Marine and Fisheries—Marine Branch.

C.

STATIONS, MARINE DEPARTMENT, CANADA.

OF ST. LAWRENCE.

RIVER ST. LAWRENCE.

Rate per ten words and additional words.	Date when established.	Name of Agent.	Post Office.	County.	Province.	Salary per annum from Marine Dept.
25c. & 1c.	Oct. 28, '79.	Mrs. J. B. E. Fortin	L'Islet	L'Islet	Que.	\$50
do	Nov. 16, '81.	L. T. Piuze	Rivière du Loup (en bas)	Témiscouata	do	50
do	Nov. 22, '79.	John McWilliams	Father Point	Rimouski	do	50
do	Nov. 17, '79.	Jules Martin	Little Métis	do	do	50
do	Nov. 5, '79.	Jos. Banville	Matane	do	do	50
do	Sept. 19, '79.	Treflé Côté	Cape Chatte	Gaspé	do	50
do	Sept. 23, '79.	Jean Gauthier	Martin River	do	do	50
do	Oct. 9, '79.	J. F. Sasseville	Cape Magdalen	do	do	50
do	Oct. 14, '80.	James Ascah	Fox River	do	do	50
do	Oct. 20, '79.	E. Costin	Cape Rosier	do	do	50

RIVER ST. LAWRENCE.

40c. & 2c.	June 1, '83.	Dorelas Tremblay	Port Neuf (en bas)	Saguenay	Que.	\$50
do	Aug. 15, '83.	A. Lausier	Manicouagan	do	do	
do	Oct. 19, '83.	V. Faffard	Pointe des Monts	do	do	50

OF THE GULF.

25c. & 1c.	June 17, '80.	James Beck	Cape Despair	Gaspé	Que.	\$50
do	May 22, '80.	Auguste Bertrand	Port Daniel	do	do	50

BRUNSWICK.

40c. & 2c.	July 2, '85.	K. McLennan	Point Escuminac	Northumberland	N.B.	
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ANTICOSTI.

75c. & 6c.	Oct. 1, '81.	Auguste Malouin	Anticosti Id. via Gaspé	Gaspé	Que.	
do	Oct. 18, '80.	E. Pope	do	do	do	
do	July 27, '81.	Alphonse Nadeau	do	do	do	
do	July 20, '81.	Z. Gagné	do	do	do	

ISLANDS.

\$1.00 & 8c.	Aug. 17, '80.	A. Le Bourdais	Magdalen Id. via Pictou	Gaspé	Que.	
do	June 11, '81.	William Cormier	do N. S.	do	do	

NOVA SCOTIA.

55c. & 3c.	Nov. 7, '81.	A. R. MacDonald	Meat Cove, C. B.	Victoria	N.S.	
30c. & 2c.	Aug. 1, '81.	J. G. Peters	Low Point, C. B.	Cape Breton, N.S.	do	\$50

ISLAND.

80c. & 5c.	1890	S. C. Campbell	North Sydney, C. B.	Victoria	N.S.	
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N.D.LAND.

\$1.05 & 10c.	Nov. 3, '82.	E. R. Rennie	Cape Ray	Newfoundland	Nfld.	\$50
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PORT OF HALIFAX, N.S.
PARTICULARS of Vessels Signalled during

MONTH.	English Men-of-War.			Foreign Men-of-War.			Steamers 1st class.			Steamers 2nd class.		
	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.
1896.												
July.....	5	5	0	1	1	0	21	15	6	78	78	0
August.....	0	0	0	0	0	0	17	13	4	84	84	0
September.....	5	5	0	1	1	0	22	20	2	86	84	2
October.....	5	5	0	0	0	0	26	22	4	64	64	0
November.....	1	1	0	1	1		28	21	7	59	59	0
December.....	0	0	0	0	0	0	29	22	7	75	72	3
1897.												
January.....	0	0	0	0		0	28	26	2	42	42	0
February.....	0	0	0	0	0	0	32	28	4	36	33	3
March.....	0	0	0	0	0	0	30	27	3	54	54	0
April.....	1	1	0	0	0	0	37	32	5	41	38	3
May.....	5	5	0	0	0	0	22	18	4	54	54	0
June.....	4	4	0	0	0	0	23	16	7	75	75	0
Totals.....	26	26	0	3	3	0	315	260	55	748	737	11

N.B.—Besides those sailing vessels reported a large number arrived during the night of which

Marine and Fisheries—Marine Branch.

SIGNAL SERVICE.

the year ending 30th June, 1897.

Ships.			Barques.			Barquentines.			Brigs.			Brigantines.			Schooners 3-masted or wearing Private Signals.			Monthly Totals.		
Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.	Reported.	Arrived.	Passed.
0	0	0	2	2	0	3	3	0	0	0	0	7	7	0	8	7	1	125	118	7
1	0	1	4	4	0	1	1	0	0	0	0	5	4	1	9	5	4	121	111	18
2	2	0	4	4	0	6	5	1	0	0	0	2	2	0	18	14	4	146	137	9
0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	12	11	1	109	104	5
0	0	0	0	0	0	2	2	0	0	0	0	4	4	0	9	9	0	104	97	7
0	0	0	1	1	0	2	1	1	0	0	0	0	0	0	1	1	0	108	97	11
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	71	69	2
0	0	0	0	0	0	0	0	0	0	0	0	4	2	2	3	3	0	75	66	9
1	1	0	1	1	0	2	2	0	0	0	0	1	1	0	2	2	0	91	88	3
2	2	0	9	9	0	0	0	0	0	0	0	3	3	0	2	2	0	95	87	8
1	1	0	8	8	0	4	4	0	0	0	0	3	2	1	3	3	0	100	95	5
0	0	0	9	7	2	1	1	0	0	0	0	4	2	2	4	3	1	120	108	12
7	6	1	38	36	2	21	19	2	0	0	0	35	29	6	72	61	11	1,265	1,177	96

no notice was taken.

H. V. KENT, Capt. R. E.
Superintendent of Signals.

SIGNAL STATION, CITADEL,

HALIFAX, N.S., 28th October, 1897.

J. PARSONS, Esq.,
Agent Marine and Fisheries.

SIR,—I have the honour to forward herewith a report of the number of vessels reported at this station during the twelve months ending June 30th, 1897.

I have to report that the service has been carried out satisfactorily, but that in order that the new code of signals may be more generally understood, the publication of the illustrated diagrams of the code should be hastened.

This would obviate in a great measure the frequent inquiries made to the Signal Station, by telephone, when signals are hoisted.

It will be noticed that no brigs have been reported during the year, nor were any reported last year.

This rig might be left out of returns in future.

I have the honour to be, sir,
Your obedient servant,

H. V. KENT, Captain R.E.,
Supt. of Signals at Halifax.

Marine and Fisheries—Marine Branch.

APPENDIX No. 6.

BOARD OF EXAMINERS OF MASTERS AND MATES.

HALIFAX, N.S., 20th September, 1897.

The Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the annual report of the proceedings of the Board of Examiners of Masters and Mates from the 30th June, 1896, to the 30th June, 1897—the end of the fiscal year.

The board met for examinations as follows:—

At the port of Halifax	11 times.
“ “ St. John.....	7 “
“ “ Yarmouth	2 “
“ “ Quebec	1 “
	21 times.

There were also 12 examinations held at Victoria, B.C., the papers and problems being forwarded to the agent at that place, and returned to Halifax for inspection and approval of the chairman of the board.

At Halifax 6 applications were made for foreign-going certificates of competency as master and 10 for coasting; 5 foreign-going and 10 coasting masters received certificates. Thirteen applications were made for foreign-going certificates of competency as mate and 2 for coasting; 9 foreign-going mates and 2 coasting received certificates.

At St. John 10 applications were made for foreign-going certificates of competency as master, and 9 foreign-going masters received certificates; 5 applications were made for foreign-going certificates as mate, and 5 mates received certificates.

At Yarmouth 3 applications were made for foreign-going certificates as Master, and all were successful; 4 applications were made for foreign-going certificates as mate, and 3 mates received certificates.

At Quebec one candidate applied for a mate's certificate, foreign-going, and was successful.

At Victoria, B. C., one application was made for a master's certificate coasting sixteen for mate foreign; one master coasting and fourteen mates foreign-going and received certificates.

Thus it will be seen that for the twelve months ending June 30th, 1897, nineteen applications were made for masters' certificates of competency foreign-going and thirty-nine for mates'; seventeen masters and thirty-two mates received certificates. Eleven applications for certificates as master competency for coasting vessels were made to the Board of Examiners, and two for mate; eleven masters and two mates received certificates.

Seven certificates of service were issued through the Halifax office for masters coasting and two for mates, and two renewal certificates were issued.

The total number of certificates issued by the Department of Marine and Fisheries, including competency, service and renewal, upon applications made to the Board of Examiners, Halifax, was seventy-three and fees to the amount of \$651.50 were collected. The fees for the examinations at Victoria, are sent direct to Ottawa and are not accounted for by the chairman.

This report does not take into consideration coasting and inland certificates granted by the Department of Marine and Fisheries, after an examination passed at other ports than those mentioned.

At St. John, the local member of the board holds examinations for coasting candidates and makes returns to the department.

Amongst the applications above enumerated, some candidates have presented themselves a second, third, and even fourth time for examination, for master or mate as the case may be, having previously failed.

The names of these candidates appear upon the books as often as they come forward. They are, however, permitted to have a second trial without paying another fee, but on each successive occasion after that, the full amount of the fee is collected from them.

I am of opinion that the standard of examination of officers applying for masters' certificates in the Canadian coasting trade, either for sailing vessels or for steamships, requires to be raised, as at present it is very inferior.

The examination for a master coasting is not even equal to that of a second mate of a sea-going vessel.

An applicant for a coasting certificate as master, is only required to do one problem, namely to find the latitude by a meridian altitude of the sun, while the second mate sea-going is obliged to write definitions of various astronomical and other terms used in navigation and have a competent knowledge of the first five rules of arithmetic and the use of logarithms. He must be able to work a day's work complete, correcting the courses for deviation, leeway and variation. He is required to find the latitude by meridian altitude of the sun, and the difference of longitude from a given departure by parallel sailing; also to find the course and distance from one position to another by Mercator's method. He is required to find the time of high water at a given port, to observe and calculate the amplitude of the sun, and to find the error of the ship's compass therefrom, and also the deviation, the variation being given. He must be able to find the daily rate of the chronometer from error observed, and to find the longitude from the altitude of the sun by the usual methods.

I therefore consider that the whole system of coasting examinations requires to be revised and improved to keep up with the progress of the times.

During the past year one candidate failed in the colour test. The British Board of Trade have from time to time changed the rules respecting this test and made them more stringent. At present the examination for form vision, colour vision and colour ignorance are open to all persons serving or intending to serve in the British mercantile marine. Canadian candidates for sea-going certificates are compelled to pass this test, but coasting and inland officers are not, they having to pass the simple test of three colours: white, red and green.

It is no doubt important that all officers serving on board of vessels should be carefully examined as to their colour vision before being entrusted with duties, the proper performance of which, frequently depends upon their ability to distinguish coloured lights, either on board other vessels or on shore in lighthouses.

The consequences of mistakes on the part of those who are keeping a look-out for lights, may possibly be of so serious a character, that no precautions which may be taken can be too great with a view to prevent such mistakes occurring.

In December, 1895, I received a letter from the department, stating that it was carrying on a survey of tides and currents on the coast by which important additions to its knowledge was being obtained, and informing me that the latest knowledge of this character would be included in the subjects for examination before my board, and I notified the instructors of navigation to that effect.

The information gained from a survey of the Gulf of St. Lawrence and Straits of Belle Isle, made for the purpose of ascertaining the movements of the tides and currents of those waters, will, no doubt, be of much service to mariners, and the inauguration of the method of continuous tidal records, obtained from the automatic gauges placed at some of the principal ports of our coast, and other places in the Gulf of St. Lawrence, will no doubt hereafter prove beneficial and assist in the safe navigation of all classes of vessels.

Marine and Fisheries—Marine Branch.

The influences which act upon the waters of the Gulf of St. Lawrence, are ever changing, making it most difficult for officers of ships to calculate the force and direction of the tidal current with any great degree of certainty.

Mr. W. Bell Dawson, who conducted the survey, has given much valuable information upon the subject, and it is to be hoped the Government will see their way to prosecute this useful work for many years, as the short time occupied in the survey is not sufficient to give any proper knowledge of the movements of the tide.

I regret to say that the officers who have been examined for certificates have not given this matter the attention it deserves.

I also find many officers deficient in their knowledge of the use of the chart, more especially when the examination is given on a coastal chart.

From information gathered from the officers, it would appear that very few masters of ships take any interest in giving them any instruction upon the chart, and in some cases they are prohibited from looking at them at all.

I have the honour to be, sir,
Your obedient servant,

W. H. SMITH,
Chairman.

APPENDIX No. 7
LIVE STOCK SHIPMENTS.

Record of Live stock shipped from Port of Montreal during month of May, 1897.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.				HORSES.		SWINE.		Hay for Feed.	Grain for Feed.	Number of Men.	United States Cattle in Bond.	
				Shippers.	Lost.	Fat.	Stockers.	Total.	Lost.	Shipped.	Lost.	Shipped.	Lost.					Shipped.
	1897.																	
1	May 6.	Montezuma	London.			658				658		180						28
2	do 8.	Manitoba.	Glasgow			379				379								15
3	do 9.	Lake Superior	Liverpool			623				623		70						26
4	do 9.	Triconia	Glasgow.	*795		413				413		101						20
5	do 9.	Scotsman	Liverpool			868				868		79						35
6	do 9.	Nurmidian	do			523				523		22						22
7	do 11.	Ashanti	Bristol			375				375		75						16
8	do 11.	Brazilian	London.			419				419								18
9	do 11.	Fremona	do			470				470								19
10	do 11.	Cynthia	Manchester	85		505	15			520								21
11	do 11.	Lycia.	Bristol			361	35			406								16
12	do 11.	Ormidale	London.			283				283								11
13	do 11.	Pecurian	Glasgow.			411				411		13						16
14	do 11.	Russmore	Liverpool			691	30			721								28
15	do 11.	Keemun	Glasgow.			407				407		85						16
16	do 15.	Cervona	London			400				400		180						16
17	do 15.	Lake Winnipeg	Liverpool			669	10			679								24
18	do 18.	Sarmation	Glasgow			449				449		41						18
19	do 18.	Devona	London.			475				475		88						12
20	do 19.	Ganges	Newcastle.			215				215								9
21	do 19.	Lake Ontario	Liverpool			504				504		80						20
22	do 19.	Montevidean.	London.			380				380		60						15
23	do 20.	Concordia	Glasgow.			400				400		39						16
24	do 20.	Mennon	Bristol			390	20			410								16
25	do 21.	Hurona	London.			520				520		96						20
26	do 21.	Carlisle City	do			382				382		50						17
27	do 22.	Hankow	Newcastle.	54		202				202		40						8
28	do 22.	Labrador	Liverpool									59						

RECORD of Live Stock Shipped from Port of Montreal during Month of June, 1897.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.			HORSES.		SWINE.		Hay for Feed. Lbs.	Grain for Feed. Lbs.	Number of Men.	United States Cattle in Bond.
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Shipped.	Lost.	Shipped.					Lost.
	1897.															
40	June 1	Gerona.....	London	381		381		381		18					15	
41	do 2	Pomeranian.....	Glasgow.	459		459		459		64					21	
42	do 3	Alicides.....	do	422		422		422		21					17	
43	do 4	Etolia.....	Bristol	427	30	457		457		20					17	
44	do 5	Lake Huron.....	Liverpool.	647		647		647		71					27	
45	do 6	Escacona.....	Newcastle.	220		220		220		3					9	
46	do 7	Laurentian.....	Liverpool.	762		762		762		44					31	
47	do 8	Lake Superior.....	do	544		544		544		8					21	
48	do 9	Ormiston.....	London	522		522		522		29					21	
49	do 10	Buenos Ayrean.....	Glasgow..	449		449		449		40					18	
50	do 11	Kildona.....	London	388	15	403		403		66					16	
51	do 12	Tritona.....	Glasgow..	418		418		418		49					18	
52	do 13	Torr Head.....	Belfast.	399	20	419		419		18					17	400
53	do 14	Numidian.....	Liverpool.	683		683		683		56					28	
54	do 15	Scotsman.....	do	695	30	725		725		10					29	
55	do 16	Rosemore.....	do	638		638		638		55					26	
56	do 17	Queensmore.....	London	392		392		392							17	
57	do 18	Lycia.....	Bristol	357	20	377		377		50					18	
58	do 19	Rosarian.....	London	447		447		447		7					19	
59	do 20	Norwegian.....	Glasgow..	597		597		597		15					24	
60	do 21	Lake Winnipeg.....	Liverpool.	63		63		63		45					19	
61	do 22	Kearun.....	Glasgow..	372	15	387		387		5					15	
62	do 23	Ashanti.....	Bristol	336	48	386		386		5					16	
63	do 24	Boston City.....	London	210		210		210		3					8	
64	do 25	Montezuma.....	do	542		542		542		56					28	98
65	do 26	Fremona.....	do	372		372		372		6					16	
66	do 27	Lord Gough.....	Newcastle.	261		261		261		25					12	
67	do 28	Oakmore.....	Liverpool.	647		647		647		14					29	
68	do 29	Sarmatian.....	Glasgow..	445		445		445		62					17	
69	do 30	Cervona.....	London	400		400		400		74					16	
70	do 31	Lake Ontario.....	Liverpool.	463	10	473		473		60					19	
71	do 32	Ornidale.....	London	283		283		283		7					12	
72	do 33	Straits Menai.....	Manchester	293	60	353		353		4					14	49
73	do 34	Mennon.....	London	350	62	412		412		5					14	97

Marine and Fisheries—Marine Branch.

74	Concordia	Glasgow	392	17	409	6 14	136	101
75	Iona	London	420		420	6 30	196	17
76	June 26	Liverpool	612	35	647	9 71	57	400
77	do 27	London	353		353	5 30		27
78	do 28	London	629		629	13 86		14
79	June 29	Parkmore	884		884	7 24		100
80	do 30	Brazilian	211	45	412	7 40	21	32
		Glasgow	443		443	7 40	91	17
81		Devona	289		482	8 73		18
		London	482		482			20
								411
	Total for June		3,830	417	18,938	303 30	1,502	788
	Reported May 31st, 1897		2,736	13	18,073	284 89	1,530	703
	Total to date		6,566	537	37,011	588 19	3,032	1,491
								2,456

REVISED RECORD of Live Stock shipped from Port of Montreal during twelve months ending 30th June, 1897.

Number of Vessels.	Date.	SHEEP.		CATTLE.			HORSES.		Grain for Feed.	Hay for Feed.	Number Men.	United States cattle shipped from Montreal, but included in the totals.	Sent from Montreal to Quebec by rail and put on shipboard there; not taken into account at Montreal.			
		Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Shipped.					Lost.	Sheep.	Cattle.	Horses.
274	1st July, 1896, to close of season 1896.	76,520	438	95,012	1,436	96,448	185	1,830	18	28,214	157	5,711,043	4,408	3,756	3,741	88
81	Opening of season to 30th June, 1897.	6,566	20	36,474	537	37,011	43	588	19	8,995,040		3,173,904	1,491			
355	Total for 12 months ending 30th June, 1897.	83,086	458	131,486	1,973	133,459	528	2,418	37	37,209,197		8,884,947	5,899	3,756	3,741	88

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

MONTREAL, 1st July, 1897.

Record of Live Stock shipped from Port of Montreal during month of July, 1897.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.				HORSES.		SWINE.		Hay for Feed.	Grain for Feed.	Number of Men.	United States Cattle in Bond.	
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Fees Collected.	Shipped.	Lost.	Shipped.					Lost.
	1897.																	
82	July 2.	Amarynthia	Glasgow	36		432		432		25							135	
83		Lake Huron	Liverpool	536		493	25	518		86							77	
84		Cynthia	Manchester	546		413	90	503									59	
85		Merrimac	Bristol			366		366		2							750	
86	July 3.	Ottoman	Liverpool	671		750		750		30								
87	do 4.	Ganges	Newcastle			216		216		3	24							
88		Milwankee	London	934		593	25	593		133							251	
89	July 6.	Antwerp City	Manchester	151		215		240									250	
90	do 7.	Bellona	London	197		250		250		4	74						140	
91		Montevideo	do	442		367	35	402										
92		Lake Superior	Liverpool	391		369	20	389										
93	July 8.	Sardinian	Glasgow	1,082		444		444		129							113	
94	do 15.	Baltimore	Liverpool	583		537	32	569									100	
95		Aleides	Glasgow			419		419		35								
96	July 9.	Etolia	Bristol			309		309									193	
97		Hurons	London	470		320		320		207							300	
98	July 10.	Laurentian	Liverpool			698	40	738									440	
99	do 11.	Grecian	London	1,223		257		257		56							136	
100		Belgium King	do	480		47		47										
101	July 12.	Baltimore City	Manchester	460		164	40	204										
102	do 13.	Hankow	Aberdeen	459		202		202										
103	do 14.	Fomeranian	Glasgow	423		454		454									146	
104	do 15.	Pretoria	do	748		443		443									107	
105	do 16.	Lycia	Bristol			281	30	311									118	
106	do 16.	Carlisle City	London	586		157	51	208		85								
107		Rossmore	Liverpool			702	20	722									399	
108	July 17.	Nunuidian	do			455		455		17							20	
109		Kildona	London			350		350		132							350	
110		Scotsman	Liverpool			595	40	635		104							117	
111		Stockholm City	Manchester	456		200		200										
112	July 18.	Orniston	London	982		453		453		8							323	
113		Aviona	Newcastle			260		260									97	
114	July 20.	Buenos Ayrean	Glasgow	997		448	5	453		28								
115	do 21.	Lake Winnipeg	Liverpool	241		562	20	582		15							176	

RECORD of Live Stock shipped from Port of Montreal during month of August, 1897.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.			HORSES.		SWINE.		Hay for Feed.	Grain for Feed.	Number of Men.	United States Cattle in Bond.
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Rees Collected.	Shipped.	Lost.					Lbs.	Lbs.
	1897.															
130	Aug. 1	Ruperra	Cardiff			163		163		2 45					6	
131		Ormidale	London	313		225		225		4 95					10	
132		Montezuma	do			386		386		8 34					18	
133	Aug. 3	Sarmatia	Glasgow			427		427	51	7 76					19	
134	do 4	Lake Ontario	Liverpool			376	28	404	78	9 96					22	
135	do 5	Amarynthia	Glasgow			412	5	417	42	8 36					20	
136		Merrimac	Bristol			380	30	419	1	6 34					18	
137	Aug. 6	Iona	London			374		374	180	14 61					26	
138		Lord Gough	Newcastle	194		297		297	30	6 93					16	
139	Aug. 7	Ottoman	Liverpool			874		874		13 11					36	
140		Straits Menai	Manchester			344		344		5 16					14	
141	Aug. 8	Parkmore	London	406		340		340		7 13					15	
142		Brazilian	do	257		427		427	40	9 70					27	
143	Aug. 9	Baltimore	Liverpool	183		675		675		11 04					28	
144	do 10	Aleides	Glasgow			238		238	33	5 22					11	
145		Sardinian	do			445		445	49	6 68					18	
146	Aug. 11	Lake Superior	Liverpool			385		385		8 23					11	
147	do 12	Keemun	Glasgow			265		265		3 98					17	
148	do 13	Craftsman	Liverpool			434		434		6 51					12	
149		Ethlia	Bristol			276	30	306		4 59					24	
150		Devona	London	97		391		391	137	13 21					32	
151	Aug. 14	Laurentian	Liverpool			818		818		12 27					11	
152	do 15	Bellona	Newcastle			270		270	1	4 10					18	
153		Gregan	London	991		314	30	344		10 12					19	
154	Aug. 17	Pomeranian	Glasgow			461		461	19	7 87					18	
155	do 18	Montevideoan	London			417		417	19	7 21					9	
156		Boston City	do			206		206	20	8 04					16	
157	Aug. 19	Montcalm	Bristol			345		345		6 18					20	
158		Tritonia	Glasgow	399		442		442	17	9 48					18	
159	Aug. 20	Hurona	London			343		343	217	16 00					26	
160	do 21	Milwaukee	do	640		443	41	514	132	17 21					32	
161	Aug. 22	Rossmore	Liverpool			732		732		10 83					29	
162		Ganges	Newcastle			208		208	10	3 27					10	
163	do 24	Buenos Ayrean	Glasgow	549		446		446		9 44					21	32

RECORD of Live Stock shipped from Port of Montreal during the month of October, 1897.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.			HORSES.		SWINE.		Hay for Feed.	Grain for Feed.	Number of Men.	U. S. Cattle in bond.	Cattle to be shipped at Quebec.
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Shipped.	Lost.	Shipped.						Lost.
	1897.																
221	Oct. 1.	Lycia.	Bristol.	271	396	4 59									12		
222	do 2.	Scotsman	Liverpool	720	412	10 80	35	720	1						28		
223	do 3.	Numidian	do	412	355	9 23		412	61						21		
224	Oct. 4.	Orniston	London	355	450	14 40		355							22		
225	do 5.	Norwegian	Glasgow	330	244	8 40		450							18	45	
226	do 5.	Concordia	do	244	675	3 66		244							9	44	
227	do 5.	Oakmore	Liverpool	935	155	14 80		675	20						30		
228	Oct. 6.	Lake Huron	do	660	482	6 63		155							6		
229	do 6.	Tower Hill	do	482	182	7 38		482							16		
230	Oct. 9.	Escalona	Newcastle.	182	807	4 43		182	34						10		
231	do 9.	Labrador	Liverpool	807	400	0 85		807	17						1		
232	do 9.	Carthaginian	do	400	380	13 36		400	25						34		
233	Oct. 10.	Gerona	London	380	550	11 05		380	101						23		
234	do 10.	Rosarian	do	550	324	8 73		550							18		
235	do 10.	Fremona	Liverpool	324	200	8 25		324							23		
236	do 10.	Montrose	Bristol.	200	300	5 54	45	369							14		
237	do 10.	Belgian King.	London	300	436	3 00		200							14		
238	Oct. 12.	Kibona	do	436	299	7 50		300	60						8		
239	do 12.	Sarnatian	Glasgow	299	301	9 99		436	39						15		
240	do 12.	Amarynthia	do	301	512	9 86		301							21	30	
241	do 12.	Mennon.	Liverpool	512	680	4 52		512	36						10	44	
242	do 12.	Lake Ontario.	do	680	272	1 80		680	2						2		
243	do 12.	Lavonian	do	272	267	7 78		272							21		
244	do 12.	Baltimore	do	267	283	13 16		267							20		
245	Oct. 14.	Barnesmore	do	283	263	4 06		263							11		
246	do 15.	Keenan	Glasgow	263	56	4 00		263							11		
247	do 15.	Boston City.	London	263	298	5 32		263	26						12	45	
248	do 15.	Montcalm	Bristol	298	352	5 25		263							12		
249	Oct. 16.	Ottoman	Liverpool	352	426	6 76		352							12		
250	do 17.	Aleides	Glasgow	426	392	6 76		392							28		400
251	do 17.	Sardinian	do	392	426	4 12		392							9		
252	do 17.	Ormidale.	London	426	392	6 11		426	20						14	30	
253	do 17.	Roumanian	Liverpool	392	426	4 12		392							18		
254	Oct. 19.	Cervona	London	426	392	7 04		426	13						18		
255	do 19.	do	do	392	426	11 05		392	95						15		

APPENDIX No. 8.

STATEMENT relating to the Wharfs under the control of the Department, on
30th June, 1897.

Locality.	Wharfinger.	Date of Appointment of Wharfinger.	Remuneration Allowed.	Amount deposited to credit of Receiver General.
<i>Ontario.</i>				\$ cts.
Cockburn Island	Alfred Monck	May 30, 1889.	25 p.c. of collections	44 12
Goderich	W. Mariton	Feb. 14, 1894.	25 do	869 21
Kingsville	A. E. Malott	Nov. 6, 1895.	25 do	31 43
Morpeth	C. Stammers	Aug. 1, 1894.	25 do	
Rondeau	W. R. Fellowes	Dec. 17, 1888.	25 do	85 70
Sault Ste. Marie	Geo. Boyd	April 9, 1897.	\$112 per month for eight months, during season of navigation	485 99
Southampton	Geo. McVittie	Aug. 16, 1895.	25 p.c. of collections	12 19
Summerstown	Under lease			
Thessalon, Algoma	F. Leighfield	May 28, 1897.	25 p.c. of collections	
Wiarton	H. R. A. Ely	Dec. 10, 1890.	25 do	42 12
Total				\$1,570 76
<i>Quebec.</i>				
Agnes	L. A. Roy	Nov. 27, 1891.	25 p.c. of collections	
Anse St. Jean	F. Lavoie	Mar. 13, 1895.	25 do	110 94
Baie St. Paul	Vacant		25 do	
Baie St. Paul, Isolated Block	A. Simard	Aug. 25, 1891.	25 do	181 64
Beauport	D. Giroux	Nov. 11, 1896.	25 do	13 13
Berthier	D. Laroche	June 14, 1897.	25 do	29 11
Cap-à-l'Aigle	Jos. Guay	Oct. 7, 1896.	25 do	16 50
Carleton	Jos. E. Cullen	Mar. 25, 1896.	\$50 per annum	61 45
Cascades	Nérée Moreau	Aug. 20, 1892.	25 p.c. of collections	
Cedars	A. Seguin	Sept. 28, 1896.	25 do	
Chicoutimi	Juste Ouellette	May 2, 1893.	25 do	216 73
Coteau du Lac	M. St. Amour	Sept. 21, 1896.	25 do	
Coteau Landing	J. A. Prieur	May 25, 1897.	25 do	9 21
Echo Vale, Lake Megantic	D. P. Matheson	May 16, 1894.	25 do	
Grand River	Geo. Beaudin	Nov. 16, 1896.	25 do	185 74
Isle au Grues	Jos. Painchaud	Feb. 17, 1890.	25 do	1 10
Lacolle	R. J. Robinson	Mar. 8, 1894.	25 do	41 10
Les Eboulements	M. Tremblay	Sept. 4, 1894.	25 do	45 00
L'Islet	Octave Morin	Feb. 3, 1893.	25 do	
Longueuil	Chas. Poirier	Oct. 22, 1896.	25 do	50 37
Magog	David Pippin	June 12, 1896.	25 do	
Matane	L. J. Levasseur	Oct. 13, 1896.	25 do	
Murray Bay	Elie Maltais	Aug. 15, 1893.	25 do	226 76
New Carlisle	John C. Hall	June 4, 1889.	25 do	219 64
Percé	T. W. Flynn	Jan. 19, 1893.	25 do	21 81
Port Daniel	John Enright	Sept. 11, 1890.	\$50 per annum	48 06
Rimouski	Chas. Lepage	July 24, 1894.	25 p.c. of collections	
Rivière Ouelle	J. H. dit Beaulieu	Nov. 28, 1892.	25 do	5 60
Rivière du Loup	Louis Pinze	Sept. 16, 1891.	25 do	109 58
St. Anicet	S. Dupuis	Sept. 14, 1896.	25 do	
St. Alphonse de Bagotville	Abel Tremblay	July 7, 1891.	25 do	225 96
St. Jean d'Orléans	L. Lachance	Sept. 26, 1896.	25 do	116 92
St. Jean Port Joli	J. Pelletier	Sept. 14, 1896.	25 do	
Ste. Cécile du Bic	L. N. Côté	July 20, 1891.	25 do	
St. Laurent d'Orléans	Ed. Chabot	Aug. 25, 1894.	25 do	40 46
St. Zotique	J. M. Leroux	Sept. 21, 1896.	25 do	
Tadoussac	A. Christiansen, act'g		25 do	173 42
Trois Pistoles	D. Lamour	May 10, 1895.	25 do	
St. Thomas de Montmagny	L. L. Dionne	Oct. 22, 1896.	25 do	5 08
Total				\$2,155 31

* Commission on collections not to exceed \$200 per annum.

Marine and Fisheries—Marine Branch.

STATEMENT relating to Wharfs, &c.—Continued.

Locality.	Wharfinger.	Date of Appointment of Wharfinger.	Remuneration Allowed.	Amount deposited to credit of Receiver General.
				\$ cts.
<i>Nova Scotia.</i>				
Arisaig	John McInnis	Aug. 27, 1892.	25 p. c. of collections	
Avonport	Robert Shaw	Nov. 23, 1888.	25 do	
Barrington	J. H. Christie	Aug. 31, 1896.	25 do	162 03
Bayfield	W. McDonald	Oct. 30, 1894.	25 do	36 47
Belliveau's Cove	St. Clair Thérieau	Nov. 24, 1892.	25 do	134 85
Broad Cove	John Teal	June 12, 1893.	25 do	
Broad Cove Marsh	Hugh McDonald	Oct. 19, 1892.	25 do	
Brooklyn	F. T. Gardiner	do 20, 1892.	20 do	
Canada Creek	C. E. Eaton	Nov. 23, 1888.	25 do	
Cape Cove	J. A. Ellis	May 14, 1897.	25 do	12 17
Centreville	Alfred Ward	do 29, 1897.	25 do	62 42
Chipman's Brook	Jas. Misaner	Nov. 23, 1888.	25 do	
Church Point	Chas. F. Belliveau	Aug. 20, 1892.	25 do	85 69
Cow Bay	John McAulay	Dec. 10, 1896.	7½ do	279 74
Cranberry Head	Abram. Thurston	Feb. 16, 1889.	25 do	
Cribbens Pier	A. R. Boyd	Oct. 2, 1895.	25 do	
Delap's Cove	R. W. McCaul	Nov. 28, 1889.	25 do	10 00
Digby	W. W. Hayden	Apr. 20, 1897.	26 do	1,646 61
Eagle Head	Nathan Leslie	do 9, 1889.	25 do	
East Bay	Donald McInnis (Ronald's son.)	Apr. 5, 1886.	50 do	
East River, Sheet Harbour	Malcolm McFarlane	May, 20, 1890.	25 do	
Grand Narrows, Victoria, Co.	F. H. McNeil	Nov. 11, 1896.	25 do	
Grand Narrows, Cape Breton Co.	E. A. McNeill	Nov. 6, 1888.	25 do	170 00
Hall's Harbour	T. A. Neville	Jan. 8, 1897.	25 do	
Hampton	Judson Foster	Aug. 25, 1888.	25 do	18 99
Harbourville	Isaac Cook	May, 28, 1897.	25 do	45 44
Irish Cove	Colin Cash	do 28, 1895.	25 do	
Jordan Bay	Wm. Martin	Aug. 25, 1896.	25 do	21 29
Lismore	D. A. McKinnon	July, 5, 1895.	25 do	
Maitland, Hants Co.	W. B. Smith	June, 8, 1894.	25 do	
Maitland, Yarmouth Co.	J. Ellis	Dec. 10, 1896.	25 do	49 33
Margaretsville	C. S. McLean	May 7, 1897.	25 do	49 89
Meteghan Cove	H. F. Robicheau	do 28, 1897.	25 do	51 20
Meteghan River	D. D'Entremont	do 14, 1897.	25 do	56 07
Militia Point	D. McIntosh	Aug. 20, 1892.	25 do	
Morden	John Redgate	Nov. 16, 1893.	25 do	
Oak Point (Kingsport)	Rent from Railway Company			200 00
Ogilvie	M. Donnellan	July, 13, 1893.	25 p. c. of collections	29 28
Parrsboro'	Thompson Tipping	do 26, 1888.	25 do	43 16
Pickett's Wharf	Andrew Bishop	Dec. 24, 1884.	25 do	
Plympton	Wm. Smith	Aug. 8, 1890.	25 do	6 00
Point Brule	David Stevenson	Nov. 23, 1888.	25 do	
Port George	W. Crawford	June, 7, 1894.	25 do	124 73
Port Hood	V. A. McDougald	May, 17, 1892.	25 do	
Port Lorne	Freeman Beardsley	June, 27, 1897.	25 do	42 69
Salmon River	J. M. Deveau	Nov. 25, 1890.	25 do	
Saulniersville	John T. Saulnier	Aug. 25, 1888.	25 do	40 74
Tancook Island	Amos Hubley	Oct. 28, 1893.	25 do	
Tidnish	A. E. Sampson	Aug. 20, 1896.	25 do	15 00
Tracadie	J. M. Hall	Nov. 6, 1888.	25 do	
Tusket Wedge	Jas. Cothreau	Feb. 16, 1889.	25 do	
Victoria	William Brown	do 11, 1889.	25 do	9 33
Wallace	Don McKenzie	Dec. 16, 1892.	25 do	
West Pubnico	W. H. D'Entremont	Sept. 20, 1993.	25 do	
West River, Sheet Harbour	Malcolm McFarlane	do 3, 1889.	25 do	
White Point	Elisha West	Jan. 9, 1889.	25 do	
Total				\$3,403 12

STATEMENT relating to Wharfs, &c.—*Concluded.*

Locality.	Wharfinger.	Date of Appointment of Wharfinger.	Remuneration Allowed.	Amount deposited to credit of Receiver General.
<i>New Brunswick.</i>				\$ cts.
Buctouche	J. J. LeBlanc	May 2, 1892.	25 p.c. of collections	29 27
Campbellton	Alfred J. Venner	June, 10, 1893.	25 do	319 67
Cape Tormentine	W. B. Welsh	Apr. 28, 1894.	25 do	575 31
Clifton, Stonehaven	S. Paynes	Nov. 9, 1894.	25 do	18 38
Dalhousie	W. J. Smith	June, 27, 1891.	25 do	94 34
Edgett's Landing	Thos. Barnett	July 5, 1895.	25 do	2 41
Hopewell Cape	Wm. Hamilton	Apr. 9, 1890.	25 do	70 95
Kingston	F. Jaillet	Mar. 30, 1897.	25 do	
Neguac	B. Poirier	June 17, 1897.	25 do	
Quaco	W. H. Rourke	July 15, 1892.	25 do	
St. Louis	C. Frigand	Oct. 29, 1895.	25 do	
St. Mary's	M. J. S. LeBlanc	Mar. 1, 1897.	25 do	
Tracadie	H. Robichaud	Apr. 14, 1897.	25 do	1 65
			Total	1,111 98
<i>Prince Edward Island.</i>				
Annandale	W. C. Jenkins	May 4, 1897.	25 p.c. of collections	
Bay View	Joseph Harrington	Oct. 2, 1885.	25 do	17 66
Belfast	Thos. McLennan	July 21, 1890.	25 do	92 90
Brush Wharf	Levi R. Ings	Sept. 18, 1885.	25 do	90 60
Campbell's Cove	Angus McIntyre	Oct. 17, 1888.	25 do	
Chapel Point	Roland McCormack	Sept. 1, 1885.	25 do	14 97
China Point	W. S. N. Crane	do 18, 1885.	25 do	
Clifton	Wm. McKay	do 22, 1886.	25 do	
Crapaud and Victoria Pier	James Day	May 12, 1890.	25 do	116 73
Georgetown	James Bourke	July 2, 1885.	25 do	21 56
Hickey's Wharf	Mark Webster	Oct. 22, 1896.	25 do	
Higgin's Shore	G. G. Henry	Nov. 9, 1891.	25 do	
Hurd's Point	R. Robblee	Oct. 6, 1888.	25 do	8 25
Kier's Shore	W. Hodgson	June 10, 1895.	25 do	99 10
Lambert	Angus McQueen	Oct. 24, 1891.	25 do	
Lewis Point	J. G. Scrinigeour	do 14, 1896.	25 do	62 12
McGee's Island	Norman Gallant	Nov. 9, 1891.	25 do	
Mink River	B. Clow	June 30, 1892.	25 do	
Murray Harbour, South	J. McKinnon	Jan. 27, 1896.	25 do	13 21
Nine Mile Creek	Edward Harrington	Oct. 29, 1885.	25 do	
North Cardigan	Donald McIntyre	July 2, 1885.	25 do	26 77
Pinette	Alex. Young	June 15, 1896.	25 do	
Pownal	M. M. Haley	Oct. 13, 1896.	25 do	54 28
St. Mary's Bay	John Dickson	Dec. 10, 1896.	25 do	
South Rustico, Oyster Bed Bridge	D. Gallant	Feb. 23, 1895.	25 do	8 25
Stevens and Montague	Angus McQueen	Oct. 24, 1891.	25 do	29 00
Sturgeon River	Bernard Kearney	Sept. 18, 1885.	25 do	42 40
Tignish River	Geo. Conroy	Oct. 2, 1891.	25 do	54 30
Vernon River	J. G. McKenzie	do 19, 1885.	25 do	96 33
Wood Island	M. H. McMillan	May 16, 1889.	25 do	6 63
			Total	855 06

Marine and Fisheries—Marine Branch.

RECAPITULATION.

	\$ cts.
Ontario.....	1,570 76
Quebec.....	2,155 31
Nova Scotia.....	3,403 12
New Brunswick.....	1,111 98
Prince Edward Island.....	855 06
<hr/>	
Total wharfage dues collected and placed to credit Receiver General.	\$9,096 23
ADD—Fees received by undermentioned harbour masters in excess of remuneration allowed :—	
Harbour Master—Fort William, Ont.	\$154 50
do St. Johns, Que.....	40 00
do Cape Canso, N.S.....	5 50
do Chatham, N.B.	38 00
do Dalhousie do	15 50
do Hillsboro' do	82 00
do Vancouver, B. C.....	33 50
do Victoria and Esquimalt, B.C.	26 50
<hr/>	
	395 50
<hr/>	
Total Revenue from Wharfs and Harbours.....	<u>\$9,491 73</u>

APPENDIX

STATEMENT of Expenditure by the Marine Department

	1868.	1869.	1870.	1871.	1872.	1873.
	\$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Maintenance of lights—						
Above Montreal	40,561 28	42,306 69	46,289 05	44,054 01	57,609 16	61,036 47
Montreal District	23,053 56	25,762 54	21,699 49	22,453 52	22,369 00	31,143 14
Below Quebec	45,615 65	41,651 73	43,730 61	31,582 75	41,936 00	65,545 00
Nova Scotia	46,460 72	56,394 88	43,682 86	76,230 77	67,862 24	100,953 80
New Brunswick	20,488 00	23,893 00	27,485 14	20,542 29	23,369 12	29,266 85
Prince Edward Island						
British Columbia						13,207 09
Construction—						
Above Montreal	3,136 15		2,976 83	8,770 55	6,940 45	18,999 38
Quebec	7,323 75	7,492 59	1,543 06		57,818 35	39,303 87
Nova Scotia	22,041 42	6,905 80	18,967 23	10,948 31	34,760 12	90,181 79
New Brunswick			11,555 91	8,735 73	9,561 14	16,691 06
Prince Edward Island						
British Columbia						
Dominion steamers—						
Quebec	69,026 73	37,176 02	34,549 49	59,797 05	47,500 00	51,758 05
Nova Scotia	14,778 92	26,603 94	19,759 96	13,139 86	20,999 63	24,999 57
New Brunswick						
Prince Edward Island						
British Columbia					12,115 96	15,984 72
Examinations of masters and mates			908 12	1,407 66	4,312 07	6,466 18
Hudson's Bay expedition						
Investigations into wrecks			140 00		874 00	1,068 89
Marine Hospital, Quebec	19,977 36	19,221 45	21,618 73	19,823 18	21,000 00	21,000 00
Marine Hospitals	1,070 86	15,615 71	15,652 62	15,728 93	23,536 16	27,150 43
Meteorological Service	8,200 00	8,950 00	8,950 00	9,379 82	12,618 15	18,830 54
Registration of Canadian shipping						
Removal of obstructions			2,350 07	1,000 00		
Rewards for saving life					2,284 32	1,975 13
Signal Service						
Steamboat inspection	7,106 93	7,999 00	7,396 96	8,321 00	8,500 00	13,266 00
Survey, Georgian Bay						
Water Police, Montreal	27,445 35	10,238 71	9,423 31	8,090 00	10,000 00	14,453 87
do Quebec		12,623 59	9,038 62	9,370 73	10,348 00	18,200 00
Civil Government	15,083 88	18,064 25	19,401 05	20,220 96	22,644 52	25,336 04
Steam communication—						
Between Quebec and Maritime Provinces						
Between Prince Edward Island and Mainland						
Purchase of steamer to replace—						
“Glendon”						
“Lady Head”						
Winter Mail Service, P. E. I.						
Tidal observations						
Gratuities						
Survey, Burrard Inlet						
Export cattle trade						
	371,070 56	360,899 90	367,129 11	389,537 12	518,958 49	706,817 92

Marine and Fisheries—Marine Branch.

No. 9.

from Confederation to 30th June, 1897.

1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.
\$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
60,798 75	71,937 18	68,344 18	65,421 00	73,175 11	74,587 78	65,518 61	67,541 21	71,048 50
20,939 13	15,000 00	12,999 48	15,998 00	15,996 09	14,917 95	16,523 88	14,326 36	21,643 05
102,056 09	110,362 00	98,792 93	89,980 41	96,904 00	93,178 61	96,703 87	89,781 29	91,098 66
114,711 91	114,344 51	143,125 56	128,496 00	132,888 95	120,951 33	116,189 60	128,918 59	137,846 15
53,439 04	60,119 02	62,551 61	50,998 00	58,989 00	57,499 02	61,252 82	63,921 90	66,073 00
3,357 71	12,584 64	13,730 53	11,817 00	16,986 66	12,158 72	15,288 17	12,997 33	16,985 72
18,519 50	15,983 72	17,175 97	15,853 00	18,948 78	15,152 73	15,576 99	17,570 72	17,803 00
24,461 86	14,286 65	13,320 40	16,267 98	7,207 90	11,993 75	13,297 81	14,180 02	13,581 00
41,950 82	19,325 00	24,336 47	12,945 29	12,776 47	4,154 58	7,797 75	7,539 76	3,731 31
51,867 94	43,898 63	42,214 55	25,550 00	13,500 00	17,386 97	7,069 01	7,758 36	13,355 00
31,572 60	8,842 97	17,819 85	7,083 82	12,028 13	22,598 14	4,985 53	4,578 52	2,253 80
4,353 93	8,799 07	11,829 61	17,752 00	2,504 47	2,560 88	6,074 50	8,150 05	3,092 00
64,490 00	79,043 70	62,971 49	49,987 66	42,683 00	44,972 79	49,318 93	64,973 00	44,923 98
30,008 99	22,992 62	133,826 08	38,839 39	43,027 00	42,016 53	32,574 64	34,700 60	31,049 74
10,555 67	41,796 74	16,241 26	61,782 63	28,933 63	16,333 05	14,429 52	15,139 95	23,911 97
4,520 19	5,696 62	19,156 56	16,095 90	12,193 40	8,460 68	9,733 34	11,788 09	8,504 61
2,313 11	366 00	4,672 08	4,050 00	4,249 76	4,250 12	4,253 43	3,888 41	3,982 00
20,456 45	21,994 75	466 41	342 65	500 00	1,691 00	676 73	310 48	863 19
46,986 87	37,111 67	23,795 85	19,965 97	19,987 50	20,791 77	12,991 22	19,964 33	19,938 12
36,760 59	33,580 00	37,155 72	42,449 55	37,487 10	37,445 57	35,040 00	32,218 94	33,162 45
272 30	1,096 46	45,560 03	44,871 38	46,050 24	45,706 13	45,551 51	46,163 54	47,464 07
4,931 78	450 00	412 06	842 14	1,435 10	239 26	257 75	607 43	2,013 28
1,000 00	3,552 86	2,292 20	293 00	462 00	305 86	825 00	150 00	1,116 51
10,291 58	12,200 00	1,958 55	4,071 00	2,833 10	2,263 15	1,806 13	2,212 00	2,212 00
12,370 86	13,395 00	13,081 86	13,073 01	13,228 38	13,076 46	11,854 34	12,211 65	14,835 00
26,526 66	24,500 00	14,090 00	13,524 29	14,062 00	13,462 74	13,131 06	21,953 26	21,994 74
30,087 23	31,326 18	27,136 68	21,482 08	23,498 06	23,023 26	22,094 48	13,497 81	20,321 82
15,000 00	10,000 00	32,789 18	32,304 12	32,682 50	33,610 19	35,083 95	36,447 50	36,789 46
750 00								
845,150 09	844,586 09	970,146 27	820,054 38	786,156 23	755,359 47	723,360 89	761,730 62	774,831 53

APPENDIX

STATEMENT of Expenditure by the Marine Department

	1883.	1884.	1885.	1886.	1887.	1888.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Maintenance of lights—						
Above Montreal	70,116 68	70,788 27	70,697 89	85,718 98	75,690 74	85,588 70
Montreal District	22,260 32	22,946 43	23,262 94	33,289 28	16,735 49	17,510 17
Below Quebec	102,784 99	101,302 35	118,856 94	131,095 29	131,540 80	108,278 67
Nova Scotia	150,793 17	142,909 72	137,439 40	143,153 24	117,708 53	133,009 92
New Brunswick	75,947 92	86,670 70	92,130 28	76,046 63	96,425 28	73,465 49
Prince Edward Island	17,907 27	19,059 62	20,218 83	22,282 52	17,852 13	14,796 62
British Columbia	18,349 06	18,107 54	15,457 76	14,783 75	16,230 43	19,604 63
Cape Race					4,453 25	5,124 20
Construction—						
Above Montreal	9,782 27	18,432 63	27,977 42	36,678 16	18,383 20	6,341 97
Quebec	9,672 50	3,168 48	4,354 87	5,877 84	1,260 00	2,287 86
Nova Scotia	9,422 75	12,489 35	4,352 42	5,905 17	5,330 89	5,538 48
New Brunswick	1,022 57	2,868 70	7,667 42	2,421 66	5,280 75	1,542 61
Prince Edward Island	1,934 49	2,158 60	879 40		384 60	
British Columbia	1,005 26	9,830 38	5,223 11	4,942 70	321 84	6,918 00
Queen's Printer					26 58	
Dominion steamers—						
Quebec	45,156 13	43,019 13	51,092 98	51,485 03	50,714 52	
Nova Scotia	37,841 07	27,726 60	42,921 27	30,283 27	32,287 10	
New Brunswick				24,633 26	14,337 23	
Prince Edward Island	19,680 00	19,539 52	33,962 54	20,927 58	19,987 67	150,659 19
British Columbia	25,484 00	16,111 83	12,485 07	13,430 69	10,809 07	
Department					13,288 83	
Examinations of masters and mates	4,021 20	5,580 79	6,656 44	5,239 28	4,858 98	5,063 96
Hudson's Bay expedition		480 69	71,374 69	35,217 10	14,762 61	165 00
Investigations into wrecks	875 64	830 12	385 15	592 63	520 14	513 91
Marine Hospital, Quebec	19,998 53	19,990 34	19,996 68	16,047 95	19,706 96	18,777 62
Marine Hospitals	29,880 78	31,401 30	45,371 29	32,229 02	32,545 35	30,667 67
Meteorological Service	51,990 25	56,418 16	56,625 46	56,893 33	57,140 74	59,986 10
Registration of Canadian shipping	168 84	189 27	237 88	157 13	233 13	897 02
Removal of obstructions	35 80	342 76	2,259 21	1,237 34	4,190 83	2,500 94
Rewards for saving life	2,534 60	2,614 91	5,221 15	8,147 22	7,363 94	6,825 48
Signal Service	3,365 33	6,704 17	3,881 05	4,622 00	5,082 17	4,441 59
Steamboat inspection	16,209 00	21,893 28	23,235 04	21,775 37	22,837 80	21,430 45
Hydrographic surveys	77 81	26,745 54	20,454 68	17,759 36	21,592 55	19,424 14
Water Police, Montreal	15,798 24	19,021 93	17,683 59	20,933 75	17,413 47	18,725 95
do Quebec	22,520 41	22,958 79	20,399 33	22,922 82	22,935 65	18,553 57
Civil Government	37,988 39	38,775 00	29,900 83	30,453 57	37,193 62	32,728 78
Steam communication—						
Between Quebec and Maritime Provinces						
Between Prince Edward Island and Mainland						
Repairs to wharf						
Purchase of steamer to replace—						
"Glendon"	395 55	56,164 71	47,238 03			
"Lady Head"						
Winter Mail Service, P.E.I.				5,985 42	6,312 93	7,740 25
Tidal observations						
Gratuities						
Survey, Burrard Inlet						
Export cattle trade						
Survey, Bay of Quinté						
Relief of distressed Canadians						
Manning ships						
Widow of late A. Warner						
McDonald Bros						
Parliamentary Returns						
Investigating effect of Chicago drainage canal						
John McDonald						
Longitude, Montreal						
	825,010 82	927,241 61	1,029,901 14	980,120 59	917,557 31	883,250 85

Marine and Fisheries—Marine Branch.

No. 9—*Concluded.*

from Confederation to 30th June, 1897—*Concluded.*

1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
\$ cts.	\$ cts.	\$ c.	\$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
72,621 23	84,035 65	93,180 72	87,033 61	87,598 15	78,090 69	82,541 16	87,256 28	80,961 06
12,285 79	118,750 70	122,471 89	116,531 27	120,404 19	124,348 80	124,763 81	124,143 66	126,604 97
112,690 20								
140,197 15	139,459 56	139,916 83	148,815 26	150,445 26	137,339 73	140,877 53	123,234 65	124,671 19
78 285 79	61,608 91	61,089 31	66,886 69	71,079 46	59,917 96	69,654 46	63,018 64	56,771 02
19,118 51	16,968 80	19,000 46	17,069 98	16,819 64	15,569 39	17,976 67	17,988 15	16,429 23
16,877 12	16,411 49	19,595 22	26,858 68	24,413 27	27,240 77	21,734 18	24,770 44	25,679 52
7,358 01								
8,623 76	2,863 09	9,796 28	21,704 05	8,766 62	12,581 15	2,699 40	11,993 84	9,527 84
12,203 06		3,723 14	809 27	10,097 18	4,743 13	3,004 14	3,300 00	296 26
6,089 91		4,596 94	1,965 16	4,381 24	3,104 77	4,737 03	1,842 94	61 71
2,966 36		208 16	1,845 35	1,271 15	115 45	1,597 89	200 00	1 60
1,890 00		410 00	1 56		1,604 00			452 90
40 14		14,417 25	9,478 81	2,958 61	6,357 43	180 83	225 50	569 99
126,629 33	114,956 20	111,437 03	145,899 61	163,097 46	178,183 97	169,661 64	145,315 28	136,940 11
4,381 04	4,117 83	4,255 24	6,363 88	4,116 99	3,745 33	2,757 29	4,062 82	3,536 29
516 67	888 94	1,172 77	603 21	643 49	850 81	351 15	483 98	19,091 32
18,643 14	10,279 08	751 75						565 25
33,689 20	31,450 03	33,303 37	34,106 83	35,757 07	38,403 94	38,589 05	36,682 96	37,984 71
58,577 07	58,452 10	62,457 10	67,138 06	64,165 60	66,440 96	64,588 34	66,600 29	67,397 71
179 21	647 52	1,207 07	462 59	1,476 19	394 00	207 40	517 60	531 65
3,603 65	5,737 26	3,633 65	2,878 68	1,554 53	202 02	2,217 36	456 38	631 86
5,503 44	8,150 92	4,952 20	6,398 93	7,432 64	8,014 67	6,591 34	8,004 38	5,955 19
5,092 54	4,976 80	4,700 79	5,014 42	5,040 58	4,668 93	5,311 74	5,338 76	5,986 12
22,313 03	20,989 52	22,183 76	22,736 59	24,386 95	25,961 36	26,385 88	26,321 27	26,837 83
17,808 46	17,969 23	17,677 51	16,451 10	17,542 11	31,461 76	12,653 28	15,099 63	12,352 99
16,948 82	13,167 00	573 80						
14,698 68	8,620 61	7,279 85	6,161 60	5,436 23				
43,501 96	42,835 78	43,253 67	43,193 31	56,477 27	54,988 88	71,373 82		74,801 37
143,505 60				84 90	1,007 65	824 38	2,644 69	1,795 56
1,842 47	2,752 67	7,012 70	3,309 44	4,376 96	6,497 03	6,138 18	7,779 69	21,931 05
	244 75	1,888 71	711 59	5,099 17	10,172 61	11,507 24	9,627 45	13,166 20
200 00	80 00	1,025 00			3,261 32			
		1,690 12	2,580 45					
		520 85	1,411 57	1,711 73	1,350 83	2,268 74	2,887 24	
				2,085 45				
						7 30		
						500 00	746 89	
						160 00		
						4,000 00		
							291 08	
							2,500 00	
							200 00	243 42
1,023,801 34	807,417 53	885,410 11	861,426 80	898,720 03	906,654 34	895,823 28	793,634 49	867,772 90

APPENDIX No. 10.

REPORT OF ALFRED OGDEN ON LIFE SAVING STATIONS.

BEDFORD, N. S., 4th October, 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit, herewith, my annual report of inspection of the life saving stations in the provinces of Nova Scotia and New Brunswick, for the year 1897.

Devils Island Station.

Inspected 1st September. The boat is in good order, clean and nicely painted. An extension of 20 feet to the launchways would enable the boat to be put off at dead low water, which cannot be done at present, as there is a drop of $2\frac{1}{2}$ feet at the end of these ways. The coxswain reports the roof of the boat-house leaky, but as the building is comparatively new the leak must be trifling and I advised him to mark the place and with a few shingles make the necessary repairs. The following articles are required: 6 new cork jackets, 1 boat compass, and boat-hook handle.

Herring Cove Station.

Inspected 2nd September. The coxswain was absent, but I found the boat, boat-house and all appliances in excellent order. Two new lanterns are required to replace those broken while attending a wreck. •

White Head Station.

I arrived at this station by D. G. SS. "Newfield" en route to Sable Island, September 9th. The coxswain and crew were all present, the boat was launched and the crew exercised.

Everything about the premises is in good order, except the boat, which requires painting. The coxswain reports that he has not received any paint for two years. A compass and one lantern are required.

Sable Island Station.

I arrived at Sable Island on the 10th September by D. G. SS. "Newfield" and visited all the stations. I found boats, boat-houses, houses of refuge and all appliances in excellent order.

There appears to be perfect order and system with everything under the eye of the superintendent, and I have no suggestions to make which would render the service more efficient, except the replacing of the old dispatch boat by one more suitable, which I have reported upon fully in my former reports.

The superintendent informs me, that he also tested the new Lyle gun, which was sent to the island last year, and he finds that it is cheaper than the rockets and gives perfect satisfaction in throwing lines.

Marine and Fisheries—Marine Branch.

Scattarie Island Station.

Inspected 17th September. The boat and all appliances are in good order. The new winch recommended in my former reports has been supplied: 1 axe, 1 galvanized iron bucket, 1 compass and 60 fathoms of 18-thread manilla rope are required. The new light-keeper, Mr. Martell, informs me that there is no organized crew for the boat this year. I would suggest that he be authorized to engage a crew at once.

St. Paul's Island.

Inspected 25th September. Mr. Superintendent Campbell had been in charge but a few days, and had only commenced to arrange matters to his own liking, but as he is an old and experienced superintendent and spent many years on the island, everything will soon be put into good shape.

There is but one surf boat, one year old, on the island, which in my opinion is inadequate.

Last year, the former superintendent, Mr. McLeod, was of the opinion that 2 dories, with air-tight compartments fore and aft, would be suitable for this station to use when the surf-boat could not be launched. As there are but four men at the main station, including the superintendent and the engineer at the fog whistle, I favoured Mr. McLeod's suggestion, and 2 new dories were taken to the island by the "Newfield," but they were not landed, as the superintendent said he did not want them, but wanted a small surf-boat, 15 feet keel. He probably is not accustomed to dories, and would do better in a small surf-boat.

The telephone had been taken from Trinity Cove, and the superintendent thinks that it is not required there.

The new gun for throwing lines had not been tested, but will be tried as soon as the superintendent gets settled in his new quarters which will be at the whistle house.

Pictou Island Station.

Inspected 28th September. Boat and all appliances in first-rate order, except the launchways which will require repairing at the opening of navigation next spring at a cost of about \$10. I would recommend that the coxswain be authorized to make the necessary repairs, as he can get the timber during the winter cheaper than in the summer.

The coxswain and two of the crew reside at the east end of the island, quite near the boat-house, and two men reside two miles distant, and two men reside four miles distant from the boat-house. If the two last named are required for service, a distance of eight miles must be travelled to get them. The coxswain recommends that these two men be substituted by two others living near the boat-house, and I would suggest that he be authorized to make the change at once.

Port Mouton Island Station.

I arrived at this station on the 23rd October by D.G.SS. "Lansdowne," and found the boat and fittings in good order, except the scupper hinges which are worn out. Eight 3-inch brass hinges and one 16-foot oar are required.

The coxswain and crew were all present, but as there was a heavy sea upon the shore I thought it unwise to launch the boat, for fear of smashing her upon the ways, which are in such bad condition that about \$50 will be required to repair them. New doors for the boat house are also required, cost about \$10.

I would recommend that these repairs be made as soon as possible.

Blanche Station.

Inspected 25th October. Boat and all appliances in good order; 2 lanterns and 16 eye-bolts for life lines for boat are required, the cost of the eye-bolts will be about 5 cents each.

Cape Sable Station.

Inspected 25th October. The boat is in good order. The cork jackets which I had recommended in former reports have not been supplied and there are none on the island.

I have suggested in a previous report that a Beebe-McLellan boat be supplied this station, and that a volunteer crew be obtained from Hawke Passage, which I still believe advisable.

Seal Island Station.

Inspected 25th October. This boat and appliances are in splendid order. One boat compass and 2 boat-hooks are required.

The dwelling-house for the coxswain and crew requires underpinning, cost about \$10, and some repairs to the inside are necessary to make it comfortable.

Mud Island Station.

I arrived at this station at dark on the 25th October and found there was but one man living on the island, who told me that the Mud Island Lobster Co., who owns the island, intended placing another man there for the winter.

I am of the opinion that there should be at least three men on the island during the winter, it will require that many to launch the boat, and as this company received a subsidy from the department for maintaining the boat, the service should be made efficient.

Yarmouth Station.

Inspected 26th October. The boat and gear are in good order, but the launch-ways need repairing at a cost of about \$10, and I would recommend that the coxswain be authorized to do so at once as there is danger of wrecking the boat if an attempt is made to launch it in rough water.

Cape Tormentine Station.

I arrived at the Cape on the 28th October and found that there had been no organized crew this season, and the boat had been removed to the old boat-house at Cape Jermain, about 2 miles north from the new boat-house. I could not obtain the key of the boat-house without waiting over for 24 hours, and the former coxswain told me that the boat was in good order when placed there, so I returned home to commence taking fishing bounty claims.

Duncan's Cove Station.

Inspected 15th November, 1897. The frame of the forward air-tight compartment of the boat is broken, and the outside covering, which is sheet copper, is open and admits the air. In all other respects the boat is in good order, the boathouse clean and tidy and all appliances in good order.

I would recommend that a competent person be sent, as soon as possible, to make the necessary repairs as wrecks are liable to occur at any time, and I consider the boat unsafe in its present state.

I am, Sir,

Your obedient servant,

ALFRED OGDEN.

LIFE-BOAT STATIONS

STATEMENT relative to Life-Boat Stations

Stations.	Established.	Coxswain.	Number of Crew.	Salary of Coxswain.	Wages of Crew.
Blanche, N.S.	Sept.—, 1895	W. A. B. Smith.	6	\$75 per annum and \$1.50 for each drill	\$1.50 each drill, twice a month.
Cape Sable, N.S.		Lightkeeper	No organized crew.		
Cobourg, Ont.	Nov. 7, 1882	D. Rooney.	6	\$75 per annum and \$1.50 for each drill	\$1.50 each drill, twice a month.
Collingwood, Ont.	Sept. 2, 1885	P. Doherty	6	do	do
Devil's Island, N.S.	1885; reorganized in 1890.	F. Edward	6	do	do
Duncan's Cove, N.S.	1886	R. E. Monk	6	do	do
Goderich, Ont.	Oct. 21, 1886	Wm. Babb.	6	do	do
Herring Cove, N.S.		J. Dempsey,	No organized crew.		
Mud Island, N.S.		J. Pitman	do	\$80	
Pelée Island, Ont.		A. Henning.	6	\$75 per annum and \$1.50 for each drill	\$1.50 each drill, twice a month.
Pictou Island, N.S.	Nov. 23, 1889	Alex. Currie, 1896	6	do	do
Poplar Point, Ont.	Apr. 20, 1883	L. Spafford.	6	do	do
Port Hope, Ont.	Nov. 6, 1889	C. R. Nixon	6	do	do
Port Mouton, N.S.	do —, 1889	Jos. Frausel	6	do	do
Port Rowan, Ont.	Oct. 19, 1883	Richard Clark	6	do	do
Port Stanley, Ont.	June 25, 1885	Wm. Berry	6	do	do
Sable Island, N.S.	1885	Supt. Humane Establishment.	From staff of Humane Establishment.	Paid as superintendent and staff of Humane Establishment.	
Scatterie, N.S.	1885; reorganized in 1890.	J. N. Brown.	6	\$75 per annum and \$1.50 for each drill	\$1.50 each drill, twice a month.
Seal Island, N.S.	1880	T. Hitchins.	7	\$250 per annum.	\$100 each per annum.
St. Paul's Island, N.S.		Supt. Humane Establishment.	No organized crew.		
Tormentine Cape, N.B.	Aug.—, 1893	W. B. Walsh, Bayfield.	do		
Toronto, Ont.	Mar. 1, 1883	W. Ward.	6	\$75 per annum and \$1.50 for each drill	\$1.50 each drill, twice a month.
Wellington, Ont.	do 17, 1883	H. McCullough.	6	do	do
Whitehead, N.S.	June 6, 1890	H. P. Monroe.	6	do	do
Yarmouth, N.S.	1886; reorganized in 1889.	Albert Cain.	6	do	do

Marine and Fisheries—Marine Branch.

maintained by the Dominion Government.

Value of Boat.	Description of Boat.	Equipment.	Where built.
\$			
575	Self-righting and self-bailing, 25 ft. over all, 8 ft. beam, Dobbins' pattern.	Full equipment, as required in a regulation boat-house.	Dartmouth, N.S.
150	Metallic life-boat, 16 ft. keel, 5 ft. beam....	Ordinary outfit.....	
575	Self-righting and self-bailing, 25 ft. over all, 8 ft. beam, Dobbins' pattern.	Full equipment, as required in regulation boat-house.	Goderich, Ont.
360	.....	do do	New boat built at Collingwood, 1896.
575	Self-righting and self-bailing, 25 ft. over all, 8 ft. beam, Dobbins' pattern.	do do	Dartmouth, N.S.
575	do do	do do	do
575	do do	do do	Goderich, Ont.
200	Metallic life-boat, 28 ft. keel, 6 ft. beam...	Full equipment.....	New York.
. . .	Fishing boats and dorys (not Government property).	.....
575	Self-righting and self-bailing, 25 ft. over all, 7 ft. beam, Dobbins' pattern.	Full equipment, as required in a regulation boat-house.	Goderich, Ont.
595	do do	do do	Dartmouth, N.S.
550	Self-righting and self-bailing, 26 ft. over all, 7 ft. beam, Dobbins' pattern.	do do	Buffalo, U.S.
620	do do	do do	Goderich, Ont.
575	do do	do do	Dartmouth, N.S.
375	Surf-boat, 26 ft. long, 6½ ft. beam.	Full equipment and boat-house.	Buffalo, U.S.
575	Self-righting and self-bailing, 25 ft. over all, 7 ft. beam.	do do	Goderich, Ont.
1,100	The two Dobbins' pattern boats were exchanged in 1893 for one Beebe surf-boat and carriages, and one Beebe-McLellan self-bailing life-boat.	Boat-house, full equipments, &c.	Halifax, N.S.
550	Self-righting, &c., same as others, Dobbins' pattern, and clinker built ships' life-boat, 21 feet keel.	Full equipment and boat-house.	Dartmouth, N.S.
375	Beebe-McLellan boat on east side and a surf-boat on the west.	do do	Halifax, N.S.
650	Two surf-boats, one 25 feet over all, 6½ ft. beam, the other 23 ft. long, 4 ft. 8 in. beam	do do	do
250	Self-righting, &c.	do do	do
575	Self-righting, &c., same as others, Dobbins' pattern (new boat in 1895).	do do	Goderich, Ont.
1,400*	do do	do do	Buffalo, U.S.
575	do do	do do	Dartmouth, N.S.
575	do do	do do	do

* Includes waggon.

APPENDIX No. II.

STATEMENT of Sick Mariners' Dues collected for the fiscal year ended 30th June, 1896.

<i>Quebec.</i>	§ cts.	<i>Nova Scotia—Continued.</i>	§ cts.
Gaspé	57 32	Digby	175 56
Montreal	6,892 12	Halifax	8,060 86
New Carlisle	273 12	Kentville	6 00
Perce	68 18	Liverpool	61 72
Quebec	6,771 34	Lockeport	48 16
Rimouski	363 34	Lunenburg	427 72
St. Armand	11 96	Middleton	1 98
St. Johns	1,237 84	North Sydney	1,060 50
Sorel	90 16	Parrsboro'	1,191 86
Stanstead	22 41	Pictou	411 90
Three Rivers	477 22	Port Hawkesbury	99 05
Total	16,265 01	Port Hood	23 08
		Shelburne	102 18
<i>New Brunswick.</i>		Sydney	2,964 07
Bathurst	265 97	Truro	5 98
Chatham	1,164 64	Weymouth	130 94
Dalhousie	956 88	Windsor	730 46
Dorchester		Yarmouth	378 22
Moncton	1,621 39	Total	17,156 93
Newcastle	981 70		
Sackville	374 20	<i>Prince Edward Island.</i>	
St. Andrews	19 80	Charlottetown	372 70
St. John	6,902 52	Summerside	117 36
St. Stephen	102 78	Total	490 06
Total	12,389 88		
		<i>British Columbia.</i>	
<i>Nova Scotia.</i>		Nanaimo	2,803 94
Amherst	783 38	New Westminster	55 22
Annapolis	114 58	Vancouver	1,657 64
Arichat	84 93	Victoria	3,539 42
Antigonish	2 22	Total	8,056 22
Baddeck	196 58	Grand Total	54,358 10
Barrington	10 06		
Bridgetown	4 40		
Canso	80 54		

APPENDIX No. 12.

MESSENGER PIGEONS.

HAZELHILL, GUYSBORO' COUNTY, N.S., 18th August, 1897.

J. PARSONS, Esq.,
Agent Marine and Fisheries,
Halifax, N.S.

SIR,—The results of our work with the Messenger Pigeons so far this season is very discouraging, and I am forced to the opinion that it is scarcely worth while for your department to spend any more money on this service. Out of thirty birds which we have endeavoured to train, eighteen have been lost, that is to say, they have failed to return to their home.

So far we have only succeeded in getting two birds to return from a distance of five miles from their house. I can only attribute these poor results to the dense fogs and high winds which have prevailed and to the large number of hawks and other wild birds with which this unsettled district is infested.

We have experienced great difficulty in getting the birds to leave their house and go out and fly around so as to become familiar with their surroundings. When turned out they appear frightened and immediately seek cover.

Under these circumstances I shall be glad to hear from your department as to whether or not they wish us to continue our efforts despite the unsatisfactory results so far obtained.

I inclose pay-list for the quarter ending the 30th of June instant.

Yours truly,

S. S. DICKENSON.

APPENDIX No. 13.

REPORT OF THE CHAIRMAN OF THE BOARD OF STEAMBOAT
INSPECTION.

CHAIRMAN'S OFFICE,

OTTAWA, November, 1897.

SIR LOUIS H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith, my annual report of the Steamboat Inspection Service, for the fiscal year ended 30th June, 1897.

The report contains statement of board meetings held during the year, the casualties which occurred, and prosecutions for violation of the Steamboat Inspection Act, with the number of steamboats in the Dominion as known to the inspectors; form No. 1, showing the steamboats which were inspected, and form No. 2, the steamboats not inspected; form No. 4 shows the number of steamboats added to the Dominion, and form No. 5, the number of steamboats lost, broken up or otherwise put out of service.

In addition to the steamboats inspected at the port of Montreal there has also been inspected by the steamboat inspectors of that part, the hoisting gear and ships tackle of 476 vessels, which is used for loading and unloading vessels.

Tables A, B and C show the total number of steamboats in the Dominion and their gross tonnage; the amount of dues and fees collected, and the number of steamboats added to the Dominion, with their gross and registered tonnage.

A.—NUMBER of Steam Vessels, inspected and not inspected, reported by the Inspectors of Steamboats in the Dominion, and their gross tonnage, during the year ended 30th June, 1897.

Division.	Number of Vessels.	Gross Tonnage.
West Ontario, Huron and Superior	351	71,387 00
Kingston	154	24,104 16
Montreal	201	18,691 44
Quebec	138	37,310 00
Nova Scotia	128	27,582 61
New Brunswick and Prince Edward Island	121	15,639 91
British Columbia	161	24,463 26
Manitoba, Keewatin and North-west Territories	100	5,686 84
Total	1,354	224,865 22

Marine and Fisheries—Marine Branch.

B.—DUES and Fees collected on account of Steamboat Inspection during the year ended 30th June, 1897.

Division.	Amount.
	\$ cts.
West Ontario, Huron and Superior.....	7,417 23
Kingston.....	2,681 21
Montreal.....	2,634 79
Quebec.....	3,704 20
Nova Scotia.....	2,790 63
New Brunswick and Prince Edward Island.....	1,650 05
British Columbia.....	2,714 08
Manitoba, Keewatin and North-west Territories.....	815 46
Inspecting tow barges.....	80 00
Engineers' certificates.....	619 50
Total.....	25,107 15

C.—NUMBER of Steam Vessels added to the Dominion during the year ended 30th June, 1897.

Division.	Number of Vessels.	Gross Tonnage.	Register Tonnage.
West Ontario, Huron and Superior.....	13	1,618 00	867 00
Kingston.....	9	1,172 39	1,125 59
Montreal.....	3	390 13	306 98
Quebec.....	5	643 14	307 97
Nova Scotia.....	7	1,468 44	927 29
New Brunswick and Prince Edward Island.....	7	829 55	442 53
British Columbia.....	27	6,456 84	4,006 56
Manitoba, Keewatin and North-west Territories.....	25	627 00	419 05
Total.....	96	13,205 49	8,402 97

BOARD MEETINGS.

A meeting of the Board of Steamboat Inspection, composed of the boiler and machinery inspectors from Toronto, Kingston, Montreal, Quebec, St. John and Halifax, with the chairman from Ottawa, was convened at the Steamboat Inspector's office, Montreal, from February 26th, 1897, to March 6th, inclusive, for the purpose of considering the rules and the working of the service.

Representation having been made to the department that under the system for the grading of engineers for steamboats; there was a great difficulty existing in meeting the requirements of the law with a class of small steamers used in the inland waters.

The difficulties alleged as existing were given due consideration, whereby rules were formulated and recommended, which have been approved and enacted; and from information to the department by parties interested, appear to meet with approval, and are credited with obviating to a great extent the difficulties formerly alleged to exist.

Cases having developed from practice where the plate in flat surfaces of fire-box boilers have been shown defective, from over-pressure, the matter was taken into consideration; when a resolution was passed in the interest of safety, recommending that sec. 53, part 2 of the rules be repealed, and sec. 20, part 1, be substituted therefor, which was unanimously approved by the board; and has been approved by the Governor General-in-Council.

Representations were received from St. John, N.B., for a reduction in the size of shafts for paddle steamers, as now determined by the rules; with reasons advanced for so doing.

The matter was given careful consideration, whereon it was unanimously decided the reasons advanced were not, in the opinion of the board, sufficient to warrant a deviation from the present rules in the interest of safety.

AMENDMENTS TO THE ACT.

Subsections four and five, section 42 of the Steamboat Inspection Act, chapter 78 of the Revised Statutes, were repealed and replaced by sections one and two of the Act 60-61 Vict., chap. 22 of 1897.

Sections four and five, of chapter twenty-six of the Statutes of 1888, amending the Steamboat Inspection Act, were repealed and replaced by section three and subsections of the Act 60-61 Vict., chap. 22 of 1897.

CASUALTIES.

There is cause to be grateful for the small loss of life on steamboats during the past year, considering the number of people carried by them; more especially during the excursion season, when steamers are loaded to their utmost allowable limit. There has not been a report in the returns received from the several divisions, where any accidents have occurred to passengers while on board: and with the exception of the loss of the captain of steamer "Spinster" of Victoria, B.C., which was driven ashore in a gale and broken up, no other accidents involving loss of life have been reported. The steamboats lost and casualties reported are as follows:—

West Ontario and Huron Division.

July 15th, 1896.—Steamer "Maganetawan," of Collingwood, ran on a shoal near Byng Inlet and went to pieces. The boiler and machinery were removed and placed in the new steamer "Signal" of Collingwood.

August 14th, 1896.—Steamer "Verbena May," of Saugeen, went ashore near Stokes Bay, east shore of Lake Huron, and was totally destroyed.

August 15th, 1896.—Steamer "James Clark," of Goderich, when near Michael's Bay, Manitoulin Island, took fire around the boiler, and was totally destroyed.

August 16th, 1896.—Steamer "Victoria," of Saugeen, foundered near Cabot's Head, Georgian Bay.

September 7th, 1896.—Steamer "Baltic," of Collingwood, while moored to the wharf at Collingwood, took fire and was totally destroyed; cause of fire unknown.

September, 1896.—Steamer "Arabian," of Hamilton, when off Long Point, Lake Erie, the high pressure cylinder cover gave away. The steamer was towed to Port Colborne, and the necessary repairs made.

November 6th, 1896.—Steamer "Acadia" of Hamilton, ran ashore at Brulé Point, Lake Superior; the steamer was abandoned and went to pieces.

December 16th, 1896.—Steamer "Metamora," of Montreal, lying at the wharf at Midland, caught fire, the steamer was scuttled, and the upper works destroyed; cause of fire unknown.

April 24th, 1897.—C. P. R. car ferry "Michigan," registered in London, England, collided with the G. T. R. car ferry "Lansdowne" of Windsor, in the river between Windsor and Detroit; breaking a number of braces and beams in the latter steamer; cause of collision, fog.

May 29th, 1897.—Steamer "Tecumseh," of Sarnia, bound down, and steamer "L. Shickluna," of Toronto, bound up, collided near Long Point, Lake Erie; resulting in the sinking of steamer "Shickluna." The crew were all saved.

Marine and Fisheries—Marine Branch.

East Ontario Division.

April 26th, 1897.—Steamer "Rosedale," of Toronto, after leaving Prescott, ran aground in the River St. Lawrence, breaking the wheel and bending tail shaft, also damaging several plates in her bottom. Again, June 1st, 1897, while on a trip from Fort William to Prescott, the fork of the intermediate connecting rod was found broken, on arrival at Kingston the rod of the H. P. was also fractured about the same place as the intermediate; both were replaced with new ones.

April 27th, 1897.—SS. "Bannockburn," of Montreal, on entering Kingston harbour ran ashore full speed on a rocky shoal near Snake Island light, breaking four frames and five outside plates on the port bow, also damaging the fore-foot and stem. Vessel was released and repaired at Kingston.

June 5th, 1897.—SS. "Valeria," of Kingston, on a trip from Clayton to Gananoque, broke the strap of the connecting rod, also damaging the cylinder and cross-head; caused by a flaw in the material of the strap; she was towed to Kingston, where repairs were effected.

June 20th, 1897.—SS. "International" of Prescott, while moored at Prescott dock caught fire, burning topside and deck on port side, vessel was scuttled to extinguish the fire, afterwards was raised and repaired. Cause of fire unknown, crew all ashore when accident happened.

Montreal Division.

August 19th, 1896.—Steamer "Reliance," of Montreal, caught on fire and was burned at the wharf, a total loss.

November 2nd, 1896.—Steamer "Maude," of Montreal, when leaving Carillon, broke her starboard shaft; it was replaced with a new one.

November 21st, 1896.—Steam yacht "Omota," of Brockville, while being laid up at Sorel, caught fire and was burned to the water's edge.

May 24th, 1897.—Steamer "Beatrice B.," of Ottawa, while moored to the wharf at Ottawa caught fire, destroying the upper works.

June 3rd, 1897.—Steam tug "Sir Hector," of Ottawa, was sunk in the Ottawa River, opposite L'Original, by coming into collision with steamer "Hall." No loss of life sustained.

June 21st, 1897.—Steam tug "W. F. Logie," of Montreal, while going into the Lachine wharf, broke her crank shaft, from which cause also the cylinder cover was broken.

Quebec Division.

No accidents of any serious importance have occurred in this district, so far as reported.

Nova Scotia Division.

August 2nd, 1896.—SS. "Gulnare," of Charlottetown, on a voyage from Sydney, C.B., to Halifax, N.S., struck a rock near Canso, and became a total wreck. No loss of life.

September 17th, 1896.—SS. "Marion," of Halifax, while on a voyage from Grand Narrows to Baddeck, C.B., broke her port shaft close to paddle wheel; was worked into port with starboard wheel, and had a new shaft fitted.

November 12th, 1896.—Steamer "Blue Hill," of Halifax, while on a voyage from St. Peters to Mulgrave, N.S., broke her starboard shaft in the stern tube; was brought into Mulgrave with one propeller, where a new shaft was fitted.

January 15th, 1897.—Steamer "Magnolia," of Sydney, while laid up at anchor in the ice at Sydney harbour, caught fire and became a total loss; cause of fire unknown.

January 4th, 1897.—SS. "Bonavista," of Montreal, while entering Boston harbour during a dense fog, struck Harding's Lodge, stem was broken at fore-foot, carried away and twisted to ten-foot mark. Eight plates on starboard, and fifteen plates on port side, had to be removed and replaced. Twenty frames, and floors broken and bent. Vessel was repaired on Marine slip at Boston.

April 29th, 1897.—SS. "Cacouna," of Montreal, while on a voyage from Halifax to Louisbourg in ballast, struck on Guyon Island, near Louisburg; immediately came off, returning to Halifax, where placed in dry dock; stem was found broken, and a number of plates on both sides under bottom indented or broken, all of which were removed and replaced, again placing the vessel in a staunch and seaworthy condition.

May 21st, 1897.—SS. "Delta" of Glasgow, owned at Halifax, while on a voyage from Sydney, C.B., coal laden, struck on Flint Island, Cape Breton coast. After jettisoning some of the cargo, the vessel floated, and proceeded to Halifax, where she was placed on marine slip, a number of plates were found damaged, which were removed, and vessel again put in a staunch and seaworthy condition.

New Brunswick and Prince Edward Island Division.

July 27th, 1896.—SS. "Prince Rupert," plying between St. John, N.B., and Digby, N. S., broke her high pressure cylinder in getting under way at Digby; was towed to St. John, where repairs were made.

October, 1896.—Steamer "W. E. Vroom," of St. John, while lying at the wharf at Grand Bay, St. John Co., N.B., was burned; total loss.

November 4th, 1896.—SS. "Coila," of Glasgow, owned at Charlottetown, Prince Edward Island, ran ashore on the Colorado reefs, Cuba, and became a total loss; crew were saved.

November 6th, 1896.—SS. "Storm King," of Chatham, collided with pilot-boat "Twilight," between Partridge Island and the beacon light, St. John harbour; tearing away after end of house, and breaking off steam pipe at cylinder. No person injured.

May, 1897.—Steam tug "New City," of St. John, was stranded in Petitcodiac River, N.B.; when tide ebbed she turned over, caught fire, and burned.

British Columbia Division.

July 2nd, 1896.—Steamer "Fairview," while lying at Okanagan with no crew on board, caught fire on upper works; vessel was scuttled to put out fire. Machinery saved.

October 18th, 1896.—Steamer "Hope," on passage to Victoria broke high pressure crank, proceeded on voyage with L. P. engine, and on arrival had new shaft fitted.

November 11th, 1896:—Steamer "Georgie," on passage to Victoria from Rivers Inlet, when about two miles from Pine Island, and in Queen Charlotte Sound, encountered a south-east gale, was swamped, and foundered; crew were saved by steamer's boat.

March 26th, 1897.—Steamer "Spinster," on passage to San Juan, west coast of Vancouver Island, was driven by a south-east gale on to rocks, and broken up; captain was lost.

April 9th, 1897.—Steamer "Coquitlam," on a voyage to Rivers Inlet stranded near Grief Point, fracturing keel, and damaging several plates of hull; was afterwards placed on Marine Railway and repaired.

April 13th, 1897.—Steamer "Bon Accord," while on passage from Langley to New Westminster, struck a snag and sank near Mission Bridge; was floated down to Sapperton, hauled out and repaired.

May 7th, 1897.—Steamer "Gwendoline," on a passage from Fort Steele to Jennings, on Kootenay River, was carried by currents onto rocks in channel, had one side stove in; was afterwards floated to Jennings, and repaired.

Marine and Fisheries—Marine Branch.

Manitoba, Keewatin and North-west Territories.

July 30th, 1896.—Steamer "Monarch," while on trip from Ash Rapids to Rat Portage, ran on a reef, broke her bottom and sank; was afterwards raised and repaired.

August 4th, 1896.—Steamer "Swallow," while on a voyage from Fort Francis to Rat Portage, ran on a reef in the Lake of the Woods; the following afternoon the wind blew heavy from the west, when the vessel went to pieces; a total wreck.

August 18th, 1896.—Steamer "City of Selkirk," on a voyage from north end of Lake Winnipeg, broke her universal coupling, was repaired temporarily, when the vessel was slowly worked into Selkirk, where a new coupling was procured and fitted.

PROSECUTIONS FOR VIOLATION OF THE STEAMBOAT INSPECTION ACT.

Result in each case.

August 7th, 1896.—Steamer "Stranger," of Port Hope, proceedings were ordered to be taken against owner, having been reported as violating the steamboat inspection law, by carrying passengers without having the proper certificate for so doing; before coming to trial, representations were made, with satisfactory proofs, showing that the owner had not intentionally violated the law, and, if a violation, was done, it was done in ignorance.

The case was withdrawn on condition the owner pay all expense incurred up to date of withdrawal, amounting to \$34.15, which was deposited and receipt forwarded to department April 21st, 1897.

August 17th, 1896.—Steamer "Eurydice," of Toronto, proceedings were ordered to be taken against owner for violation of the steamboat inspection laws on 1st of August by carrying more passengers than allowed by her certificate.

The case was disposed of by the magistrato at Toronto, on October 20th, when the master of the vessel was fined \$50 and costs, which was paid November 4th. See deposit receipt No. 5042 of the Bank of Montreal.

August 31st, 1896.—Steamer "Ida," of Kingston, was seized and tied up in the port of Ottawa, by the Collector of Customs, under section 48, chap. 78 of the Revised Statutes, Steamboat Inspection Act; on the steamer being inspected, and a deposit of \$200 being made to the department by the owner, the steamer was permitted to resume her trips.

The case was brought to the notice of the Honourable Minister of Marine and Fisheries, who was of opinion under the circumstances, the penalty of \$200 would be sufficient in this case, which decision was communicated to the owner, informing him if not agreed to, a prosecution would ensue.

Not having received a reply up to November 27th, the matter was referred to the Department of Justice to take proceedings. The Marine Department being informed by letter of February 3rd, 1897, the owner had consented to forfeit the \$200 deposit, and pay all the costs incurred, providing the prosecution pending be withdrawn, to which the department agreed.

I am, sir,

Your obedient servant,

E. ADAMS,

Chairman Board of Steamboat Inspection.

STEAM VESSELS Inspected for the Year ended 30th June, 1897.

WEST ONTARIO DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1897.				\$ cts.	
Adrelexa.....	Yacht.....	July 2.....	15	6 20	Screw, Lakes.
Hiawatha.....	do.....	do 6.....	46	8 68	do do
W. M. German.....	Tug.....	do 15.....	28	7 24	do Long Point Bay.
Ivey Alderson.....	Yacht.....	do 15.....	39	8 04	do do
Hazard.....	Fishing tug.....	do 15.....	34	7 72	do Lake Erie.
Osprey.....	do.....	Not issued.....	6	5 48	do do
Eleanor.....	do.....	July 16.....	26	7 08	do do
1896.					
Dominion.....	Freight.....	Dec. 31.....	478	43 24	do Kingston and Duluth.
1897.					
*Juno.....	Fishing tug.....	July 26.....	28	21 72	do Lake Huron.
Clucas.....	do.....	do 26.....	28	7 24	do do
Sea Gull.....	do.....	do 26.....	19	6 52	do do
Sea Queen.....	do.....	do 27.....	18	6 44	do do
J. H. Jones.....	46.....	do 28.....	152	20 24	do do and Georgian Bay.
A. V. Crawford.....	Fishing tug.....	Aug. 5.....	51	9 08	do Lake Erie.
Snowstorm.....	do.....	do 5.....	17	6 36	do do
Enterprise.....	do.....	do 6.....	18	6 44	do do
Uncle Tom.....	do.....	do 6.....	8	5 72	do do
Belle.....	do.....	do 6.....	16	6 28	do do
Swan.....	do.....	do 7.....	14	6 12	do do
City of Mt. Clemens.....	150.....	do 7.....	102	16 16	do Lakes Erie and Huron.
Ida Bell.....	Fishing tug.....	do 7.....	6	5 48	do Lake Erie.
Albani.....	Yacht.....	July 30.....	5	5 40	do Lakes.
A. H. Jennie.....	Freight.....	Aug. 8.....	148	16 84	do do
Ariadne.....	Tug.....	do 18.....	33	8 04	do Wallaceburg and vicinity.
Nina.....	do.....	do 18.....	11	5 88	do do do
E. Windsor.....	Freight.....	do 18.....	86	11 88	do do do
W. S. Ireland.....	do.....	do 19.....	105	13 40	do do do
John Lee, sr.....	40.....	do 19.....	52	9 16	do Lakes Erie and Huron.
Frankie.....	Yacht.....	do 19.....	24	6 92	do Wallaceburg and vicinity.
Willie Scagel.....	Tug.....	do 19.....	22	6 76	do do do
Ripple.....	Yacht.....	do 20.....	15	6 20	do do do
Harry Sewell.....	Tug.....	do 20.....	25	7 00	do do do
Euna.....	do.....	do 20.....	6	5 48	do do do
T. J. Collop.....	Freight.....	do 20.....	63	10 04	do do do
Lillie Smith.....	do.....	do 22.....	275	27 00	do Lake Erie and Georgian Bay.
W. F. McRae.....	Tug.....	do 23.....	46	8 68	do Sarnia and vicinity.
Grace Darling.....	do.....	do 24.....	26	7 08	do do
Seguin.....	20.....	April 11.....	818	73 44	do Prescott and Duluth.
George Swann.....	Fishing tug.....	Sept. 2.....	18	6 45	do Lake Huron.
Evelyn.....	do.....	do 3.....	32	7 56	do do
W. H. Siebold.....	do.....	do 3.....	22	6 76	do do
Sea King.....	do.....	do 3.....	26	7 08	do do
*Ontario.....	Tug.....	do 4.....	57	28 68	do Lakes.
Chub.....	Freight.....	do 9.....	57	9 56	do Lake Ontario.
Sir S. L. Tilley.....	10.....	April 14.....	1,178	102 24	do Duluth and Montreal.
Monarch.....	330.....	Sept. 15.....	2,017	169 36	do Windsor and Duluth.
Great Western.....	200.....	do 17.....	1,080	94 40	Paddle, Windsor and Detroit.
Lansdowne.....	200.....	do 17.....	1,571	133 68	do do
Comfort.....	39.....	do 21.....	14	6 12	Screw, Sombra and Marine City.
St. George.....	Tug.....	Oct. 6.....	21	6 60	do Lakes.

* Dues and fees for 1894, 1895 and 1896.

Marine and Fisheries—Marine Branch.

STEAM VESSELS Inspected, &c.—West Ontario Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.		Class of Vessel and where Employed.
				\$	cts.	
		1898.				
Lakeside.....	524	Mar. 13....	348	35	84	Screw, St. Catharines and Toronto.
Ontario.....	500	do 16....	1,615	137	20	Paddle, Windsor and Detroit.
Michigan.....	500	do 16....	1,730	146	40	do do
Gordon Jerry.....	Freight.....	do 26....	124	14	92	Screw, Lake Ontario.
Macassa.....	616	April 3....	459	44	72	Twin-screw, Hamilton and Toronto.
John Hanlan.....	170	do 6....	37	7	96	Screw, Toronto Bay.
Persia.....	150	do 7....	757	68	56	do Montreal and Hamilton.
Melbourne.....	120	do 7....	894	79	52	do do and Toledo.
Cuba.....	109	do 7....	931	82	48	do do do
Tecumseh.....	Freight.....	do 13....	840	72	20	do Prescott and Duluth.
Mary.....	Tug.....	do 14....	62	9	96	do Welland Canal.
S. Kneeland.....	do.....	do 14....	46	8	68	do do
Golden City.....	do.....	do 14....	35	7	80	do do
Chas. E. Armstrong.....	do.....	do 15....	49	8	92	do do
United Lumberman.....	Freight.....	do 14....	399	36	92	do Montreal and Duluth.
Escort.....	Tug.....	do 15....	40	8	20	do Welland Canal.
Alert.....	do.....	do 16....	47	8	76	do do
Inez.....	do.....	do 16....	59	9	72	do do
Wm. Wilson.....	Fishing tug.....	do 16....	12	5	96	do Lake Erie.
A. D. Cross.....	Tug.....	do 16....	47	8	76	do Welland Canal.
Erin.....	10	do 17....	651	60	08	do Montreal and Duluth.
Harvey Neelon.....	Tug.....	do 17....	65	10	20	do Welland Canal.
Sir S. L. Tilley.....	do.....	do 19....	1,178	102	24	do Montreal and Duluth.
Arabian.....	13	do 19....	1,073	93	84	do Duluth and Quebec.
Myles.....	Freight.....	do 19....	1,199	100	92	do Duluth and Prescott.
L. Shickluna.....	do.....	do 20....	445	40	60	do Duluth and Quebec.
*Rival.....	Tug.....	do 20....	125	30	00	Paddle, Lakes.
Saginaw.....	do.....	do 21....	357	33	56	Screw, do
Wales.....	do.....	do 21....	350	33	00	do do
Lurline.....	Yacht.....	do 21....	66	10	28	do do
Juno.....	Freight.....	do 22....	288	28	04	do Montreal and Duluth.
Imperial.....	220	do 22....	150	20	00	do Sarnia and Sandusky.
Home Rule.....	Tug.....	do 23....	81	11	48	do Lakes.
Onaping.....	do.....	do 23....	256	25	48	do do
Charlton.....	do.....	do 24....	389	36	12	do do
Tepiakan.....	Fishing tug.....	do 27....	29	7	32	do do
United Empire.....	295	do 27....	1,961	164	88	do Windsor and Duluth.
Clinton.....	Freight.....	do 28....	430	39	40	do Montreal and Duluth.
Ocean City.....	125	do 28....	684	62	72	do Montreal and Sarnia.
Maid of the Mist.....	80	May 3....	62	9	96	do N'agara Falls.
Union.....	300	do 4....	267	29	36	Paddle, Fort Erie and Black Rock.
Electric.....	Yacht.....	do 6....	23	6	84	Screw, Lakes.
Island Queen.....	140	do 8....	23	6	84	do Toronto Bay.
Lake Michigan.....	12	do 10....	573	53	84	do Duluth and Montreal.
Luella.....	125	do 11....	38	8	04	do Toronto Bay.
Primrose.....	900	do 11....	189	23	12	Paddle, do
Mayflower.....	900	do 11....	189	23	12	do do
Shamrock.....	383	do 11....	154	20	32	do do
Kathleen.....	196	do 12....	110	16	80	Screw, do
Gertrude.....	170	do 12....	76	11	08	do do
Clark Bros.....	66	do 12....	33	7	64	do do
Thistle.....	345	do 12....	78	11	24	Paddle, do
Sandford.....	Tug.....	do 14....	56	9	48	Screw, Lakes.
Modjeska.....	801	do 15....	678	62	24	Twin-screw, Hamilton and vicinity.
Acacia.....	200	do 15....	55	9	41	Screw, Burlington Bay.
A. J. Tymon.....	300	do 16....	194	23	52	do Port Stanley and Cleveland.
Vick.....	Tug.....	do 19....	13	6	04	do Chatham and vicinity.
Dominion.....	Freight.....	do 19....	138	16	04	do do
Owen.....	do.....	do 20....	103	13	24	do do
City of Chatham.....	580	do 20....	341	35	28	do Chatham and Detroit.

*Dues and fees for 1896 and 1897.

STEAM VESSELS Inspected, &c.—West Ontario Division—*Continued.*BOILERS AND MACHINERY.—*Continued.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
St. Andrew.....	10	May 25.....	1,113	97 04	Screw, Montreal and Duluth.
J. L. McEdwards.....	100	do 31.....	21	6 68	do Toronto Bay.
Arlington.....	100	do 31.....	23	6 84	do do
Queen City.....	328	June 4.....	312	32 96	do Lake Ontario.
Garden City.....	760	do 5.....	637	59 04	Paddle, Toronto and Lakeport.
Augusta.....	Tug.....	do 7.....	57	9 56	Screw, Welland Canal.
Nellie Bly.....	Fishing tug.....	do 7.....	13	6 04	do Lake Ontario.
Joe Mac.....	Tug.....	do 8.....	44	8 44	do Welland Canal.
M. R. Mitchell.....	do.....	do 8.....	40	8 20	do do
Jas. Norris.....	do.....	do 8.....	50	9 00	do do
Ella Taylor.....	do.....	do 9.....	34	7 72	do do
Nautilus.....	do.....	do 9.....	9	5 72	do do
M. A. Bennett.....	do.....	do 10.....	34	7 72	do do
Hope.....	300	do 10.....	170	21 60	do Bridgeburg and Black Rock.
Abino.....	40	do 11.....	8	5 64	do Niagara River.
Carmona.....	350	do 15.....	980	86 40	Paddle, Windsor and Soo.
Cambria.....	318	do 15.....	937	82 96	do do do
Albert Wright.....	Tug.....	do 17.....	29	7 32	Screw, Lakes.
Mabel.....	do.....	do 19.....	11	5 88	do Toronto Bay.
Mazepa.....	280	do 21.....	146	19 65	do Hamilton and Toronto.
Despatch.....	Fishing tug.....	do 23.....	33	7 64	do Lake Huron.
Hiawatha.....	300	do 24.....	163	20 96	do Sarnia and Port Huron.
J. C. Clark.....	283	do 24.....	145	19 60	do Sarnia and Stag Island.
Thames.....	300	do 25.....	82	11 56	Stern-wheel, London and Springbank.
Jubilee.....	40	do 26.....	10	5 80	Screw, Rondeau Bay.
City of Dresden.....	100	do 26.....	194	23 52	do Windsor and Lake Erie Ports.
La Belle.....	Freight.....	do 28.....	75	11 00	do Windsor and vicinity.
*Energy.....	do.....	do 28.....	116	28 56	do do
Comfort.....	39	do 30.....	14	6 12	do Sombra and vicinity.
G. W. Parker.....	Tug.....	Not issued.....	12	.....	do do do
Total.....	.....	.....	36,220	\$3,771 43	.....

JOHN DODDS,
Toronto.

Marine and Fisheries—Marine Branch.

STEAM Vessels Inspected, &c.—West Ontario Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1897.					
Lilly May	Tug	July 1	10	5 80	Screw, Georgian Bay.
Odessa (yacht)	20	do 2	12	5 96	do Penetang and vicinity.
Ripple	Tug	do 2	5	5 40	do Georgian Bay.
Lillian	do	do 2	5	5 40	do do
Isla	348	do 14	175	22 00	do Barrie and ports, Lake Simcoe
Sea Flower	Yacht	do 14	7	5 56	do Lake Simcoe.
Conqueror	Tug	do 14	25	7 00	do do do
Naiad	Yacht	do 16	29	7 32	do Muskoka Lakes.
Wapenao	do	do 16	5	5 40	do do do
Rosseau	Tug	do 16	53	9 24	do do do
Mink	40	do 16	13	6 04	do do do
Southwood	Tug	do 17	19	6 52	do do do
Edith May	40	do 17	45	8 60	do do do
Ontario	Tug	do 17	11	5 88	do do do
Lake Joseph	do	do 17	28	7 24	do do do
Ethel May	do	do 17	4	5 32	do do do
*Siesta	Yacht	do 18	3	15 72†	do do do
Bertha May	Tug	do 20	20	6 60	do do do
Jennie Wilson	do	do 20	7	5 56	do do do
Sylvester	do	do 22	27	7 16	do Lakes at Huntsville.
Empress Victoria	40	do 22	106	16 48	do do do
Equal Rights	15	do 22	6	5 48	do do do
Lady of the Lakes	Tug	do 22	10	5 80	do do do
Mary Louise	40	do 23	64	10 12	do Portage and vicinity.
Florence	Tug	do 23	27	7 16	do Lake of Bays.
Erastus Wiman	do	do 24	54	9 32	do Lakes at Huntsville.
Corona	1456	Aug. 5	1,274	109 92	Paddle, Lake Ontario ports.
Waubashene	Tug	do 7	97	12 76	Screw, Georgian Bay.
J. C. Else	do	do 7	33	7 64	Paddle, Sturgeon Bay.
Ida	Yacht	do 7	21	6 68	Screw, Georgian Bay.
H. L. Lovering	Tug	do 7	55	9 40	do Severn River.
Sea Gull	do	not issued	9	5 72	do Georgian Bay.
Sweet Mary	do	Aug. 8	13	6 04	do do do
John William	do	do 8	14	6 12	do do do
Mayflower	do	do 8	14	6 12	do do do
Topsy	Yacht	Not issued	9	5 72	do do do
Ann Long	11	Aug. 13	45	8 60	do Killarney to Soo.
Stella	Tug	do 13	16	6 28	do Lake Huron.
Bob Foote	do	do 14	30	8 20	do Georgian Bay.
Lilly	do	do 15	22	6 76	do French River.
Nocross	do	do 15	20	6 60	do do do
Maggie McLean	do	do 15	37	7 96	do do do
Caponaning	do	do 15	18	6 44	do Georgian Bay.
Port Elgin Queen	do	do 26	37	7 96	do do do
Agnes	do	do 26	23	6 92	do do do
1896.					
‡Rover	do	Dec. 31	51	18 16	do do do
1897.					
‡John Milne	Freight	Aug. 31	109	27 44	do Rideau Canal.
May Bird	do	Sept. 3	46	8 68	do Lake Ontario.
‡Gordon Jerry	do	do 4	124	29 84	do do do
Enterprise	280	do 9	148	19 84	do Lake Simcoe.
R. Kendrick	Freight	not issued	15	.....	do do do
Minota	Yacht	Sept. 10	29	7 32	do do do
Queen	do	not issued	7	5 56	do do do
W. A. Rooth	Tug	Sept. 26	52	9 16	do Bell Ewart to Roache's Pt.
Hattie Vinton	do	do 26	55	9 40	do The Lakes.

* Steamer did not run in 1894 and 1895. † Dues for 1892, 1893 and 1896.

‡ Fees and dues for 1895 and 1896.

STeam Vessels inspected, &c.—West Ontario Division—Continued

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1897.				\$ cts	
Bertha Endress	Tug	Sept. 28	32	7 56	Screw, St. Mary's River.
Clara Hickler	do	do 28	42	8 36	do do do
Edgar P. Sawyer	do	do 28	52	9 16	do Lake and River.
Anne Clark	do	do 30	51	9 08	do do Superior.
Susan C. Doty	do	Oct. 1	26	7 08	do do do
W. L. Davis	do	do 2	46	8 68	do St. Mary's River.
Minnie Kidd	do	do 2	18	6 44	do do do
Gordon Gauthier	do	do 3	26	7 08	do do do
Sea Gull	do	do 3	41	8 28	do do do
Alpha	do	do 5	34	7 72	do Lake Huron.
Delight	do	do 5	26	7 08	do do
James McKeon	do	do 8	36	7 88	do Spanish River.
P. S. Hiesordt	do	do 8	45	8 60	do Lake Huron.
Fanny Arnold	12	do 9	73	10 84	do Killarney to Soo.
Iota	Tug	do 9	6	5 48	do Spanish River and vicinity.
Advance	10	do 10	72	10 76	do do Gore Bay.
Huron Belle	Tug	do 10	27	7 16	do Lake Huron.
Surprise	10	do 10	19	6 52	do do
M. G. McDonald	Tug	do 12	29	7 32	do do
Scotch Thistle	30	do 12	17	6 36	do Killarney and Algoma Mills.
Maggie May	40	do 12	46	8 68	do do to Thessalon.
Gertrude A. Rennie	Tug	do 13	14	6 12	do Lake Huron and Geo. Bay.
Frank Reed	do	do 13	34	7 72	do Georgian Bay.
Edward Blake	do	do 14	22	6 76	do North Channel.
Georgia	do	do 14	28	7 24	do Georgian Bay.
Uncle Jim	do	do 15	11	5 88	do North Channel and Geo. Bay.
Yacht Maida	do	do 15	2	5 24	do Georgian Bay.
P. M. Campbell	do	do 16	49	8 92	do Whitefish to Collin's Inlet.
Morning Star	Freight	do 26	5	5 40	do Toronto Bay.
Laura M	Tug	Nov. 17	18	6 44	do Georgian Bay.
Mascot	do	do 18	21	6 68	do do
James Playfair	do	do 18	26	7 08	do do
Mizpah	Yacht	do 19	18	6 44	do do
Signal	Tug	Dec. 17	94	12 52	do the Lakes.
1898.					
Frank Jackman	Tug	April 3	39	8 12	do Toronto Bay.
Niagara	Freight	do 3	468	42 44	do Montreal to Duluth.
Algonquin	do	do 5	1,806	149 48	do the Lakes.
Rosedale	do	do 5	1,507	125 56	do do
Seguin	20	do 8	818	73 44	do Prescott to Duluth.
Alfred Morrell	Tug	do 8	40	8 76	do Georgian Bay.
Telegram	330	do 15	198	23 84	do Soo to Peninsula Harbour.
Dalton McCarthy	Tug	do 15	54	9 32	do Georgian Bay.
Fred. A. Hodgson	do	do 15	63	10 04	do Lake Huron to Georgian Bay.
Atlantic	300	do 15	683	62 64	do Collingwood anti Soo.
Northern Belle	216	do 15	514	49 04	do Georgian Bay ports.
Pacific	292	do 15	918	81 44	do Collingwood and Soo.
City of Parry Sound	280	do 16	491	47 28	do do & Geo. Bay ports.
Majestic	736	do 16	1,578	134 24	do do and Soo.
City of Midland	375	do 16	974	85 92	do do Soo & Mackinac.
City of Collingwood	650	do 16	1,387	118 96	do do do
City of Toronto	400	do 16	782	70 56	Paddle, Penetang, and Soo.
Saucy Jim	Tug	do 16	93	12 44	Screw, Georgian Bay.
Maud S	do	do 17	14	6 12	do do
Orcadia	do	do 17	26	7 08	do do
Shamrock	do	do 17	14	6 12	do Lake Superior.
Bob Foote	do	do 17	39	8 12	do Georgian Bay.
Alberta	500	do 21	2,282	190 56	do Ow. S'd, Windsor & Pt. Wm.
Athabasca	500	do 21	2,269	189 52	do Owen Sound Fort William.
Manitoba	500	do 21	2,616	217 28	do do do
Superior	Tug	do 22	89	12 12	do the Lakes.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected &c.—West Ontario Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1898.				\$ cts.	
Severn	Tug	April 22	44	8 52	Screw, Georgian Bay.
Metamora	do	do 23	239	24 12	do the Lakes.
C. W. Chamberlain	Freight	do 24	385	35 80	do Kingston and Duluth.
James Storey	Tug	do 27	49	8 92	do Georgian Bay.
Cynthia	do	do 27	35	7 80	do do
Ada Alice	100	do 28	53	9 24	do Toronto and Island.
Cleopatra	Yacht	do 29	104	13 32	do the Lakes.
Greyhound	500	do 30	337	34 96	do Toronto Oakville & Port Dalh.
Chicora	872	May 6	931	82 48	Paddle, Toronto and Lewiston.
Chippewa	2,000	do 9	1,514	129 12	do do
Ongiera	240	do 7	54	12 84	do Niagara and Lewiston.
Corona	1,456	do 7	1,274	109 92	do Toronto and Lewiston.
Hiawatha	Yacht	do 14	46	8 68	Screw, the Lakes.
G. P. McIntosh	Tug	do 18	58	9 64	do Georgian Bay.
A. Seaman	do	do 18	76	11 16	do do
Joe Milton		Not issued	93	12 52	do do
Walter Scott	Tug	May 19	26	7 08	do do
Arbutus	do	do 19	49	8 92	do do
Port Elgin Queen	do	do 19	37	7 96	do do
Agnes	do	do 20	23	6 84	do do
*Curlew	Yacht	do 26	3	10 48	do Toronto Bay.
Eurydice		Not issued	590		Paddle.
Florissant	Yacht	June 1	3	5 24	Screw, Toronto Bay.
Stella	Tug	do 5	16	6 28	do North Channel.
1897.					
City of Windsor	300	Oct. 8	511	48 88	do Collingwood and Soo.
1898.					
Ethel	Tug	June 5	13	6 04	do Georgian Bay.
Ann Long	do	do 5	45	8 60	do North Channel.
Philadelphia	do	do 7	148	19 84	do the Lakes.
Herbert	do	do 7	21	6 68	do St. Mary's River.
City of London	300	do 10	516	49 28	do Collingwood and Georgian Bay ports.
W. J. Aikens	Tug	do 10	42	8 36	do Georgian Bay.
Ripple	Yacht	do 11	5	5 40	do do
Julian & O'Brien	Tug	Not issued	59	9 72	do do
Medora	305	June 16	299	31 92	do Muskoka Lakes.
Nipissing	396	do 16	275	30 00	Paddle, Muskoka Lakes.
Ahmic	40	do 16	43	8 44	Screw do
Muskoka	127	do 17	99	12 92	do do
Oriole	97	do 17	75	11 00	do do
Queen of the Isles	Tug	do 17	40	8 20	do do
Kenoyha	194	do 18	191	23 28	do do
Edith May	40	do 18	45	8 60	do do
Wenonah	93	do 18	161	20 88	do and paddle, Maganettawan Riv.
Glenrosa	Tug	do 19	63	10 04	do Burk's Falls and Ahmic Harb.
Emulator	do	do 19	25	7 00	do Maganettawan River.
Cyclone	do	Not issued	44		do do
Longford	40	June 23	53	9 24	do Lake Couchiching.
Isla	348	do 23	175	22 00	do Orillia and Barrie.
Lorna Doone	Yacht	do 23	5	5 40	do Lake Couchiching.
Gypsy	do	do 24	20	6 60	do do
Marie	Tug	do 25	12	6 04	do Georgian Bay.
Geraldine	40	do 25	65	10 28	do Penetang and Pt. aux Baril.
Emma	100	do 25	75	11 00	do Parry Sound do
Lorna Doone	38	do 25	18	6 52	do Pt. aux Baril and Levelve Milne Bay.

*Dues and fees for 1896 and 1897.

STEAM VESSELS inspected, &c.—West Ontario Division—Continued.

BOILERS AND MACHINERY—Concluded.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Bertha.	30	June 26.	18	6 44	Screw, Parry Sound, Moon River and Shebishagong.
Halero.	Yacht.	Not issued..	8	.....	do Georgian Bay.
Carlton.	30	June 26.	8	5 72	do Parry Sound, Moon River and Shebishagong.
Fred. Davidson.	Tug.	do 28.	43	8 44	do Georgian Bay.
Masonic.	40	do 28.	39	8 12	do Penetang. and Pt. au Baril.
Home Rule.	Yacht.	do 29.	3	5 24	do do and Muskoka Mills.
Maud.	40	do 29.	40	8 20	do do and Pt. au Baril.
Shawanaga.	Tug.	do 29.	96	12 68	do Georgian Bay.
Odessa.	30	do 30.	12	5 96	do Penetang. and vicinity.
Creole.	Yacht.	do 30.	21	6 68	do Georgian Bay.
Total. ....	.....	.....	33,540	3,645 80	

Marine and Fisheries—Marine Branch.

STEAM Vessels not inspected for the year ended 30th June, 1897.

WEST ONTARIO DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. Why not Inspected and Class of Vessel
Comet.....	20	14	Screw, tug.....
John Harrison.....	44	30	do tug.....
John J. Long.....	201	137	do passenger.....
Ontario.....	1,338	910	do do.....
Huron.....	1,052	638	Twin screw, railway car ferry
International.....	851	539	do do do ..
Meteor.....	337	181	Paddle, tug.....
Chicoutimi.....	110	70	do passenger.....
Mary of Port Stanley.....	4	3	Screw, tug..
Abeona.....	46	31	do yacht.....
Sonntag.....	7	5	do do.....
Mascott.....	49	33	do passenger.....
Wm. Booth.....	46	32	do yacht.....
Daisy.....	11	7	do tug.....
Athena.....	18	12	do yacht.....
Luther Westover.....	127	80	Paddle, tug.....
Ruby.....	72	44	Screw, fishing tug.....
Ranger.....	8	5	do do.....
Evangeline.....	24	16	do yacht.....
Cecebe.....	11	8	do tug.....
Herbert M.....	26	18	do tug.....
City of Stratford.....	4	3	do yacht.....
Bruce.....	16	11	do tug.....
Messenger.....	15	12	do tug.....
Heatherbelle.....	20	13	do fishing tug.....
Elite.....	22	15	do do.....
Purvis.....	13	9	do do.....
Tecumseh.....	10	6	do tug.....
Adam Ainslie.....	59	40	do tug.....
Reliance.....	311	182	do tug.....
Vixen.....	68	53	do fishing tug.....
Minnie Martin.....	10	7	do tug.....
Ocean Lily.....	3	2	do tug.....
Evelyn of Windsor.....	85	46	do tug.....
A. M. Petrie.....	20	13	do yacht.....
Phenix.....	37	25	do tug.....
Mary Arnott.....	8	6	do tug.....
Elmer.....	38	26	do tug.....
Sea Shell.....	7	5	do tug.....
Earl.....	18	14	do fishing tug.....
Killarney Belle.....	28	19	do do.....
A. Chambers.....	23	15	do do.....
Gilphie.....	19	18	do passenger.....
Sarah E. Day.....	5	4	do tug.....
Welcome.....	21	14	do fishing tug.....
John Logie.....	29	20	do do.....
Total.....			

} No running.

} No application.

JAMES JOHNSTON,
JOHN DODDS,
Toronto.

STEAM VESSELS inspected for the year ended 30th June, 1897.

WEST ONTARIO DIVISION.

HULL INSPECTION.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid	Class of Vessel and where Employed.
1897.					\$ cts.
Abino.....	40	July 4	8	5 64	Passenger, Niagara River.
City of Mt. Clemens.	150	do 10	102	16 16	Pass. between Lake Erie and Huron.
Hope.....	300	do 14	170	21 60	Passenger, Bridgeburg & Black Rock.
Enterprise.....	230	do 16	148	19 84	do Lake Simcoe.
Islay.....	348	do 16	175	22 00	do do
Longford.....	40	do 17	53	9 24	do do
1896.					
Lillie.....	75	Dec. 31.....	50	9 00	do do
Conqueror.....		Not granted	25	7 00	do do
1897.					
Telegram.....	(L. 200) (R. 330)	July 23.....	198	23 84	do (Sault Ste. Marie Penin- sula Harbours.
Jessie.....		Not issued...	118	17 44	do Duluth and Montreal.
Ann Long.....	11	July 30.....	45	8 60	do Killarney and Sault.
Fanny Arnold.....	12	do 30.....	73	10 84	do do do
Iota.....		Not granted	6	5 48	do Lacloche and Cook's Mills.
Scotch Thistle.....	30	July 31.....	17	6 36	do Killarney & Algoma Mills.
Maggie May.....	40	Aug. 1.....	46	8 68	do do and Thessalon.
P. M. Campbell.....	25	do 3.....	49	8 92	do White Fish & Collin's Inlet.
Lorna Doone.....	40	do 4.....	18	6 52	do Pt. au Baril & 12-Mile Bay.
Corona.....	1,456	do 13.....	1,274	109 92	do Lake Ontario Ports.
Kenozha.....	200	do 19.....	191	23 28	do Muskoka Lakes.
Medora.....	405	do 19.....	209	31 92	do do
Onaganoh.....	23	do 20.....	19	6 52	do do
Oriole.....	40	do 20.....	75	11 00	do do
Nipissing.....	396	do 20.....	275	30 00	do do
Mink.....	40	do 20.....	13	6 04	do do
Flyer.....		Not issued...	4	5 32	do do
Aug.					
Ahmic.....	40	do 21.....	43	8 44	do do
Edith May.....	40	do 22.....	45	8 60	do do
Muskoka.....	82	do 22.....	99	12 92	do do
Empress Victoria.....	40	do 24.....	106	16 48	do Huntsville and Portage.
Mary Louise.....	40	do 24.....	64	10 12	do Lake of Bays and Trading Lake.
Equal Rights.....	15	do 24.....	6	5 48	do Peninsula Lake & vicinity
Wenonah.....	91	do 25.....	161	20 88	do Maganettawan River.
Glenrosa.....		Not granted	63	10 04	do do do
Seguin.....	20	April 11.....	818	73 44	do Prescott and Duluth.
Ivey Alderson.....		Not granted	39	8 04	Screw, Port Dover Bay.
Chaudière.....	150	Sept. 4.....	72	10 00	Scow, Lake Nipissing.
Sir S. L. Tilley.....	10	do 14.....	1,178	102 24	Screw, Duluth and Montreal.
Dominion.....	Freight.	do 17.....	478	43 24	do Lake Huron, Georgian Bay.
J. H. Jones.....	46	do 17.....	152	20 24	do do do
Surprise.....	10	Aug. 3.....	19	6 52	do Spanish River and Gore Bay.
Advance.....	10	do 3.....	72	10 76	do do do
Monarch.....	330	Sept. 29.....	2,017	169 36	dc Windsor and Duluth.
Great Western.....	200	do 30.....	1,080	94 40	Paddle, Windsor and Detroit.
Lansdowne.....	200	Oct. 1.....	1,571	133 68	do do do
Lillie Smith.....	Freight.	do 5.....	275	27 00	Screw, Lake Erie and Georgian Bay.
1898.					
Niagara.....	do	April 5.....	468	42 44	do Montreal and Duluth.
Lakeside.....	524	do 5.....	348	35 84	do Toronto and St. Catharines.
Michigan.....	500	Mar. 22.....	1,730	146 40	Paddle, Windsor and Detroit.
Ontario.....	500	do 22.....	1,615	137 20	do do do
Macassa.....	616	April 9.....	459	44 72	Screw, Hamilton and Toronto.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—West Ontario Division—Continued.

HULL INSPECTION—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
United Lumberman.	Freight.	April 15.	399	36 92	Screw, Montreal and Duluth.
Erin.....	10	do 15.	651	60 08	do do do
Algonquin.....	Freight.	do 16.	1,806	149 48	do Duluth and Prescott.
Rosedale.....	do	do 16.	1,507	125 56	do do do
Myles.....	do	do 17.	1,198	100 92	do do do
Arabian.....	13	do 17.	1,073	93 84	do do Quebec.
Pacific.....	292	do 21.	918	81 44	do all Lakes.
Atlantic.....	300	do 21.	683	62 64	do Collingwood & Sault Ste. Marie
Majestic.....	763	do 21.	1,578	134 24	do all Lakes.
Northern Belle.....	216	do 22.	514	49 14	do Collingw'd & Georgian Bay pts
City of Toronto.....	400	do 22.	782	70 56	Paddle, Penetanguishene and Soo.
City of Midland.....	375	do 22.	174	85 92	Screw, Collingwood and Mackinac.
City of Collingwood.....	650	do 23.	1,387	118 96	do Collingw'd, Soo & Mackinac.
City of Parry Sound.....	280	do 23.	491	47 28	do Collingw'd & Georgian Bay pts
Athabasca.....	500	do 24.	2,269	189 52	Screw, Owen Sound and Ft. William.
Alberta.....	500	do 24.	2,282	190 56	do Owen Sound, Windsor and Ft. William.
Manitoban.....	500	do 26.	2,616	217 28	Screw, Owen Sound and Ft. William.
L. Shickluna.....	Freight.	do 27.	445	40 60	do Quebec and Duluth.
Persia.....	150	do 27.	757	68 56	do Montreal and Hamilton.
Ada Alice.....	100	do 27.	53	9 24	do Toronto and Island.
Ocean.....	125	do 28.	684	62 72	do Montreal and Sarnia.
		1897.			
Clinton.....	Freight.	Sept. 10.	430	39 40	do do do Duluth.
		1898.			
Melbourne.....	120	April 29.	894	79 52	do Toledo and Montreal.
Cuba.....	109	do 30.	931	82 48	do do do
Tecumseh.....	Freight.	May 3.	840	72 20	do Prescott and Duluth.
Chicora.....	872	do 6.	930	82 48	do Lake Ontario ports.
Chippewa.....	2,000	do 6.	1,514	129 12	do do do
Corona.....	1,456	do 8.	1,274	109 92	do do do
Ongiara.....	241	do 7.	98	12 84	do Niagara and Lewiston.
Island Queen.....	140	do 10.	23	6 84	do Toronto and Island.
Clark Bros.....	40	do 10.	33	7 64	do do Bay only.
Luella.....	125	do 11.	38	8 01	do do and Island.
United Empire.....	295	do 12.	1,961	164 88	do Windsor and Duluth.
Hiawatha.....	300	do 12.	163	20 96	do Sarnia and Port Huron.
Comfort.....	39	do 13.	14	6 12	do Sombra and Marine City.
Imperial.....	220	do 13.	150	20 00	do Sarnia and Sandusky.
Shamrock.....	383	do 15.	154	20 32	Paddle, Toronto and Island.
Kathleen.....	196	do 15.	110	16 80	Screw do do
Gertrude.....	170	do 15.	76	11 08	do do do
Primrose.....	900	do 15.	189	23 12	Paddle do do
Mayflower.....	900	do 15.	189	23 12	do do do
		1897.			
Greyhound.....	{ L. 250 } { C. 530 }	Nov. 30.	337	34 96	Screw, Toronto, Oakville and Port Dalhousie.
		1898.			
Union.....	300	May 20.	267	29 36	Paddle, Fort Erie and Black Rock.
Maid of the Mist.....	80	do 20.	62	9 96	Screw, Niagara Falls and vicinity.
Ga. den City.....	{ L. 500 } { C. 760 }	do 19.	637	59 04	Paddle, Toronto and Lakeport.
Acacia.....	200	do 21.	55	9 41	Screw, Hamilton and Burlington Beach.
Lake Michigan.....	12	do 22.	573	53 84	Screw, Duluth and Montreal.
Modjeska.....	801	do 21.	678	62 24	do Toronto and Hamilton.
St. Andrew.....	10	do 25.	1,113	97 04	do Montreal and Duluth.
Gilphic.....	33	do 25.	19	6 52	do Kincardine and Tobermory.
Thistle.....	345	do 29.	78	11 24	Paddle, Toronto and Island.

STEAM Vessels inspected, &c.—West Ontario Division—*Concluded.*HULL INSPECTION—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Seguin	20	May 31....	818	73 44	Screw, Prescott and Duluth.
A. J. Tymon . . .	{ L. 300 C. 419 }	June 3....	194	23 52	do Port Stanley and Cleveland.
Queen City.....	{ L. 328 C. 492 }	do 4 ...	312	32 96	do Lake Ontario ports.
City of London	300	do 8....	516	49 28	do Georgian Bay ports.
City of Windsor	300	Aug. 30....	511	48 88	do Sault Ste. Marie and Collingwood.
Gordon Gauthier .	16	do 30....	26	7 08	do Sault Ste. Marie and Desbarats.
Jessie L. McEdwards	100	June 16....	21	6 68	do Toronto and Island.
Arlington.....	100	do 16....	23	6 84	do do do
John Hanlan	170	do 16....	37	7 96	do do do
Thames.....	300	do 17....	82	11 56	Stern-wheel, London and Springfield.
City of Chatham.....	580	do 18....	341	35 28	Screw, Chatham and Detroit.
City of Dresden.....	100	do 18....	194	23 52	do Windsor and Lake Erie ports.
Jubilee.....	40	do 18....	10	5 80	do Rondeau Bay.
Cambria.....	318	do 21....	937	82 96	Paddle, Windsor and Sault St. Marie.
Carmona.....	350	do 21....	980	86 40	do do do
Emma.....	100	do 13....	75	11 00	Screw, Penetang, Parry Sound and Point au Baril.
Geraldine.....	40	do 13....	65	10 28	Screw, Penetang, and Point aux Baril.
Lorna Doone.....	38	do 13....	18	6 52	do Pt. au Baril and 12-Mile Bay.
Bertha.....	38	do 13....	18	6 44	do Parry Sound and Shebishagong.
Carlton.....	30	do 26....	8	5 72	do do do Moon River.
Masonic.....	40	do 29....	39	8 12	do Penetang, and Point au Baril.
Maud.....	40	do 29....	40	8 20	do do do do
Shawanaga.....		Not issued..	96	12 68	do Penetang and Sault Ste. Marie.
Odessa.....	30	June 30....	12	5 96	do do Big David's Bay.
		1897.			
Joe Milton	200	Sept. 17....	93	12 52	do Georgian Bay ports.

WILLIAM EVANS,
Toronto, Ont.

Marine and Fisheries—Marine Branch.

STEAM Vessels not inspected for the year ended 30th June, 1897.

WEST ONTARIO DIVISION.

HULL INSPECTION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. Why not Inspected and Class of Vessel.
J. C. Clark	145	99	Passenger. No application.
John J. Long	201	137	do Not running.
Mazeppa	146	87	do No application.
Eurydice	590	438	do Not running.
C. W. Chamberlain	385	243	Freight. No application.
Osprey	12	8	Passenger. do
John Lee, sr.	52	35	do do
Juno	288	196	Freight. do
Mascot	49	33	Passenger. do
Queen	7	5	do do

WILLIAM EVANS,
Toronto, Ont.

STEAM VESSELS inspected for the year ended 30th June, 1897.

EAST ONTARIO DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		8 cts.	
Mabel C.			4 48	5 32	Screw, Lake St. Francis.
Alberta		July 10	68 00	10 44	Paddle, tug, Bay of Quinté.
North Star	165	do 14	39 60	8 20	Screw, Rice Lake and tributaries.
City of Peterborough	300	do 14	287 60	31 04	Paddle do do
Beaver	75	do 14	18 00	6 44	Screw do do
Mary Ellen	130	do 15	44 50	8 60	do Victoria and Peterboro'.
Undine	30	do 15	13 81	6 12	do do do
Golden City	175	do 15	68 02	10 45	do do do
Mollie					Screw, yacht, Victoria and Peterboro'.
Idle Hour		July 16	2 40	5 16	do do do
Dawn		do 16	20 20	6 60	do tug do do
Lenore					do do do
Crandilla	400	July 18	266 20	29 28	Paddle do do
Marie Louise	110	do 18	39 02	8 12	Screw do do
Water Witch		do 20	9 20	5 72	do tug do do
Alice Ethel	175	do 20	71 75	10 76	Paddle do do do
Comet	35	do 21	7 60	5 64	Screw do do do
Myrtle		do 21	27 46	7 16	Paddle, tug do do do
Stranger		do 22	53 41	9 24	Screw, tug do do do
Greyhound	40	do 22	37 35	7 96	do do do do
Esturion	325	do 23	118 36	17 44	Paddle do do do
Maple Leaf	70	do 23	26 08	7 08	Screw do do do
Bella Fair		do 23	6 60	5 56	do tug do do
Beaubocage	150	do 24	129 00	18 32	Paddle do do do
Calumet					Screw, yacht do do
Outlet Queen	37	July 25	18 45	6 44	do Rice Lake and its tributaries.
Widgeon	32	do 27	7 95	5 64	do do do do
Sunbeam		do 27	13 43	6 04	do tug do do
Myra		Aug. 1	73 21	10 84	do River St. Lawrence.
John Hunter		do 1	32 14	7 56	do canal and river.
Umbria		do 1	42 98	8 44	do do do
Ingomar		do 1	22 48	6 76	do yacht.
Alaska	100	do 14	48 74	8 92	do Kingston and Montreal.
Hubert Larkin		do 1	48 73	8 92	do tug, canal and river.
Montmorency		do 1	17 81	6 44	do do do
Gilbert		do 1	40 83	8 28	do do do do
A. B. Cooke		do 1	34 17	7 72	do do do do
Princess Louise	100	do 18	26 36	7 08	do Kingston and Montreal.
Grenada	175	do 19	57 00	9 56	do do do do
Beaver		do 1	40 88	8 28	do tug, canal and river.
H. C. Curtis		do 1	36 19	7 88	do do do do
Mona		do 1	24 87	7 00	do do do do
C. F. Dunbar		do 1	32 86	7 64	do do do do
Sandy		do 1	29 57	7 32	do do do do
Aberdeen	40	do 24	12 65	6 04	do Rideau Canal.
Commodore			3 06	5 24	do Mississippi River.
Carleton	200	Aug. 26	67 94	10 44	Paddle do do
Bertha	40	do 27	17 64	6 44	Screw, Rideau Canal.
Nellie		do 28	6 82	5 56	do yacht, Rideau Canal.
Tropic	35	do 28	8 86	5 72	do Rideau Canal.
Fearless		do 1	46 38	8 68	do tug, Rideau Canal.
Iona	25	May 26	231 53	26 56	do all lakes.
Trent					Paddle, alligator tug.
Prince Edward		Oct. 14	18 22	6 44	do ferry, Bay of Quinté.
		1898.			
Paul Smith	350	Mar. 27	293 16	31 44	Paddle, ferry, at Kingston.
Pierrepoint	415	do 27	251 98	28 16	do Trenton and Cape Vincent.
Chieftain		do 29	434 68	39 80	do tug, River St. Lawrence.

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected, &c.—East Ontario Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Armenia		April 3	623 68	56 44	Screw, freight, all lakes.
D. D. Calvin		do 3	749 53	65 00	do do do
Resolute	25	do 5	371 86	37 76	Twin screw do
Reliance	25	do 5	239 14	27 12	do do
Ella Ross	300	do 6	324 88	34 00	Paddle, Bay of Quinté.
Rescue	25	April 6	52 29	9 16	Screw, Bay of Quinté.
Deseronto	85	do 6	54 57	9 40	do do
Ranger		do 7	13 83	6 12	do tug do
Nile		do 7	96 30	12 68	do freight do
Hero	475	do 8	342 12	35 36	Paddle, Trenton and Montreal.
Glengarry		do 8	732 41	63 56	Screw, freight, all lakes.
Bannockburn	15	do 8	1619 56	137 60	do do
David G. Thomson		do 9	185 05	19 80	do tug, River St. Lawrence.
Glide		do 9	77 90	11 24	do do do
Valeria	135	do 9	51 55	9 16	do Trenton and Prescott.
Parthia		do 10	198 13	20 84	Paddle, tug, River St. Lawrence.
Bothnia		do 10	833 36	75 80	Screw, freight, all lakes.
Rosemount	10	do 10	580 37	134 40	do all lakes.
James A. Walker		do 12	1183 58	19 72	do tug, River St. Lawrence.
Saturn		do 13	883 09	75 64	do freight, all lakes.
Orion		do 13	846 43	72 68	do do
Jessie Hall		do 14	56 54	9 56	do tug, River St. Lawrence.
King Ben		do 14	145 36	16 60	do freight, canal and river.
Active		do 17	301 70	29 16	do tug, River St. Lawrence.
Reginald		do 19	186 26	19 88	do do do
William Johnston		do 19	94 72	12 60	do do do
Princess Louise	240	do 19	114 88	17 20	do Trenton, Cape Vincent.
H. F. Bronson		do 20	137 12	15 96	Twin screw, tug, River St. Lawrence.
James Swift	150	do 22	265 92	29 28	Screw, Rideau Canal.
Thistle		do 1	36 02	7 88	do fishing tug, Bay of Quinté.
Alexandria	600	do 28	863 15	77 04	Paddle, Charlotte and Montreal.
Water Lily		do 15	95 09	12 60	Screw, freight, lake and river.
Aberdeen		do 15	141 86	16 36	do do do
North King	525	May 1	872 95	77 84	Paddle, Lake Ont. & R. St. Lawrence.
John Milne		do 3	108 53	13 72	Screw, freight, canal and river.
J. G. Nichols		do 3	139 15	16 12	do do do
Majestic	185	do 11	67 77	10 44	do waters Victoria and Peterboro'
Empress of India	680	do 13	579 05	54 32	Paddle, Toronto and Port Dalhousie.
Varuna	240	do 14	134 04	18 72	Screw, Brighton and Prescott.
C. H. Merritt	350	do 15	121 58	17 76	do do do do
Nellie Cuthbert	125	do 15	59 03	9 72	do do do do
Reindeer	165	do 17	58 29	9 64	do Trenton and Prescott.
Annie Lake	40	do 18	18 52	6 52	do Brighton and Prescott.
Curlew		do 18	8 55	5 72	Stern-paddle, yacht.
Kismet		do 19	5 42	5 40	do do do
Carmana		do 19	56 08	9 48	do do do
Jessie Forward			5 64	5 48	Screw, Bay of Quinté.
Dorothy	30	May 20	10 09	5 80	do Trenton and Prescott.
Maggie May		do 21	29 03	7 32	do tug, Rideau Canal.
America	*698	do 21	553 03	52 24	Paddle, Trenton and Montreal.
Spartan	400	do 21	962 54	101 52	do Toronto and Montreal.
D. R. Van Allen		do 22	317 95	30 44	Screw, freight, all lakes.
John Haggart	250	do 22	201 60	24 16	do Kingston, Prescott & Ottawa.
Geraldine		do 24	17 90	6 44	Screw yacht.
Kilbirnie		do 25	15 23	6 20	do do do
Jopl	40	do 26	10 54	5 88	do Kingston and Ottawa.
Columbian	†950	do 27	703 90	64 32	Twin screw, Toronto and Montreal.
Passport	400	do 27	1033 84	90 72	Paddle do
Antelope	40	do 28	19 59	6 60	Screw, Trenton and Prescott.
Where Now	85	do 31	47 78	8 84	do Kingston and Prescott.

*500 to Montreal.
†400 on lakes.

STEAM VESSELS inspected, &c.—East Ontario Division—Continued.

BOILERS AND MACHINERY.—Concluded.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Armenia.....	275	June 2....	109·99	16 80	Screw, Trenton and Dickenson's L'd'g.
Nora.....	40	do 2....	28·13	7 24	do Trenton and Picton.
Hydra.....		do 3....	5·70	5 48	do fishing tug, Bay of Quinté.
Siesta.....		do 3....	14·96	6 20	Screw yacht.
Alberta.....		do 3....	68·00	10 44	Paddle, freight, Bay of Quinté.
Trent.....		do 4....	19·51	6 60	do alligator tug, Bay of Quinté.
Marmora.....			12·96	6 04	Screw, Crow Lake.
Miltonia.....		June 8....	32·18	7 56	Screw, pleasure yacht.
Eclipse.....	100	do 9....	17·94	6 44	Screw, Rice Lake and tributaries.
Sunbeam.....	210	do 10....	104·92	16 40	do Counties Victoria and Peterboro'
Iona.....	25	do 11....	231·53	26 56	do all lakes.
Jubilee.....	140	do 12....	53·94	9 32	do Trenton and Prescott.
Col. By.....		do 14....	9·31	5 72	do Tug, Rideau Canal.
Petrel.....		do 14....	345·76	32 68	Twin screw, tug, all lakes.
Fedelia.....		do 15....	8·56	5 72	Screw, yacht
Blue Bell.....		do 17....	11·97	5 96	do do
Sophy.....	30	do 17....	25·73	7 08	Screw, Trenton and Prescott.
Kenneth.....		do 23....	4·11	5 32	Screw, yacht..
Olga.....	25	do 23....	5·28	5 40	Screw, Kingston and Prescott.
Corrella.....	20	do 24....	3·81	5 32	do do do
Transit.....	450	do 24....	140·81	19 28	Twin-screw, Kingston and Prescott.
Dortha.....		do 25....	50·98	9 08	Screw, yacht.,
Pomona.....		do 25....	4·88	5 40	do do
City of Belleville.....	250	do 26....	101·17	16 08	do Kingston and Prescott.
Naiad.....		do 3)....	15·41	6 20	Screw, yacht.
Total.....			23483·62	2,681 21	

THOS. P. THOMPSON, *Steamboat Inspector.*

STEAM VESSELS not Inspected for the year ended 30th June, 1897.

EAST ONTARIO DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks : Why not Inspected and Class of Vessel.
Dolce.....	4·74	3·22	Screw, passenger, no application.
Mildred.....	4·50	3·06	do do do
Nona Roy.....	4·14	2·26	do no application.
Pilgrim.....	262·49	165·37	Paddle, passenger, no application.
Rescue.....	7·23	4·92	Screw do do
Florence.....	3·08	2·09	do do do
Lily.....	16·01	2·45	do tug, not in commission.
Maud L.....	14·05	9·56	do tug, do
Caribou.....	144·19	97·49	do passenger, do
Mary Ethel.....	98·61	56·13	Paddle do do
Startled Fawn.....	25·49	17·34	Screw do do
Gladys.....	26·01	17·69	Screw, pleasure yacht, no application.
Total.....	620·54	381·58	

THOS P. THOMPSON, *Steamboat Inspector.*

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected for the year ended 30th June, 1897.

EAST ONTARIO DIVISION.

HULL INSPECTION.

Name of Vessels.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
City of Peterborough	300	July 17	287 60	\$31 04	Paddle, Rice Lake and tributaries.
Mary Ellen	130	do 17	44 50	8 60	Screw, Coun. Victoria and Peterboro'.
Golden City	175	do 18	68 02	10 45	do do do
Undine	30	do 18	13 81	6 12	do do do
North Star	165	do 18	39 60	8 20	do Rice Lake and tributaries.
Beaver	75	do 18	18 00	6 44	do do do
Marie Louise	110	do 20	39 02	8 12	do Coun. Victoria and Peterboro'.
Comet	35	do 21	7 60	5 64	do do do
Crandella	400	do 21	266 20	29 28	Paddle do do
Grey Hound	40	do 22	37 35	7 96	Screw do do
Alice Ethel	175	do 22	71 75	10 76	Paddle do do
Maple Leaf	70	do 23	26 08	7 08	Screw do do
Esturion	325	do 23	118 36	17 44	Paddle do do
Beaubocage	150	do 24	129 00	18 32	do do do
Outlet Queen	37	do 25	18 45	6 44	Screw, Rice Lake and tributaries.
Widgeon	32	do 27	7 95	5 64	do do do
Olga	25	Aug. 5	5 28	5 40	do Kingston and Prescott.
Grenada	175	do 11	57 00	9 56	do Kingston and Montreal.
Princess Louise	100	do 11	26 36	7 08	do do do
Alaska	100	do 12	48 74	8 92	do do do
Aberdeen	40	do 27	12 65	6 04	do Kingston and Ottawa.
Bertha	40	do 28	17 64	6 44	do do do
Nellie		Not issued	6 82	5 56	do do do
Tropic	35	Aug. 28	8 86	5 72	do do do
Commodore	30	do 29	3 06	5 24	do Carleton Place and Innisville.
Carleton	200	do 29	67 94	10 44	Paddle do do
Prince Edward	Ferry	Oct. 14	18 22	6 44	Centre-p. Tyendinaga & Sophiasburg.
		1896.			
Parthia	200	Dec. 31	198 13	23 84	Paddle, Kingston and Gananoque.
		1898.			
Pierrepont	415	April 1	251 98	28 16	do Trenton, C. Vincent and Pres.
Resolute	25	do 5	371 86	37 76	Twin screw, all lakes and rivers.
Reliance	25	do 5	239 14	27 12	do do do
Ella Ross	300	do 7	324 88	34 00	Paddle, Brighton and Prescott.
Deseronto	85	do 7	54 57	9 40	Screw, Trenton and Prescott.
Rescue	25	do 7	52 29	9 16	do do do
D. D. Calvin	Freight	do 8	749 53	65 00	do all lakes and rivers.
Bothnia	do	do 8	833 36	75 80	do do do
Armenia	do	do 10	623 68	56 44	do do do
Hero	{ 475 Prescott 300 Montreal }	do 13	342 12	35 36	Paddle, Trenton and Montreal.
Bannockburn	15	do 14	1619 56	137 60	Screw, all lakes and rivers.
Saturn	Freight	do 16	883 09	75 64	do do do
Orion	do	do 16	846 43	72 68	do do do
Rosemont	10	do 19	1580 37	134 40	do do do
Clengarry	Freight	do 19	732 41	63 56	do do do
Valeria	135	do 20	51 55	9 16	do Trenton and Prescott.
Princess Louise	240	do 20	114 88	17 20	do do do
James Swift	150	do 26	265 92	29 28	do Kingston and Ottawa.
Alexandria	{ R. 600 L. 450 }	do 28	863 15	27 04	Paddle, Charlotte and Montreal.
North King	525	do 30	872 95	77 84	do L. Ont. and Riv. St. Lawrence.
Paul Smith	350	May 7	293 16	31 44	do Trenton and Prescott.
Jessie Forward		Not issued	5 64	5 48	Screw do do
D. B. Mulligan	40	May 12	76 69	14 16	do do do
Flora	30	do 12	5 18	5 40	do do do
Ottawa	230	do 13	116 28	17 28	Paddle, Pembroke and Des Joachims.

STEAM VESSELS inspected, &c.—East Ontario Division—Continued.

HULL INSPECTION—Concluded.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Janet Craig.....	40	May 13....	11 73	5 96	Screw, Arnprior and Bristol.
Voyageur.....	40	do 14....	44 06	8 52	do Midland and Sault St. Marie.
Empress of India....	680	do 15....	579 05	54 32	Paddle, Toronto and Port Dalhousie.
C. H. Merritt....	350	do 17....	121 58	17 76	Screw, Brighton and Prescott.
Varuna.....	240	do 17....	134 04	18 72	do do do
Reindeer.....	165	do 18....	58 29	9 64	do Trenton and Prescott.
Annie Lake.....	40	do 19....	18 52	6 52	do Brighton and Prescott.
Curlew.....		Not issued..	8 55	5 72	do do do
Majestic.....	185	May 20....	67 77	10 44	do Coun. Victoria and Peterboro'.
Nellie Cuthbert.....	125	May 22....	59 03	9 72	Screw, Brighton and Prescott.
America.....	{ 500 M'ntr'l 698 Presc't }	do 22....	553 03	52 24	Paddle, Trenton and Montreal.
D. R. Vanallen.....	Freight	do 24....	317 95	30 44	Screw, all lakes and rivers.
Antelope.....	40	do 24....	19 59	6 60	do Trenton and Prescott.
Jopl.....	40	do 25....	10 54	5 88	do Kingston and Ottawa.
Spartan.....	400	do 29....	1168 92	101 52	Paddle, Toronto and Montreal.
Columbian.....	{ L. 400 R. 950 }	do 31....	703 90	64 32	Twin screw do do
Armenia.....	275	June 4....	109 99	16 80	Screw, Trenton and Dickenson's L'd'g.
Nora.....	40	do 4....	28 13	7 24	do Trenton and Picton.
Passport.....	400	do 5....	1033 84	90 72	Paddle, Toronto and Montreal.
Where Now.....	85	do 7....	47 78	8 84	Screw, Kingston and Prescott.
John Haggart.....	250	do 8....	201 60	24 16	do Kingston, Prescott and Ottawa.
Iona.....	25	do 9....	331 53	26 56	do all lakes and rivers.
Sunbeam.....	210	do 10....	104 92	{ *26 88 16 40 }	do Cos. Victoria and Peterboro'.
Dawn.....	40	do 11....	20 20	6 60	do do do
Eclipse.....	100	do 12....	17 94	6 44	do Rice Lake and tributaries.
Jubilee.....	140	do 19....	53 94	9 32	do Trenton and Prescott.
City of Belleville....	250	do 21....	101 17	16 08	do Kingston and Prescott.
Transit.....	450	do 23....	140 81	19 28	Twin screw do do
Corella.....	20	do 24....	3 81	5 32	Screw do do
Olga.....	25	do 24....	5 28	5 40	do do do
Dorothy.....	30	do 30....	10 09	5 80	do do do

*Dues for 1894-95-96, \$26.88.

THOMAS DONNELLY,
Inspector of Hulls and Equipments, East Ontario Division.

Marine and Fisheries—Marine Branch.

STEAM VESSELS not inspected for the year ended 30th June, 1897.

EAST ONTARIO DIVISION.

HULL INSPECTION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	REMARKS. — Why not Inspected and Class of Vessel.
Caribou	144·19	97·49	Screw, passenger, not employed.
Mary Ethel	98·61	56·13	Centre-paddle, passenger, not employed.
Startled Fawn	25·49	17·34	Screw, passenger, not employed.
Dolce	4·74	3·22	do do do
Pilgrim	262·49	165·37	Paddle do do
Mildred	4·50	3·06	Screw do no application.
Rescue	7·23	4·92	do do not employed.
Nona Roy ..	4·14	2·26	do do do
Anjou	2·21	1·50	do do left the district.
Florence	3·08	2·09	do do no application.
	556·68	353·38	

THOMAS DONNELLY,
Inspector of Hulls and Equipments, East Ontario Division.

STATEMENT of Tow Barges Inspected, and of Certificates of Inspection issued to Tow Barges in the East Ontario Division, for the year ended 30th June, 1897.

Name of Vessel.	No. of Passengers.	Port of Inspection.	Date of Inspection.	Date of Certificate.	Date of Issue of Certificate.	Gross Tonnage.	Inspection Fees.	Date of Payment.
			1897.	1897.	1897.		\$ cts.	1896.
City of Peterborough.....	200	Peterborough.	July 17.	July 17.	July 30.	49 50	10 00	July 18
Eclipse	200	Lakefield.	do 17.	do 17.	do 30.	37 50	10 00	do 18
Sultana	200	Peterborough.	do 18.	do 18.	do 30.	40 00	10 00	do 18
Lindsay	500	Lindsay	do 22.	do 22.	do 30.	75 00	10 00	do 21
Chemong	400	Bobcaygeon.....	do 24.	do 24.	do 30.	103 23	10 00	do 24
Otonabee	200	Peterborough.	do 25.	do 25.	do 30.	49 00	10 00	do 25
						354 23	60 00	

THOMAS DONNELLY,
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected for the year ended 30th June, 1897.

MONTREAL DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
White Squall.....		July 7...	7 47	5 56	Screw, yacht, Valleyfield.
Chaffey.....	50	do 7.....	42 44	8 36	do pass. do & Lancaster.
Laurier.....	50	do 10.....	14 28	6 12	do pass., Montreal and Sorel.
Lady of the Lake....	700	do 13.....	607 00	56 56	Paddle, pass., Lake Magog.
Clipper.....		do 13.....	4 00	5 32	Screw, tug do
*Owl.....		do 13.....	3 69	15 96	do pleasure yacht, Lake Magog.
Annie C.....	40	do 13.....	6 33	5 51	do pass., Lake Magog.
†Massawippi.....	25	do 14.....	3 76	10 64	do pass., Lake Massawippi.
John A.....		do 14.....	19 70	6 60	do tug, Lake Magog.
§Alexandria.....		do 24.....	53 00	46 20	do yacht, Richelieu River.
Emile.....	90	Aug. 3.....	11 80	5 96	do pass., Ottawa River.
Chance.....		do 3.....	5 02	5 40	do yacht do
R. Anglin.....		do 3.....	97 18	12 76	do freight do
Meteor.....	130	do 5.....	131 81	18 66	do pass., Témiscamingue Lake.
Clyde.....	60	do 5.....	29 16	7 32	do do do
Wenoway.....	75	do 6.....	98 96	12 92	Paddle, pass., Lake Quinze.
Ballantyne.....		do 6.....	13 82	6 12	do alligator do
John Thompson.....	25	do 7.....	5 16	5 40	Screw, pass. do
H. Trudel.....		do 7.....	13 38	6 04	Paddle, alligator do
Little Roxy.....	20	do 8.....	11 67	5 96	Screw, pass., Témiscamingue Lake.
Beaver.....		do 8.....	13 09	6 04	Paddle, alligator do
D. A. Martin.....	125	do 10.....	77 60	11 24	Screw, pass., North River.
C. E. Read.....		do 10.....	12 56	6 04	Paddle, alligator do
Charlotte.....	30	do 10.....	13 86	6 12	Screw, pass., Lake Kippewa.
Sarah Agnes.....		do 10.....	2 17	5 16	do do North River.
F. W. Avery.....		do 10.....	14 04	6 12	Paddle alligator do
R. Hurdman.....	150	do 11.....	93 12	12 44	Screw, pass., Lake Kippewa.
Dora.....	40	do 11.....	48 32	8 84	do do Témiscamingue Lake.
Argo.....	75	do 12.....	154 06	17 32	Paddle do do
Mink.....		do 14.....	13 82	6 12	do alligator do
Otter.....		do 14.....	21 16	6 68	do do do
River Belle.....		do 15.....	14 14	6 12	Screw, tug, Barry's Bay & Combermere
Thistle.....		do 17.....	2 18	5 16	do yacht do do
Hiram Easton.....		Sept. 1.....	34 00	7 72	do tug, Ottawa and Kingston.
		1896.			
Ida.....	40	Dec. 1.....	247 26	27 76	do pass. do Montreal.
		1897.			
‡Windermere.....		Sept. 3.....	31 17	37 40	do pleasure yacht, St. Law're River.
G. B. Greene.....		do 8.....	254 81	25 40	Paddle, tug, Deschene Lake.
Bella Ritchie.....	100	do 9.....	82 17	11 56	do pass. do
Nokomis.....		do 10.....	25 02	7 00	Screw, yacht, Ottawa River.
Aid.....		do 10.....	25 26	7 00	do tug do
Wild Rose.....		Oct. 31.....	9 97	5 80	do yacht, St. Lawrence River.
		1898.			
Hochelaga.....	300	April 5.....	419 00	41 52	Paddle, ferry, Montreal & Boucherville
Longueuil.....	300	do 5.....	365 42	37 20	do do do Longueuil.
Mansfield.....	40	do 8.....	169 00	21 52	Screw, ferry, Ottawa & Gatineau Pt.
Chateauguay.....	443	do 18.....	222 27	25 76	Paddle, pass., Montreal & Beauharnois
Florence.....		do 19.....	61 53	9 96	Screw, tug, Ottawa and Montreal.
Dolphin.....		do 19.....	69 66	10 60	do do do do
Sir Hector.....		do 19.....	39 72	8 20	do do do do
E. B. Eddy.....		do 19.....	78 44	11 24	do do do do
Archie Stewart.....		do 19.....	80 00	11 40	do do do do
J. R. Booth.....		do 19.....	131 58	15 56	do do do do

* Fees and dues paid for 1894, 1895, 1896. † Fees and dues paid for 1895-96. § Fees and dues paid for 1892, 1893, 1894, 1895, 1896. ‡ Fees and dues paid for 1892, 1893, 1894, 1895, 1896.

STEAM VESSELS inspected, &c.—Montreal Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificates Expired.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
G. A. Harris.....		April 20.....	87 46	11 96	Screw, tug, Ottawa and Montreal.
G. H. Notter.....		do 20.....	14 00	6 12	do do do do
Hall.....	50	do 20.....	246 92	27 76	do pass. do do
Harry Bate.....		do 20.....	253 71	28 32	do freight do do
Welshman.....		do 20.....	143 43	16 44	do do do do
Quebec.....		do 20.....	108 31	13 64	do do do do
E. H. Bronson.....		do 21.....	285 22	27 80	Paddle, tug, Allumette Lake.
Hiram Robinson.....		do 21.....	60 90	9 88	Screw, tug do
Alexander Fraser.....		do 21.....	320 20	30 60	Paddle, tug do
Ottawa.....	230	do 21.....	116 28	17 28	do pass., Pembroke and De Joachims
G. B. Greene.....		do 22.....	254 81	25 40	do tug, Deschene Lake.
Albert.....		April 22.....	216 98	22 36	do do do do
G. B. Pattee.....		do 22.....	30 38	7 40	Screw do do do
Sparrow.....		do 23.....	25 23	7 00	do do Nipissing do
Dauntless.....	20	do 23.....	7 93	5 64	do passenger, Nipissing Lake.
Ladas.....		do 23.....	54 47	9 32	do tug, Nipissing Lake.
Booth.....		do 23.....	234 73	23 72	Paddle do do do
Zephyr.....		do 23.....	2 78	5 24	Screw do do do
Nosbonsing.....		do 24.....	24 53	7 00	do do Nosbonsing Lake.
Shoofly.....		do 24.....	9 99	5 80	do do Trout do
Empress.....		do 26.....	35 57	7 88	do do Sturgeon Falls.
Okimawaka.....		do 26.....	12 78	6 04	do do Nipissing Lake.
Turtle.....		do 26.....	33 12	7 64	Paddle, alligator do
Maid of the Mill.....		do 28.....	8 18	5 64	Screw, passenger, Wahnapiatae Lake.
Duchess of York.....	700	do 30.....	489 74	47 20	Paddle, passenger, Ottawa and St. Lawrence Rivers.
Maude.....	350	do 30.....	269 23	29 52	Paddle, passenger, Ottawa and St. Lawrence Rivers.
Richelieu.....	120	May 1.....	113 38	17 04	Paddle, pass., Montreal & Valleyfield.
Rocket.....	400	do 3.....	428 50	42 24	do do do and Cornwall.
Princess.....	453	do 3.....	579 96	54 32	do do do Carillon.
McNaughton.....		do 5.....	137 19	15 96	Screw, tug, St. Lawrence River.
Nama.....		do 6.....	41 86	8 36	do yacht do do
C. Anderson.....	94	do 7.....	125 09	18 00	do pass., Montreal and Chambly.
Garnet.....	200	do 7.....	152 05	20 16	Paddle, pass. do Valleyfield.
Ida.....	40	do 7.....	247 26	27 76	Screw, passenger, Ottawa River
Monarque.....		do 7.....	136 41	15 88	Paddle, tug do
C. B. Powell.....		do 10.....	272 34	26 76	do do Lake Allumette.
D. B. Mulligan.....	40	do 10.....	76 69	14 16	Screw, ferry, Pembroke & Desjardins.
Flora.....	30	do 10.....	5 18	5 40	do passenger, Lake Allumette.
Pembroke.....		do 11.....	194 21	20 52	Paddle, tug do do
Hamilton.....		do 11.....	319 88	30 60	do do Chats Lake.
J. L. Murphy.....		do 11.....	173 05	18 84	Screw do do
Samson.....		do 11.....	15 27	6 20	Paddle, alligator do
Amable du Fond.....		do 12.....	17 40	6 36	do do do do
Madawaska.....		do 12.....	14 57	6 20	do do do do
Daniel McLachlin.....		do 12.....	22 08	6 76	do do do do
Janet Craig.....	40	do 12.....	11 73	5 96	Screw, ferry, Arnprior and Bristol.
Thos. Osborne.....		do 13.....	24 97	7 00	do tug, Ottawa River.
Empress.....	800	do 13.....	677 60	62 16	Paddle, pass., Ottawa and Grenville.
Beatrice B.....	160	do 13.....	58 63	9 72	Screw, ferry do Hull.
Marquis de Lorne.....	40	do 13.....	20 19	6 60	do do do do
Conqueror.....		do 14.....	233 04	23 64	Paddle, tug, Montreal and Quebec.
Sovereign.....	700	do 17.....	637 29	58 96	do pass. do Carillon.
Filgate.....	658	do 17.....	263 00	29 04	do do do Isle Grosbois.
Chaffey.....	40	do 18.....	42 44	8 36	Screw do Valleyfield & Lancaster.
White Squall.....		do 19.....	7 47	5 56	do yacht do do
Ada.....		do 25.....	28 52	7 24	do tug, Ottawa River.
Agnes.....	40	do 26.....	29 37	7 32	do pass., Buckingham to High Falls.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—Montreal Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Mildred	25	May 26	15 22	6 20	Screw, pass., Buckingham to H. Falls.
Leon		do 26	14 57	6 20	do pass., Des Lièvres River.
Thurso	49	do 27	20 07	6 60	Paddle, ferry, Thurso and Clarence.
Winona		do 27	12 00	5 96	Screw, tug, Ottawa River.
Bonito	30	do 28	17 35	6 36	do ferry, L'Orignal and Calumet.
Glide	40	do 28	80 48	11 40	do do Hawkesbury and do
Olive	60	June 2	215 00	25 04	do pass., Montreal and Ottawa.
Prefontaine		do 12	214 46	25 12	do freight do Quebec.
Russell		do 15	76 49	11 16	do tug, Ottawa River.
Vesta		do 15	14 17	6 12	do yacht do
Chance		do 15	5 02	5 40	do do do
Tit Willow		do 15	16 83	6 36	do do do
Juno		do 16	17 09	6 36	do do Deschene Lake.
Minnie Bell		do 16	21 74	6 76	do tug, Ottawa and Kingston.
Bonenfant	20	do 23	21 34	6 68	Centre-wheel, ferry, Bout de l'Isle and Charlemagne.
John	30	do 24	35 17	7 80	Centre-wheel, ferry, Carillon and Point Fortune.
Charlemagne		do 25	76 38	11 08	Screw, tug, St. Lawrence River.
Alexandria		do 26	53 00	9 24	do yacht, Richelieu River.
Richelieu	40	do 26	33 67	7 72	do pass. do do
Adonis		do 26	14 00	6 12	do yacht do do
E. G. Laverdure		do 28	54 00	9 32	do passenger, Ottawa River.
Euile		do 28	11 80	5 96	do ferry, Ottawa and Hull.
Thistle		do 28	4 86	5 40	do yacht, Deschene Lake.
Isle Heron	40	do 30	160 45	20 80	Paddle, ferry, Longueuil & Montrea
Total			13664 69	1.910 11	

WILLIAM LAURIN,
Steamboat Inspector.

STEAM Vessels inspected, &c.—Montreal Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of vessels.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Shickluna		July 9....	66 00	10 28	Screw, tug, River St. Lawrence.
Frank Perew.....		do 30....	43 02	8 44	do do do
No. 1.....		Aug. 4....	165 00	18 20	do elevator, Montreal Harbour.
Nellie Reid.....		do 11....	55 71	9 40	do tug, Lake Ontario.
Maggie R. King.....		do 20....	27 13	7 16	do do Lachine Canal.
No. 9.....		do 21....	172 00	18 76	do elevator, Montreal Harbour.
W. Ross.....		do 24....	14 19	6 12	do tug, River St. Lawrence.
		1896.			
Blandford		Dec. 11....	65 36	10 20	Paddle do
		1897.			
Tim Doyle.....		Aug. 29....	14 84	6 20	Screw, tug, Lachine Canal.
* Ometa.....		Sept. 8....	18 68	13 04	do yacht, River St. Lawrence.
Hurtubise.....		Not issued....	46 12	8 68	do tug, do Nation.
Honoré.....		Sept. 19....	21 89	6 76	do do do St. Lawrence.
Antelope.....		Oct. 1....	82 84	11 56	do do Lake Ontario.
		1898.			
Derrick No. 4.....		April 2....	100 00	13 00	Derrick, Montreal Harbour.
Derrick No. 5.....		do 2....	100 00	13 00	do do do
Derrick No. 6.....		do 5....	100 00	13 00	do do do
Dredge No. 3.....		do 5....	100 00	13 00	Dredge do do
Dredge No. 2.....		do 6....	100 00	13 00	do do do
Dredge No. 4.....		do 6....	100 00	13 00	do do do
St. Peter.....		do 6....	43 00	8 44	Screw, tug, do do
Aberdeen.....		do 7....	86 58	11 96	do do do
Drill Boat.....		do 7....	100 00	13 00	Drill do do
Dredge No. 7.....		do 12....	100 00	13 00	Dredge do do
Derrick No. 2.....		do 12....	100 00	13 00	Derrick do do
Dredge No. 1.....		do 12....	100 00	13 00	Dredge do do
St. Louis.....		do 20....	34 00	7 72	Screw, tug do do
Dredge No. 6.....		do 21....	100 00	13 00	Dredge do do
Hector.....		May 1....	43 05	8 41	Screw, tug, River St. Lawrence.
No. 2.....		do 1....	170 00	18 60	do elevator, Montreal Harbour.
No. 8.....		do 1....	80 00	11 40	do do do
St. George.....		do 1....	67 85	10 44	do tug, River St. Lawrence.
Voyageur.....	40	do 11....	44 06	8 52	do passenger, Midland & vicinity.
Derrick No. 3.....		do 14....	100 00	13 00	Derrick, Montreal harbour.
H. M. Miger.....		do 15....	21 68	6 68	Screw, tug, River Ottawa.
H. Larosée.....		do 17....	12 69	6 04	do do Lachine Canal.
Victoria.....		do 18....	169 78	18 60	do freight, Montreal & St. John.
Plover.....		do 19....	40 30	8 20	do tug, River St. Lawrence.
Dama.....	40	do 22....	54 58	9 40	do passenger, Montreal & Quebec.
W. F. Logie.....		do 22....	17 32	6 36	do tug, River St. Lawrence.
Aurelia.....		do 25....	32 05	7 56	do do do do
C. W. Jones.....		do 26....	47 96	8 84	do do do do
D. P. Dey.....		do 26....	11 26	5 88	do do do do
No. 1.....		June 2....	165 00	18 20	do elevator, Montreal Harbour.
No. 7.....		do 2....	170 00	18 60	do do do do
St. Lawrence No. 1.....		do 2....	83 00	11 64	do do do do
No. 13.....		do 3....	178 00	19 24	do do do do
No. 4.....		do 3....	188 00	20 04	do do do do
No. 6.....		do 3....	170 00	18 60	do do do do
No. 12.....		do 4....	183 00	19 64	do do do do
No. 11.....		do 4....	169 00	18 52	do do do do
No. 5.....		do 5....	80 00	11 40	do do do do
No. 9.....		do 5....	172 00	18 76	do do do do
No. 10.....		do 7....	173 00	18 84	do do do do
No. 14.....		do 8....	181 00	19 48	do do do do
Dredge No. 4.....		do 12....	100 00	13 00	Dredge, Soulanges Canal.

* Paid dues and fees for 1895 and 1896.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—Montreal Division—Concluded.

BOILERS AND MACHINERY—Concluded.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Dredge No. 5.....		do 12....	100 00	13 00	Dredge, Soulanges Canal.
Mary A. Laughlin.....		do 13....	22 62	6 84	Screw, tug, do
Mabel Macdonald.....		do 13....	41 81	8 36	do do River St. Lawrence.
Shickluna.....		do 16....	66 00	10 28	do do do
C. W. Dennis.....		do 30....	16 91	6 36	do do do
Total.....			5,228 28	\$724 68	

LOUIS ARPIN,
Steamboat Inspector.

STEAM Vessels not inspected for the year ended 30th June, 1897.

MONTREAL DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	REMARKS. — Why not Inspected and Class of Vessel.
Pearl.....	5 03	3 43	Screw, yacht. Not running.
Rockland.....	77 56	49 70	do tug do
Mattawa.....	22 43	15 25	do pass. do
Lottie.....	10 04	8 52	do do do
Monitor.....	332 62	209 55	Paddle, tug do
Camilla.....	54 00	37 00	Screw, pass. do
Union.....	75 04	66 05	Screw, ferry do
Emerillion.....	15 00	13 00	Screw, pass. do
Emma Munson.....	32 00	13 00	Screw, tug do
Enterprise.....	13 43	9 14	do do
Gertie.....	17 05	8 97	do do
Eileen.....	11 00	9 00	do do
Ida.....	26 41	19 14	do do
Bonnechere.....	13 00	6 00	Paddle, tug do
Josephine.....	7 77	6 56	Screw, pass. Inspection not applied for.
Monaco.....	9 69	6 05	do yacht do do
Hawywa.....	4 00	3 00	do do do do
Frolic.....	15 72	10 29	do do do do
Agnes McMahon.....	81 48	46 51	do tug. Chartered to the Government.
	823 27	540 15	

WILLIAM LAURIN.
LOUIS ARPIN.

STEAM Vessels inspected for the year ended 30th June, 1897.

QUEBEC DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
St. Michel.....		June 24.....	16	6 28	Side-wheel, tug, Nicolet, River.
Voyageur.....		Not reg. as- sumed.....	44	8 52	Screw, tug, Grand Piles River.
Parishabbe.....		July 1.....	10	5 80	Side wheel tug, Lac à Latarte.
L'Ami.....		do 7.....	16	6 23	Screw, Quebec harbour tug.
Savoy.....	25	do 8.....	348	35 84	do Passenger, Quebec, Anticosti.
Brothers.....	525	do 11.....	367	37 36	Paddle, pass., Quebec and Ste. Anne.
Etoile.....	591	do 8.....	560	52 80	do Montreal and Ste. Anne.
Albani.....		do 20.....	58	9 64	Screw, pleasure yacht.
Rodolphe.....		do 18.....	116	14 23	Paddle tug, Screl.
Relief.....		do 20.....	381	35 43	Twin screw tug, Gulf and Montreal.
Polaris.....	350	do 21.....	533	50 64	Screw, winter ferry, Quebec and Lévis
Johanna B.....		do 24.....	17	6 36	Screw, tug, Trois Pistoles River.
Fearless.....		do 25.....	10	5 80	do Pabos River.
Victory.....		do 27.....	42	8 36	do do
Admiral.....	340	do 28.....	681	62 48	Paddle, pass, Dalhousie and Gaspé.
Vulcan.....	25	do 28.....	18	6 44	Screw, ferry, Dalhousie and Magaraska
Francis.....	60	do 29.....	19	6 52	Pad. ferry, Cross Point & Campbellton
Christiana.....		do 29.....	57	9 56	Paddle, tug, Restigouche River.
Oak Bay.....		do 29.....	27	7 16	do do
Le Brochue.....		do 30.....	19	6 52	Screw, tug, Lac Matapedia.
St. Roch.....		Aug. 13.....	18	6 44	do Quebec Harbour.
St. George.....		do 13.....	13	6 04	do do
Two Brothers.....		do 15.....	14	6 12	do do
Lilly H.....		do 17.....	12	5 96	do do
Victor.....		Sept. 3.....	35	7 80	do do
Thor.....		Aug. 22.....	323	30 84	Paddle, tug, Saguenay River.
Bell.....		do 24.....	51	9 08	Screw tug do
Kenogamie.....		do 25.....	21	6 68	do do
St. Anne.....	40	do 25.....	18	6 44	Paddle, ferry, Ste. Anne and Chicoutimi
Forest, 1896.....		do 26.....	26	7 08	Screw, tug, Saguenay River.
Forest, 1895.....		Sept. 1.....	26	7 08	
Tiber.....	8		1,736	146 88	Screw pass. & freight, Montreal and Newfoundland.
Dauntless.....		do 3.....	81	11 48	Screw tug, Gulf and Montreal.
Queen.....	350	do 31.....	367	37 36	Screw, winter ferry, Quebec and Lévis
		1898.			
Mersey.....		Mar. 30.....	60	9 80	
		1897.			
Campania.....		Sept. 16.....	20	6 60	Screw, tug, Lake Megantic.
Lena.....		Unfit.....	15	6 20	Screw, pass., Lake Megantic.
Maud.....		July 30.....	50	9 00	Paddle, tug, attending dredge.
Randolph.....		Sept. 30.....	16	6 28	Screw, Quebec harbour tug.
do.....			16	6 28	do do do
Almanda.....		Sept. 8.....	11	5 83	do do do
Témiscouata.....		Oct. —.....	11	5 88	do do do
Arthur.....			78	11 24	do do do
Batiscan.....		Nov. 13.....	40	8 20	
		1898.			
Polino.....	30	April 9.....	807	72 56	Screw, pass., freight, Montreal and St. John's, Newfoundland.
Campana.....	400	do 10.....	1,681	142 48	Twin screw pass., Montreal and Pictou
Hosanna.....	200	do 14.....	89	12 12	Screw, ferry, Montreal and Longueil.
Sorel.....	175	do 14.....	158	20 64	Paddle, pass., Sorel and Montreal.
Fire Fly.....	250	do 14.....	214	25 12	do do do
Rivière du Loup.....	40	do 15.....	199	23 92	Paddle, passenger, L'Assomption and Montreal.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—Quebec Division—Continued.

BOILERS AND MACHINERY—Continued.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Berthier.....	700	April 15....	1,101	96 08	Paddle, passenger, Three Rivers and Montreal.
Laprairie.....	400	do 15....	600	56 60	Paddle, pass., Montreal and Laprairie.
Chambly.....	600	do 16....	647	59 76	do do do Chambly.
Robert Stocker.....		do 16....	14	6 12	Screw, harbour tug.
Otter.....	123	do 12....	198	23 84	do passenger, Quebec and Gulf.
Hudson.....		do 17....	158	17 64	Paddle, tug, Montreal and Quebec.
Julia.....		do 17....	91	12 28	Twin screw, tug, Montreal and Chambly.
W. C. Francis.....		do 17....	37	7 96	Screw, Montreal harbour tug.
Georgiana.....		do 19....	53	9 24	do do do
T. H. Nasmith.....		do 19....	49	8 92	do do do
Alice.....		do 18....	67	10 36	do do do
Canada.....	800	do 20....	2,009	168 72	Paddle, passenger, Montreal and Chicoutimi.
Terrebonne.....	450	do 15....	716	65 28	Paddle, pass., Sorel and Montreal.
Cartier.....		P. W. Dept.			Screw, attending dredge.
C. J. Bridge.....		do			do do
John Pratt.....		do			do do
St. Francis.....		do			do do
N. F. Parson.....		do			do do
Ottawa.....		do			do do
Sincennes.....		April 20....	228	23 24	Paddle, tug, Montreal and Quebec.
Spray.....		do 20....	107	13 56	Screw do do
Dandy.....		do 21....	46	8 68	do attending buoys, Montreal and Lévis.
Ethes.....		do 21....	72	10 76	do tug, Montreal Harbour.
Hamilton.....	400	do 23....	1,052	92 16	Paddle, freight and passenger, Montreal and Toronto.
Island Queen.....	40	do 23....	98	12 84	Screw, passenger, Batiscan and Three Rivers.
Saguéay.....	430	do 23....	1,104	96 32	Paddle, passenger, Quebec and Chicoutimi.
Asilda.....		do 24....	23	6 84	Screw, tug, Montreal and Sorel.
Montreal.....	800	do 24....	2,211	184 88	Paddle, pass., Montreal and Quebec.
South.....	450	do 26....	349	35 92	do ferry, Quebec and Lévis.
North.....	450	do 27....	289	31 12	do do do
Contest.....	150	May 18....	274	29 92	do pass., Rimouski and Quebec.
Florence.....		April 29....	113	14 04	Screw, tug, Montreal and Gulf.
Constance.....					Govt. cruiser in Gulf St. Lawrence.
Victor.....		June 6....	35	7 80	Screw, Quebec harbour tug.
Dauntless.....		do 7....	81	11 48	do do and Gulf, tug.
St. Croix.....	550	May 17....	506	48 48	Paddle, passenger, Montreal and Ste. Anne.
Etoile.....	591	do 8....	560	52 80	do do do
Anna McGee.....		June 10....	60	9 80	Screw, wrecking, Montreal and Gulf.
Champion.....	612	do 3....	482	46 56	Paddle, pass., Quebec and Berthier.
Quebec.....	800	May 13....	3,056	252 48	do do Montreal.
Cultivateur.....	730	do 13....	362	36 96	do Sorel and Montreal.
Ste. Anne.....	40	do 13....	14	6 12	Screw, passenger, Sorel and Berthier.
Canadian.....		do 13....	22	6 76	do tug, Sorel Harbour.
Rodolphe.....		do 15....	116	14 28	Paddle, tug, Sorel and Pierreville.
Bohemian.....	500	do 15....	1,138	99 04	do pass., Montreal and Cornwall.
Trois Rivières.....	1,000	do 14....	1,710	144 80	do do do Ste. Anne.
Orleans.....	275	do 19....	181	22 48	Screw, Quebec and Orleans ferry.
Lévis.....	350	do 20....	156	20 48	do do St. Romuald ferry.
Vega.....	250	do 22....	132	18 56	do do do
		1897.			
Greetlands.....	30	Oct. 25....	1,091	95 28	Screw, passenger and freight, Montreal and Newfoundland.

STEAM VESSELS inspected, &c.—Quebec Division—*Continued.*BOILERS AND MACHINERY—*Continued.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Corsican.....	400	May 28....	1,203	104 24	Paddle, pass., Montreal and Toronto.
Algerian.....	400	do 28....	914	81 12	do do do
Beaver.....					Account Department of Agriculture, quarantine station.
Druid.....					Marine Department, attending buoys.
Diver.....		June 10....	86	11 88	Screw, wrecking schooner, Montreal and Gulf.
St. Roch.....		do 12....	18	6 44	Screw, Quebec Harbour, Tug.
St. George.....		do 13....	12	5 96	do do do do
Randolph.....		do 14....	17	6 36	do do do do
Carolina.....	600	do 16....	977	86 16	Paddle, passenger, Montreal and Chicoutimi.
Anglesea.....		do 17....	153	17 24	Paddle, tug, Montreal and Quebec.
Pierreville.....		do 17....	42	8 36	do do Pierreville and Sorel.
Alma.....		do 24....	12	5 96	do do Quebec and Portneuf.
St. Louis.....	514	do 28....	428	42 24	Paddle, passenger, Montreal and Quebec.
Relief.....		do 25....	381	35 48	Screw, tug, Montreal and Gulf.
Rhoda.....	150	do 29....	182	22 56	Paddle, Passenger, Quebec and Rimouski.
Pilot.....	450	do 28....	426	42 08	Screw, Quebec and Levis, winter ferry.
Lord Stanley.....	30	do 5....	276	30 08	Screw, Montreal and Gulf.
M. E. Hacket.....		do 23....	78	11 24	do tug, Montreal and Quebec.
Hope.....		do 7....	19	6 52	do do Quebec Harbour.
Spray.....		do 8....	24	6 92	do do do do
Témiscouata.....		do 9....	11	5 88	do do do do
Undine.....		do 19....	17	6 36	do do Lake St. John.
Mistassini.....	40	do 21....	249	27 92	Paddle, passenger, Lake St. John.
Paribonca.....		do 21....	179	22 32	do tug, Lake St. John.
Le Colon.....	40	do 22....	173	21 84	Paddle, passenger, Lake St. John.
Eva.....		do 23....	4	5 32	Screw, pleasure yacht, Lake Kiskising.
Swan.....		do 24....	5	5 40	do do do Lake Edward.
Daise.....		do 24....	4	5 32	do tug, Lake Edward.
Pierreville for 1896.....			42	8 36	
Mite.....		June 17....	27	7 16	Screw, pleasure yacht.
Arthur.....		do 17....	78	11 24	Paddle, tug, Sorel and Pierreville.
			36,990	\$3,704 20	

JOS. SAMSON,
Boiler and Engine Inspector, Quebec Division

Marine and Fisheries—Marine Branch.

STEAM VESSELS not Inspected for the Year ended 30th June, 1897.

QUEBEC DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. — Why not Inspected and Class of Vessel.
Lake	146	89	Screw, tug, Montreal and Gulf (laid up.)
Cuckoo	6	4	do do Saguenay River.
Commodore Holiwell	10	3	do do Quebec Harbour.
Fairy	16	9	do do do
Patrick Murphy	10	4	do do do
W. F. Logie	17	11	do do Montreal Harbour.
Genereux	7	6	do do St. Maurice River.
Jessie Hume	58	40	do do now in Philadelphia, U.S.
Maud	50	25	Paddle, tug, River St. Maurice (laid up.)
	320	191	

JOS. SAMSON,
Engine and Boiler Inspector.

STEAM VESSELS inspected for the Year ended 30th June, 1897.

QUEBEC AND MONTREAL DIVISION.

HULL INSPECTION.

Name of vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Olive.....	75	July 8....	213	25 04	Screw, freight, Montreal and Ottawa.
Duchess of York....	700	do 8....	490	47 20	Paddle, pass., do Carillon.
Thurso.....	40	do 9....	20	6 60	do ferry, Thurso and Clarence.
Glide.....	40	do 9....	80	11 40	Screw, ferry, Calumet & Hawkesbury.
Bonito.....	30	do 9....	17	6 36	do do do L'Original.
John.....	30	do 10....	35	7 80	Paddle, ferry, Carillon & Pt. Fortune
Laurier.....	50	do 11....	14	6 12	Screw, pleasure yacht, Montreal.
Lady of the Lake....	700	do 13....	607	56 56	Paddle, pass., Newport and Magog.
Owl.....	20	do 13....	4	5 32	Screw, pleasure yacht, Lake Magog.
Annie C.....	40	do 13....	64	5 51	do do do do
Massawappi.....	25	do 14....	4	5 32	do do do Lake Massawappi
Richelieu.....	115	do 14....	34	7 72	do pass., Richelieu river.
Cliffe.....	40	do 15....	42	8 36	do ferry, Valleyfield & Lancaester.
Rocket.....	400	do 16....	428	42 24	Paddle, pass., Montreal & Cornwall.
Garnet.....	190	do 16....	152	20 16	do do do Valleyfield.
Hall.....	50	do 17....	247	27 76	Screw, pass. & frt., Montreal & Ottawa.
Harry Bate.....	Freight.....	do 17....	254	28 32	do freight do do
Welshman.....	do	do 17....	143	16 44	do do do do
Ida.....	150	do 16....	247	27 76	do pass. & frt. do do
Brothers.....	526	do 20....	367	37 36	Paddle, pass., Quebec and Ste. Anne de Beaupré.
Ste. Anne.....	25	do 24....	18	6 44	Paddle, ferry, Chicoutimi & Ste. Anne
Admiral.....	340	do 24....	682	62 56	do pass. & frt., Dalhousie & Gaspé
Vulcan.....	25	do 25....	18	6 44	Screw, ferry, Dalhousie & Maquash.
Frances.....	40	do 25....	19	6 52	Paddle, ferry, Campbellton & Cross Pt.
Etoile.....	591	do 28....	560	52 80	do pass., and Quebec St. Jean d'Echillon.
Meteor.....	130	Aug. 5....	132	18 56	Screw, pass., Gordon Creek and Baie des Péres.
Clyde.....	60	do 5....	29	7 32	do do do do
Little Roxy.....	20	do 7....	12	5 96	Screw, pleasure yacht, Lake Temisca- mingue.
Wenoway.....	75	do 7....	99	12 92	Pad., pass. and freight, Lake Quinze.
John Thompson.....	25	do 7....	5	5 40	Screw, pass., Lake Quinze.
Charlotte.....	30	do 10....	14	6 12	do pass., Lake Kippewa.
Sarah Agnes.....	12	do 9....	2	5 16	do pleasure do do
R. Hurdman.....	150	do 10....	93	12 44	do pass. & frt. do do
D. A. Martin.....	125	do 10....	78	11 24	do do do do
Dora.....	40	do 11....	48	8 84	do do do Gordon Creek and Baie des Péres.
Argo.....	75	do 11....	154	17 32	Paddle, do do do
Dauntless.....	20	do 15....	8	5 64	Screw, pleasure yacht, Lake Nipissing
Thistle.....	None.....	do 15....	2	5 16	do do do Barry Bay.
River Bell.....	do	do 15....	14	6 12	do do do do
Savoy.....	25	do 31....	348	35 84	do pass. & frt., Quebec & Anticosti
Ivan R.....	39	Sept. 3....	18	6 44	do pass., Grandes Piles & LaTuque
Bonenfant.....	20	do 21....	21	6 68	Paddle, ferry, Charlemagne and Bout de L'Isle.
Tiber.....	80	do 23....	1,736	146 88	Screw, pass. and freight, Montreal and foreign ports.
Arthur.....	20	Nocer. given	15	6 20	Screw, pass. and frt, Lake St. John.
Pilot.....	350	Oct. 27....	426	42 08	do ferry, Quebec and Levis.
Queen.....	350	do 27....	367	37 36	do do do do
Polaris.....	350	do 28....	533	50 54	do do do do
		1898.			
Polino.....	30	April 13...	807	72 56	do pass. and freight, Montreal and Newfoundland.
Berthier.....	700	May 14....	1,101	96 08	Paddle, pass. and freight, and Three Rivers. Montreal

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected, &c.—Quebec and Montreal Division.—*Con.*

HULL INSPECTION.—*Con.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Chambly.....	600	April 14....	647	59 76	Paddle, pass. and freight, Montreal and Chambly.
Mouche-à-feu.....	250	do 14....	214	25 12	Paddle, ferry, Sorel and Berthier.
Riviere du Loup....	40	do 14....	199	23 92	do do Varrennes & L'Assomption
Sorel.....	175	do 14....	158	20 64	do do Sorel and Pierreville.
Terrebonne.....	450	do 14....	716	65 28	do do Montreal and Sorel.
Campana.....	400	do 20....	1,681	142 48	Screw, pass. & frt., Montreal & Pictou
Canada.....	800	do 21....	2,009	168 72	Paddle, pass., Montreal & Chicoutimi.
Hosanna.....	200	do 21....	89	12 12	Screw, ferry, Montreal & Longueuil.
Montreal.....	800	do 21....	2,211	184 88	Paddle, pass. and freight, Quebec and Montreal.
Hamilton.....	400	do 22....	1,052	92 16	Paddle, pass. and freight, Montreal and Hamilton.
Saguenay.....	430	April 22....	1,104	96 32	Paddle, pass. and freight Quebec and Chicoutimi.
Island Queen.....	40	do 22....	98	12 84	Screw, ferry, Three Rivers & Batiscan
Longueuil.....	300	do 24....	365	37 20	Paddle, ferry, Hochelaga & Longueuil
Hochelaga.....	300	do 24....	418	41 44	do do Boucherville
Laprairie.....	400	do 26....	600	56 00	do Montreal and Laprairie
North.....	450	do 28....	289	31 12	do Quebec and Lévis.
South.....	450	do 28....	349	35 92	do do
Otter.....	123	May 3....	198	23 84	Screw, pass. and freight, Quebec and Natasquan.
Vega.....	250	do 5....	132	18 56	Screw, ferry, Quebec and St. Romuald
Lord Stanley.....	30	do 11....	276	30 08	do pass. River & Gulf St. Lawrence
Lévis.....	350	do 12....	156	20 48	do ferry, Quebec and St. Romuald
Orleans.....	475	do 12....	181	22 48	Screw, ferry, Quebec & Island of Orleans
Quebec.....	800	do 13....	3,056	252 48	Paddle, pass., Quebec and Montreal.
Trois Rivières.....	1,000	do 13....	1,710	144 80	do de Beaupré. Montreal and St. Anne
Cultivateur.....	730	do 13....	362	36 96	Paddle, ferry, Montreal and Island St. Helen.
Ste. Anne.....	40	do 14....	14	6 12	Screw, ferry, Sorel and Berthier.
Chateaugay.....	443	do 15....	222	25 76	Paddle, pass., Montreal & Beauharnois
Prefontaine.....	Freight.	do 18....	214	25 12	Screw, freight, Montreal and Quebec.
Filgate.....	658	do 15....	263	29 04	Pad., pass., Montreal and Isle Gros Bois
Contest.....	150	do 19....	274	29 92	do and mail tender at Rimouski
Garnet.....	200	do 21....	152	20 16	do and freight, Montreal and Valleyfield.
Rocket.....	400	do 21....	428	42 24	Pad., pass & freight, Montreal & Corn' all
Greetland.....	40	do 22....	1,091	95 28	Screw, pass. and freight, Montreal and Newfoundland.
Duchess of York....	700	do 22....	490	47 20	Paddle, pass., Montreal and Carillon.
Belmont.....	120	do 22....	113	17 04	do do Valleyfield.
Welshman.....	Freight.	do 24....	143	16 44	Screw, freight, Montreal and Ottawa.
Empress.....	800	do 25....	677	62 16	Paddle, pass., Ottawa and Grenville.
Marquis of Lorne...	40	do 25....	20	6 60	Screw, ferry, Ottawa and Hull.
Mansfield.....	40	do 25....	189	21 52	do New Edinburgh & Gatineau Point.
Agnes.....	40	do 26....	20	7 32	Screw, ferry, Buckingham & High Rock
Mildred.....	25	do 26....	15	6 20	do do
Leon.....	None.....	do 26....	15	6 20	do do High Falls and Notre Dame de Laus.
Thurso.....	40	do 27....	20	6 60	Paddle, ferry, Thurso and Clarence.
Bonito.....	30	do 28....	17	6 36	Screw, ferry, Calumet and L'Orignal.
Glide.....	40	do 28....	80	11 40	do do Hawkesbury
Sovereign.....	700	do 28....	637	58 96	Paddle, pass., Montreal and Carillon.
Dama.....	40	do 29....	55	9 40	Screw, pleasure, Montreal and Quebec
Corsican.....	400	do 29....	1,203	104 24	Paddle, pass., Montreal and Toronto.
Como.....	40	do 31....	75	11 00	do ferry, Three Rivers & Nicolet.
Glacial.....	145	do 31....	109	16 72	Screw, do Three Rivers & Ste. Angèle
Bourgeois.....	200	do 31....	94	12 52	Paddle do do St. Grégoire

STEAM VESSELS inspected, &c.—Quebec and Montreal Division.—*Con.*HULL INSPECTION.—*Con.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Express	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Ste. Croix	550	June 8....	506	48 48	Pad., pass. & freight, Quebec & Ste. Croix
Etoile	591	do 8....	560	52 80	do do St. Jean d'Eschaillons.
Algerian	400	do 14....	914	81 12	Paddle, pass., Montreal and Toronto.
Princess	443	do 14....	579	54 32	do do Carillon.
Maud	350	do 14....	269	29 52	do do Ottawa.
Tiber	80	do 16....	1,735	146 80	Screw, pass. and freight, Montreal and foreign ports.
Bohemian	500	do 17....	1,138	99 04	Pad., pass., Montreal & Coteau Landing
Carolina	600	do 17....	977	86 16	do Quebec and Chicoutimi.
St. Louis	514	do 28....	428	42 24	do do St. Jean d'Eschaillons
Champion	612	do 28....	482	46 56	do Quebec and Berthier.
Rhoda	150	July 2....	182	22 56	do Quebec and Rimouski.

PIERRE D. BRUNELLE,
Hull Inspector.

STEAM VESSELS not inspected for the year ended 30th June, 1897.

QUEBEC AND MONTREAL DIVISION.

HULL INSPECTION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	REMARKS. Why not Inspected and Class of Vessel.
Bella Ritchie	82 17	50 19	Paddle, passenger, laid up.
Thistle	2 18	1 71	Running as a pleasure yacht.
Little Roxy	11 67	6 88	Screw, pleasure yacht, laid up.
Clipper	4	3	Running as a pleasure yacht.
Union	75 04	66 04	do do do
Ottawa	116 28	89 11	Paddle, passenger.
Flora	5 08	3 96	Screw, passenger.
Ladas	54 47	37 04	do passenger, not carrying passengers.
Okunawakiawa	12 78	11 90	do do do do
Owl	3 69	2 50	do pleasure yacht.
Quinze	32 26	26	do passenger, laid up.
Acadian	931 33	596	do passenger and freight, out of my district.
	1458 02	993 40	

PIERRE D. BRUNELLE,
Hull Inspector.

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected for the year ended 30th June, 1897.

NOVA SCOTIA DIVISION.

BOILERS AND MACHINERY.

Name of vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1897.					
Carrie.....	40	July 3 ...	14 83	6 20	Screw, pass'r, Mahone Bay and Chester.
Yuba.....	20	do 7.....	12 04	5 96	do ferry, Barrington and Cape Island.
Mayflower.....		do 8.....	5 92	5 48	do fishing boat, Shag Harbour and Bear Point.
Fairy.....		do 9.....	15 55	6 28	do water-boat, Lunenburg Harbour.
Maggie.....	40	do 10.....	19 26	6 52	do ferry, Lunenburg and South.
1896.					
La Have.....		Dec. 31...	49 27	8 92	do tug, La Have River.
1897.					
Pinafore.....		July 10....	25 86	7 08	do do Annapolis River.
Robbie Burns.....	200	June 20....	88 95	12 12	do excursion barge, Halifax Harbour.
Commodore.....		July 15....	12 84	6 04	do lighter, Halifax Harbour.
Highland Mary.....	140	June 20....	73 73	10 92	do excursion barge, Halifax Harbour.
Anticosti.....		do 25....	19 00	6 52	do lighter, Halifax Harbour.
John L. Cann.....	100	July 21....	165 55	21 28	do passenger and tug, Strait of Canso.
Blue Hill.....	100	do 21....	195 83	23 68	do passenger, Mulgrave and Bras d'Or Lakes.
Mary O'Dell.....		do 21....	22 55	6 84	do fishing boat, Strait of Canso.
Eldon.....	40	do 27....	37 91	8 04	do ferry, Strait of Canso.
May Queen.....	40	do 22....	142 09	19 36	Paddle, passenger, Bras d'Or Lakes.
Zutieka.....		do 22....	12 38	5 96	Screw, yacht, Bras d'Or Lakes.
Lennox.....	25	do 23....	66 29	10 28	Paddle, ferry, Lennox passage.
Mayflower.....	100	do 25....	392 05	39 66	Screw, ferry, Strait of Canso.
Jessie Grey.....		do 24....	76 01	11 08	Stern-wheel lighter, Bras d'Or Lakes.
Mic-Mac.....	50	Aug. 7....	150 63	20 00	Paddle, ferry, Halifax and Dartmouth.
Chester.....		May 4....	79 50	11 40	Screw, tug, Avon River.
Volunda.....		Aug. 12....	29 80	7 40	do yacht, Nova Scotia coast.
Bessie and Harry.....		do 19....	22 00	6 76	do water boat, Halifax Harbour.
Mulgrave.....	250	do 20....	484 86	*No fees..	do ferry, Strait of Canso.
City of Ghent.....	50	do 21....	198 64	23 92	do pass'r and freight, Nova Scotia and Prince Edward Island.
L. Boyer.....	100	do 28....	60 00	9 80	do tug and passenger, Nova Scotia coast.
Aid.....		Sept. 4....	98 55	12 84	do lighter, Nova Scotia coast.
Mascotte.....		do 12....	35 40	7 80	do yacht, Halifax Harbour.
St. John.....		do 10....	47 28	8 76	do tug, Nova Scotia coast.
Annie.....		do 30....	42 12	8 36	do water boat, Halifax Harbour.
Ralph, E. S.....		Oct. 3....	27 82	7 24	do fishing boat, Nova Scotia coast.
Wanad.....	15	do 23....	38 48	8 04	Tug and passenger, do do
Nereid.....		do 23....	12 24	5 95	Screw, fishing boat, Yarmouth and coast.
Bridgewater.....	200	do 26....	207 79	24 64	do passenger, Nova Scotia and New Brunswick.
Sea Bird.....		Sept. 4....	41 28	8 28	do fishing boat, Nova Scotia coast.
Elliott.....		Nov. 1....	367 48	34 36	do freight, Canadian and foreign pts.
Halifax.....	240	do 12....	328 42	35 04	Paddle, ferry, Halifax and Dartmouth.
Premier.....		Oct. 19....	373 56	37 92	Screw, freight, Canad. and foreign ports.
Henry Hoover.....	100	Nov. 25....	54 64	9 40	do tug and pass'r, Nova Scotia coast.
Bermuda.....	36	Not issued..	1,284 37	110 72	do freight and passenger, Canadian and foreign ports.
Westport.....	25	Nov. 16....	80 09	11 40	do pas'r, Canadian and foreign ports.
Florence C.....	30	do 16....	38 98	8 04	do fish boat and passenger, Yarmouth and coast.
Edna R.....		do 16....	49 66	8 92	do fish boat, Yarmouth and coast.
Island Gem.....		do 16....	15 62	6 28	do do do do
Salvor.....		Dec. 30....	44 93	8 60	do lighter, Halifax Harbour.
Newfoundland.....		June 1....	918 75	78 52	do sealer, Canadian and foreign ports.

*Government property.

STEAM Vessels Inspected for the Year ended 30th June, 1897.

NOVA SCOTIA DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Remarks.
		1898.			
City of St. John	150	Mar. 13	709 12	64 72	Paddle, pass'r, Halifax and Yarmouth.
Alpha	30	do 13	306 91	32 48	Screw, freight and pass'r, Nova Scotia and United States.
Marina		do 13	32 46	7 56	Screw, fish boat, Nova Scotia coast.
Yarmouth	450	do 15	1,451 92	124 16	do passenger, Yarmouth and Boston.
La Tour	75	do 15	154 43	20 32	do do South Shore ports.
Leonore		do 17	15 23	6 20	do fish boat, Nova Scotia coast.
Anita		do 25	26 50	7 16	do fishing boat, do do
Cape Breton		April 5	1,764 19	146 12	do freight and passenger, Canadian and foreign ports.
Bonavista	60	do 6	1,306 33	112 48	do freight, Canad. and foreign ports.
Ulata		do 8	13 70	6 12	do yacht, Halifax and coast.
Gambrinus		do 13	28 36	7 24	do lighter, Halifax Harbour.
Cacouna		do 13	1,450 78	121 08	do freight, Canad. and foreign ports.
Harlaw	75	do 26	451 36	44 08	do freight and passenger, Nova Scotia and Newfoundland.
Douglas H. Thomas		do 19	211 91	21 96	do tug, Nova Scotia coast.
Halifax	500	do 24	1,738 45	147 04	do passenger, Halifax, Prince Edward Island and Boston.
Acadian	15	de 21	931 33	82 48	Screw, freight and passenger, Canadian and foreign ports.
Fastnet	50	do 24	337 71	35 04	Screw, freight and passenger, Nova Scotia and P. E. Island.
Acadia	150	do 22	74 21	10 92	Screw, passenger, Kingsport & Parrsboro
Chester		do 22	79 50	11 40	do tug, Minas Basin.
Avon	40	do 22	64 66	10 12	do passenger, Windsor & Kingsport.
Leonora	25	do 27	5 00	5 49	do ferry, Halifax Harbour.
Coban	41	May 1	1063 30	93 04	do freight and passenger, Canadian and foreign ports.
Dartmouth	300	do 6	311 23	32 88	Paddle, ferry, Halifax and Dartmouth.
Hiawatha	250	do 7	229 79	26 40	Screw, freight and passenger, Nova Scotia and New Brunswick.
Wm. Weatherspoon		do 7	59 29	9 72	Screw, tug, Avon River.
Rob Roy		do 7	13 97	6 12	do waterboat, Avon River.
Weymouth	40	do 10	153 93	20 32	do freight and passenger, Nova Scotia coast.
Elsie		do 11	22 14	6 76	Screw, tug, Pictou Harbour.
Diamond		do 11	22 65	6 84	do do do
Vesta		do 11	9 21	5 72	do fishing boat, Pictou and Pictou Island.
Shannon		do 12	75 11	11 00	Screw, tug, Nova Scotia coast.
Caber Feidh	40	do 12	61 07	9 88	do tug and passenger, Nova Scotia and P. E. Island.
Bessie		do 13	10 45	5 80	Screw, tug, Pictou Harbour.
Marion	35	do 12	11 57	5 96	do passenger, Pictou Harbour.
Active		do 17	59 91	9 80	do fishing boat, Nova Scotia coast.
Collector	130	do 18	52 02	9 16	do excursion barge, Halifax Harbour.
La Have		do 18	49 27	8 92	do tug, La Have River.
St. Olaf	150	do 12	305 27	32 40	do passenger and freight, Nova and New Brunswick.
Hygeia	40	do 21	57 69	9 64	Screw, ferry, Sydney Harbour.
C. M. Winch		do 21	87 72	12 04	do tug, Nova Scotia coast.
Arcadia	25	do 21	61 64	9 96	do freight and passenger, Cape Breton ports.
Eleanor M. Cates		do 22	58 81	9 72	Screw, tug, Nova Scotia coast.
Peerless	200	do 24	94 27	12 52	do ferry, Sydney Harbour.
Gladiator		do 24	70 40	10 60	do tug, Nova Scotia coast.
Daisy		do 25	10 74	5 88	do tug, Sydney Harbour.
Merrimac		do 25	85 80	11 80	do tug, Nova Scotia coast.
Zaidee		do 25	18 63	6 44	do tug, Sydney Harbour.
Westport	30	do 26	80 06	11 40	do passenger, Nova Scotia and Breton.

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected for the year ended 30th June, 1897.

BOILERS AND MACHINERY.

Name of vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1898.		\$ cts.	
Eldon	40	May 26....	37 91	8 04	Screw, ferry, Strait of Canso.
Blue Hill	100	do 26....	195 83	23 68	do passenger, Mulgrave and Bras d'Or Lakes.
Marion	250	do 24....	478 49	46 24	Paddle, passenger, Bras d'Or Lakes.
Gipsy		do 24....	16 70	6 36	Screw, tug, Sydney Harbour.
A. C. Whitney	100	June 3....	62 67	10 04	do tug and passenger, Halifax Harb'r
Carrie	40	do 4....	14 83	6 20	do passenger, Mahone Bay and Cape Chester.
Lunenburg	200	do 8....	265 55	29 28	Screw, passenger, Nova Scotia coast.
Robbie Burns	200	do 8....	88 95	12 12	do excursion barge, Halifax Harbour.
Highland Mary	140	do 8....	73 73	10 92	do do do
Pastime	175	do 9....	67 71	10 44	do do do
Juno	40	do 11....	9 29	5 74	do ferry, Yarmouth Harbour.
Freddie V		do 11....	26 29	7 08	do tug, Yarmouth and coast.
Boston	550	do 14....	1,694 50	143 52	do passenger, Yarmouth and Boston.
Dolphin		do 12....	8 07	5 64	do fish-boat, Yarmouth and coast.
Gem		do 14....	6 00	5 48	do fish-boat, St. Mary's Bay.
David Duncan		do 14....	20 59	6 68	do tug, St. Mary's Bay.
Clipper		do 15....	29 85	7 40	do tug, Digby and coast.
Glencoe	30	do 16....	32 21	7 56	do ferry, Annapolis and Granville.
Pinafore		do 16....	25 86	7 08	do tug, Annapolis Basin.
Evangeline	150	do 18....	78 74	11 32	do passenger, Kingsport and Parrsboro.
Louisburg		April 28....	1,815 60	150 28	Screw, freight, Canadian and foreign ports.
Delta	15	June 22....	873 21	77 84	Screw, freight and passenger, Canadian and foreign ports.
Victor		do 24....	9 62	5 80	Screw, tug, Northumberland Strait.
Lion		do 25....	19 82	7 00	do do do
Star	15	do 25....	6 07	5 48	do ferry, Wallace Harbour.
Totals			26,849 29	2,790 63	

JOHN P. ESDAILE,

Steamboat Inspector, Halifax, N. S.

STEAM Vessels not inspected for the year ended 30th June, 1897.

NOVA SCOTIA DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. — Why not Inspected and Class of Vessel.
Goliah	146·83	99·85	Laid-up, tug.
Rescue	124·09	84·92	do do
Tusket	3·07	2·00	do do
Alida	64·18	29·52	do do
Scotia	41·58	28·27	do do
Arrow	10·02	7·92	do yacht.
Nereus	16·39	11·15	do do
Havana	470·98	245·85	do passenger.
Rimouski	124·70	84·80	do do
Maple Leaf	129·06	81·31	do ferry.
Ida Sue	44·51	30·27	Not yet inspected, tug.
Meadow Flower	6·56	4·46	do do do
St. Michael	39·20	26·66	do do do
Albatross	20·46	10·23	do do yacht.
J. B. Hamblin	31·71	21·56	Out of district, fishing boat.
Total Tonnage	1273·34	768·78	

JOHN P. ESDAILE,
Steamboat Inspector, Halifax.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected for the year ended 30th June, 1897.

NOVA SCOTIA DIVISION.

HULL INSPECTION.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897		\$ cts.	
Westport.....	30	July 1....	80·06	11 40	Screw, passenger and freight, Guysborough and Port Hood.
Carrie.....	40	do 3....	14·83	6 20	do passenger and freight, Mahone Bay and Chester.
Yuba.....	20	do 8....	12·04	5 96	do ferry, Barrington Passage.
Maggie.....	40	do 10....	19·26	6 52	do ferry, Lunenburg Harbour.
Collector.....	130	Sept. 30....	52·02	9 16	Twin-screw, excursion barge, Halifax Harbour.
Henry Hoover..	100	do 30....	54·64	9 40	Excursion screw tug, Halifax Harbour.
John L. Cann...	100	July 21....	165·55	21 28	Screw, passenger and freight, St. Mary's Bay and Strait of Canso.
Blue Hill.....	100	do 21....	195·83	23 68	Twin screw, passenger and freight, Grand Narrows and Strait of Canso.
Eldon.....	40	do 21....	37·91	8 04	Screw, freight and passenger, Cape Jack and Sand Point.
Mulgrave.....	250	do 22....	484·86	Nil.	Twin-screw, passenger, Mulgrave and Point Tupper.
Lennox.....	25	do 22....	66 29	10 28	Paddle ferry, Grandique Passage.
May Queen.....	40	do 27....	142·09	19 36	do Grand Narrows and Baddeck.
Mayflower.....	100	do 24....	392·05	39 66	Twin-screw, ferry, Strait of Canso.
City of Ghent...	50	Aug. 8....	198·64	23 92	Screw, pass. and freight, Halifax and coasting.
Mic Mac.....	50	do 10....	150·63	20 00	Paddle, ferry, Halifax and Dartmouth.
Wanda.....	15	Dec. 20....	38·48	8 04	Screw, pass. and fr't., Yarmouth and Shelburne.
Bridgewater....	200	Oct. 26....	207·79	24 64	do and freight, Halifax and coasting
Elliott.....	Nil.	Nov. 10....	367·48	34 36	Screw, freight, Canadian and foreign.
Halifax (ferry)..	240	do 17....	338·42	35 04	Paddle, ferry, Halifax and Dartmouth.
Premier.....	Nil.	do 19....	373·56	37 92	Screw, freight, Canadian and foreign.
Bermuda.....	36	None issued	1284 37	110 72	do Canadian and foreign.
Westport.....	25	Nov. 16....	80 09	11 40	do pass. and freight, Yarmouth & coasting.
Florence C.....	30	do 16....	38·98	8 04	do do Yarmouth & coasting.
Newfoundland..	Nil.	June 1....	918·75	78 52	do sealer, Newfoundland ice fields.
La Tour.....	75	Mrch 16....	154·43	20 32	do pass. and freight, Yarmouth & coasting.
Alpha.....	30	do 16....	306·91	32 48	do do do do
City of St. John	150	do 17....	709·12	64 72	Paddle, do do do
Cape Breton...	Nil.	April 2....	1764 19	146 12	Screw, freight, Canadian and foreign.
Cacouna.....	do	do 5....	1450 78	121 08	do do do
Bonavista.....	60	do 6....	1306 33	112 48	do pass. and freight, Canadian and foreign.
Yarmouth.....	450	do 10....	1451 92	124 16	do do Yarmouth and Boston.
Acadian.....	15	do 21....	931·33	82 48	do do Canadian and foreign.
Halifax.....	500	do 22....	1738·45	147 04	do do do do
Harlaw.....	75	do 22....	451·36	44 08	do do Canadian coasting.
Avon.....	40	do 23....	64·66	10 12	do do Windsor and ports on River Avon.
Arcadia.....	150	do 23....	74·21	10 92	do pass. and freight, Kingsport and ports in Bay of Fundy.
Fastnet.....	50	do 27....	337·71	35 04	do pass. and freight, Halifax and coasting.
Coban.....	41	May 1....	1063·30	93 03	do do Canadian and foreign.
Lenora.....	25	do 4....	5·00	5 40	do ferry, Halifax and Dartmouth.
Dartmouth.....	300	do 6....	311·23	32 88	Paddle, do do do
Hiawatha.....	250	do 7....	229·79	26 40	Screw, pass. and freight, Nova Scotia and N.B.
Weymouth.....	40	do 11....	153·93	20 32	do do Nova Scotia and C.B., coasting.
Caber Feidh...	40	do 12....	61·07	9 88	do tug and pass., Nova Scotia & P.E. Island,
Marion.....	35	do 13....	11·57	5 96	do excursion, Pictou Harbour.
St. Olaf.....	150	do 19....	305·27	32 40	do pass. and fr't., Pictou and Magd. Islands.
Arcadia.....	25	do 21....	61·64	9 96	do pass. and fr't., Sydney & Bay St. Lawrence
Hygia.....	40	do 22....	57·69	9 64	do ferry, Sydney and North Sydney.

STEAM Vessels inspected, &c.—Nova Scotia Division—*Concluded.*HULL INSPECTION—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage dues and inspection Fees Paid.	Class of Vessel and where Employed.
		1897		\$ cts.	
Peerless	200	May 24 ..	94 27	12 52	Screw, ferry, Sydney and North Sydney.
Marion	250	do 25 ..	478 49	46 24	Paddle, pass. and frt., Sydney and Grand Lakes, Cape Breton.
Eldon	40	do 26 ..	37 91	8 04	Screw, pass and frt., Cape Jack and Sand Point.
Westport	30	do 26 ..	80 06	11 40	do do Guysboro' and Port Hood.
Blue Hill	100	do 27 ..	195 83	23 68	Twin-screw, pass. and frt., Grand Narrows and Strait of Canso.
A. C. Whitney..	100	June 2 ..	62 67	10 04	Screw, excursion, Halifax Harbour.
Carrie	40	do 3 ..	14 83	6 20	do pass. and frt., Mahone Bay and Chester.
Lunenburg	200	do 8 ..	265 55	29 28	do do Halifax and coasting.
Louisburg	Nil.	do 10 ..	1815 60	150 28	do freight, Canadian and foreign ports.
Delta	15	do 11 ..	873 21	77 84	do pass. and frt., Canadian and foreign ports.
L. Byer	100	do 14 ..	60 00	9 80	do excursion, Halifax Harbour.
		1897.			
Robbié Burns..	200	Sept. 30 ..	88 95	12 12	do do do
Highland Mary..	140	do 30 ..	73 73	10 92	do do do
		1898.			
Boston	550	June 21 ..	1694 50	143 52	do pass. and frt., Yarmouth and Boston, U.S.
Ida Lue	25	do 23 ..	44 51	8 60	do pass. and frt., Yarmouth and Tusket Wedge.
Juno	40	do 23 ..	9 29	5 74	do ferry, Yarmouth Harbour.
Glencoe	30	do 24 ..	32 21	7 56	do Annapolis River.
Evangeline	150	do 25 ..	78 74	11 22	do pass. and frt., Kingsport and Parsboro'.
		1897.			
Pastime	175	Sept. 30 ..	67 71	10 44	do excursion barge, Halifax Harbour.
Collector	130	do 30 ..	52 02	9 16	do do do

S. R. HILL,
Inspector of Hulls and Equipment.

STEAM Vessels not inspected for the Year ended 30th June, 1897.

NOVA SCOTIA DIVISION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. Why not Inspected and Class of Vessel.
Havana	470 98	245 86	Laid up; passenger and freight.
Rimouski	124 70	84 80	do do do
Maple Leaf	129 06	81 31	do ferry, Pictou Harbour.
	724 74	411 97	

S. R. HILL,
Inspector of Hulls and Equipment.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected for the year ended 30th June, 1897.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate expires.	Gross Tons.	Tonnage Dues and Inspection Fees paid.	Class of Vessel and where Employed
1897.					
Bessie		July 7	5 18	5 40	Screw, Newcastle.
Lady Dufferin	40	do 7	47 48	8 76	Paddle do
Loyalist		do 8	17 57	6 44	do do
Zulu		do 8	17 60	6 36	do do
Rustler	200	do 8	89 19	12 12	do do
Miramichi	100	do 9	75 18	11 00	Screw, Chatham.
Laura		do 9	13 55	6 12	do do
Bridgetown		do 9	14 66	6 20	do do
Mascott		do 9	70 50	10 60	do do
St. Andrew		do 9	76 64	11 18	do do
Sarcella		do 9	21 86	6 68	do do
Sybella H	40	do 9	70 68	10 60	Paddle do
Nelson	100	do 10	64 34	10 12	Screw do
St. Nicholas	100	do 10	62 20	9 96	do do
St. George		Aug. 31	160 57	17 80	Paddle do
Arthur		July 10	4 99	5 40	Screw do
Zina		do 10	26 40	7 09	do do
Grip		do 10	4 81	5 40	do do
Florence		do 10	19 33	6 52	do do
St. Lawrence		do 13	50 82	9 00	do Bathurst.
Victor	25	do 14	45 50	8 68	Paddle, Dalhousie.
East Riding		do 14	85 55	11 88	do do
Squirrel		do 14	13 11	6 04	Screw do
Marion		do 15	11 57	5 96	do Richibucto.
Eva		do 16	18 01	6 44	do do
Dream		do 21	44 51	8 52	do St. John, N.B.
Arbutus	86	do 22	46 76	8 76	do St. Stephen.
Calla	30	do 23	9 79	5 80	do St. Andrews.
Bessie Ardella		do 23	17 44	6 26	do do
Cricket		do 27	4 85	5 40	do St. John, N.B.
Tangent		do 27	35 74	7 88	Twin screw do
W. E. Vroom		do 27	10 55	5 80	Screw do
Atlas		Aug. 8	15 79	6 28	do Port Elgin.
St. Isidore	200	Sept. 2	141 75	19 36	Paddle, Chatham.
Wenola		do 16	25 10	7 00	Screw, Port Elgin.
Yantic		do 17	14 16	6 12	do Tidnish.
Springhill	100	Oct. 6	189 05	23 12	do St. John.
Aberdeen	400	do 16	243 86	27 44	Stern-wheel, St. John.
Kingsville		Nov. 2	36 59	7 88	Screw do
Ouangondy	200	do 10	294 75	31 52	Paddle do
Princess	350	do 20	541 79	51 36	Screw, Charlottetown.
City of Monticello	400	Dec. 22	1,033 65	90 64	Paddle, St. John, N.B.
1898.					
New City		Jan. 18	78 38	11 24	Screw do
Leader		Feb. 4	29 32	7 32	do do
E. Ross	40	Mar. 6	29 36	7 32	do do
Captain		do 19	68 43	10 41	do do
Northumberland	350	do 31	1,255 46	108 40	Twin screw, Charlottetown.
Jacques Cartier	300	do 31	379 96	38 40	Paddle do
Nelson		April 1	32 80	7 64	Screw do
Hillsborough			228 67	26 32	Paddle do
Hercules		April 8	87 11	11 96	Screw, St. John, N.B.
Maggie M.		do 8	65 78	10 20	do do
Springfield	170	do 8	232 73	26 56	Stern-wheel do
W. H. Murray	40	do 8	72 55	10 76	Screw do
David Weston	450	do 9	765 15	69 20	Paddle do
Dirigo	40	do 9	70 13	10 60	Screw do
Hero		do 9	127 60	15 16	Paddle do
G. D. Hunter		do 13	67 97	10 36	Screw do

STEAM Vessels inspected, &c.—New Brunswick and P. E. Island Division—*Concluded.*BOILERS AND MACHINERY—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Star.....	300	Dec. 19....	461·03	44 88	Paddle, St. John. N.B.
		1898.			
Sea King.....		April 1....	128·63	15 32	Screw do
		1897.			
Hampstead.....	150	Dec. 17....	234·52	26 72	do do
Lilly Glasier.....		April 13....	209·31	21 72	Paddle.
Fred Glasier.....		April 13....	10·39	5 80	Screw, St. John.
Ada G.....		do 13....	102·08	13 16	Paddle do
Fanchon.....	40	do 13....	110·61	16 80	do do
May Queen.....	350	do 15....	539·40	51 12	do do
Clifton.....	200	do 15....	138·21	19 04	Stern-wheel do
Admiral.....		do 15....	158·20	17 64	Paddle do
Maggie Miller.....	150	do 15....	104·66	16 32	do do
Prince Rupert.....	850	do 17....	1158·44	100 64	do do
Champion.....		do 20....	190·14	20 20	do do
Olivette.....	280	do 20....	318·37	33 44	do do
Martello.....		do 20....	18·78	6 44	Screw do
Hope.....		do 20....	305·77	29 40	Paddle do
Bismarck.....		do 24....	49·04	8 92	do do
Mildred.....		do 29....	40·11	8 20	Screw do
Fannie.....		May 3....	33·44	7 64	do do
Lillie.....	64	do 3....	71·64	10 76	do do
Neptune.....		do 3....	71·15	10 65	do do
Storm King.....	70	do 4....	107·87	16 56	do do
Electra.....	40	do 7....	106·96	16 48	do Charlottetown.
T. A. Stewart.....		do 7....	35·94	7 88	Twin-screw do
Alameda.....	70	do 7....	33·93	7 72	Screw do
William Aitken.....	40	do 8....	74·87	11 00	do do
Fred M. Batt.....		do 8....	59·90	9 72	do do
Montague.....	75	do 10....	129·55	18 32	Paddle, Georgetown.
Frank C. Batt.....	40	do 12....	32·90	7 56	Screw, Summerside.
May Queen.....		do 13....	35·92	7 88	do Point du Chêne.
Tourist.....	40	do 18....	16·15	6 28	do St. John.
Alice.....		do 20....	15·77	6 28	do Buctouche.
Frederick A.....		do 20....	31·11	7 48	do Richibucto.
Calluna.....		do 20....	22·26	6 76	do do
Nereia.....		do 27....	30·03	7 40	do St. John.
Winnie.....		do 27....	12·46	5 96	do do
Flushing.....	250	do 29....	257·09	28 56	do do
Viking.....	200	June 4....	127·70	18 24	do St. Stephen.
Ernest.....		do 10....	12·58	5 96	do Fredericton.
Carrie Knight.....		do 10....	5·88	5 48	do do
Ada.....		do 10....	3·66	5 32	do do
Randolph.....		do 11....	8·71	5 72	Twin-screw do
Meta.....		do 11....	5·05	5 40	Screw do
Quiddy.....		do 11....	30·59	7 40	Paddle do
Eva Johnston.....		do 11....	15·77	6 28	Screw do
G. K. King.....		do 14....	45·48	8 60	do St. John.
Annie Currier.....		do 25....	10·56	5 88	do do
Wee Laddie.....		do 26....	16·60	6 36	do do
Total.....			13121·54	1,650 05	

W. L. WARING,
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

STEAM Vessels not inspected for the year ended 30th June, 1897.

NEW BRUNSWICK AND P. E. ISLAND DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. Why not Inspected and Class of Vessel.
Waring.....	28 74	19 54	Getting new boiler, screw tug.
Peri.....	11 77	8 00	Laid up, screw tug.
Electric.....	3 74	2 55	do screw yacht.
Alcyone.....	15 05	10 73	do screw tug.
Olivette.....	1,611 42	1,104 90	Not applied for, screw, passenger.
Delta.....	19 93	12 12	Unable to get to her in time, screw, passenger.
Victor.....	9 62	6 40	Out of port when there, screw tug.
Marguerite.....	19 66	12 30	Getting new boiler, screw yacht.
Derby.....	11 66	8 66	Laid up, paddle tug.
Henrietta.....	19 12	13 01	do screw tug.
Utopia.....	25 00	17 00	do do
Southport.....	239 92	186 15	Not applied for, paddle ferry.
Elfin.....	122 42	34 23	do do
Elliott.....	367 48	227 37	do screw freight.
Commodore.....	12 84	7 67	do screw tug.
	2,518 37	1,670 63	

W. L. WARING,
Steamboat Inspector.

STEAM VESSELS inspected for the year ended 30th June, 1897.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND DIVISION.

HULL INSPECTION.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Calla.....	30	July 2.....	9 79	5 80	Screw, pass., St. Andrews.
Lady Dufferin.....	40	do 7.....	47 48	8 76	Paddle, pass., Newcastle.
Rustler.....	200	do 8.....	89 19	12 12	do do do
Nelson.....	100	do 11.....	64 34	10 12	Screw, pass., Chatham.
Miramichi.....	100	do 9.....	75 18	11 00	do do do
Sybella H.....	40	do 9.....	70 68	10 60	Paddle do do
St. Nicholas.....	100	do 10.....	62 20	9 96	Screw do do
St. Isidore.....	200	do 14.....	141 75	19 36	Paddle do do
Arbutus.....	86	do 22.....	46 76	8 76	Screw do St. Stephen.
Dirigo.....	40	Aug. 3.....	70 13	10 60	do do St. John.
		1896.			
Spring Hill.....	100	Nov. 14.....	189 05	23 12	do do do
		1897.			
Fanchon.....	40	April 16.....	110 61	13 80	Paddle do do
Victor.....	25	July 14.....	45 51	8 68	do Dalhousie.
Spring Hill.....	100	Oct. 8.....	189 05	23 12	Screw, pass., St. John.
Aberdeen.....	400	do 16.....	243 86	27 44	Stern wheel, pass., St. John.
Bessie.....	40	May 11.....	10 45	5 80	Screw, pass., Pictou, N.S.
Princess.....	350	Nov. 20.....	541 79	51 36	do do Charlottetown, P.E.I.
Ouangondy.....	200	do 10.....	294 75	31 52	Paddle do St. John.
City of Monticello..	400	Dec. 22.....	1,033 65	90 64	do do do
		1898.			
E. Ross.....	40	Mar. 6.....	29 63	7 32	do do do
Northumberland.....	350	do 31.....	1,255 46	138 40	Twin screw, pass., Charlottet'n, P.E.I.
Jacques Cartier.....	300	do 31.....	379 96	38 40	Paddle do do do
Hillsborough.....			228 67	26 32	do do do
Springfield.....	170	April 8.....	232 73	26 56	Stern wheel do St. John.
Fanchon.....	40	do 13.....	119 61	16 80	Paddle do do
Dirigo.....	40	do 9.....	70 13	10 60	Screw do do
		1897.			
Hampstead.....	150	Dec. 17.....	234 52	26 72	do do do
Star.....	300	do 19.....	461 03	44 88	Paddle do do
Maggie Miller.....	150	do 20.....	104 66	10 32	do do Milledgeville.
		1898.			
Prince Rupert.....	850	April 17.....	1,158 44	100 64	do do St. John.
		1897.			
Clifton.....	200	Dec. 20.....	138 21	19 04	Stern wheel do do
Olivette.....	280	do 17.....	318 37	33 44	Paddle do do
		1898.			
David Weston.....	450	April 9.....	765 15	69 20	do do do
Wm. H. Murray.....	40	do 8.....	72 55	10 76	Screw do do do
Mary Queen.....	350	do 15.....	539 40	51 12	Paddle do do do
Storm King.....	70	May 4.....	107 87	16 56	Screw do do do
Electra.....	40	do 7.....	106 96	16 48	do do Charlottet'n, P.E.I.
Wm. Aitken.....	40	do 8.....	74 87	11 00	do do do
Alameda.....	70	do 8.....	33 93	7 72	do do do
Montague.....	75	do 10.....	129 55	18 32	Paddle do Georgetown.
Frank C. Batt.....	40	do 12.....	32 90	7 56	Screw do Summerside.
Tourist.....	40	do 18.....	16 15	6 28	do do St. John.
Lillie.....	64	do 3.....	71 64	10 76	do do do
Flushing.....	250	do 29.....	257 09	28 56	do do do
Viking.....	200	June 4.....	127 70	18 24	do do St. Andrews.

I. J. OLIVE, Hull Inspector, &c.

Marine and Fisheries—Marine Branch.

STEAM VESSELS not inspected for the year ended 30th June, 1897.

NEW BRUNSWICK & PRINCE EDWARD ISLAND DIVISION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	REMARKS. Why not Inspected and Class of Vessel.
Elfin.....	122·42	34·23	Not applied for, paddle.
Southport	239·92	186·15	do do do
Delta	19·93	12·12	Unable to get to her, screw.
Olivette (Am.).....	1,611·42	1,104·90	Not applied for do
May Queen.....	35·92	17·94	

I. J. OLIVE,
Hull Inspector, &c.

STEAM Vessels inspected for the year ended 30th June, 1897.

BRITISH COLUMBIA DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Number of Passengers allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees paid.		Class of Vessel and where employed.
				\$	cts.	
1897.						
Thompson	40	July 1	149 80	20	00	Stern-wheel; Kamloops Lake.
Selkirk		do 1	58 49	9	64	do yacht; Kamloops Lake.
Fawn	15	do 1	32 70	7	64	Screw; Kamloops Lake.
Gwendoline	15	do 9	90 59	12	28	Stern-wheel; Kootenay River.
Duchess	30	do 2	145 48	19	60	do Columbia River.
Hyak	15	do 5	39 04	8	12	do do
Lardeau	12	do 12	9 60	5	80	Screw; Columbia River.
City of Himsworth	50	do 11	193 49	23	44	Stern-wheel; Kootenay Lake.
Nelson	125	do 16	496 01	47	68	do do
Red Star		do 16	14 81	6	20	Screw do
Galena		do 17	47 64	8	84	do do
Kaslo	15	do 12	51 17	9	08	do do
Idaho		do 17	6 04	5	48	do do
Lytton	125	do 18	451 66	44	16	Stern-wheel; Columbia River.
Nakusp	180	do 19	1,083 13	94	64	do do
Trail	40	do 22	662 77	61	04	do do
Illecillewaet	35	do 18	97 92	12	84	do do
Aberdeen	200	do 24	554 04	52	32	do Okanagan Lake.
Wm. Hunter	25	do 21	50 67	9	08	Twin screw; Slocan Lake.
Hope	12	do 22	78 49	11	32	Screw tug; B. C. Waters.
1897.						
Joan	400	Aug. 3	821 21	73	68	Twin-screw; B. C. waters, passenger.
Delta		do 4	14 90	6	20	Screw tug; fishing, Fraser River.
Mamie	12	do 4	89 60	12	20	do B. C. waters.
May Queen		do 4	14 10	6	12	do fishing, Fraser River.
Gemini		do 5	8 15	5	64	do do do
Buzz		do 5	12 59	6	04	do do do
Belle	12	do 6	66 62	10	36	do B. C. waters.
Senator	30	do 11	27 63	7	24	Screw; ferry, Burrard Inlet.
Dreadnaught		do 8	32 84	7	64	do tug, B. C. waters.
Courser	100	July 9	160 79	20	88	Stern-wheel; Fraser River.
Clara Young		Aug. 26	30 75	7	48	Screw-tug do
Fairy Queen		do 26	24 94	7	00	Stern-wheel; Fraser River.
Donny		do 26	14 64	6	20	Screw-tug; do
Leonora		do 26	33 00	7	64	do do
Tees	71	do 29	569 24	53	52	Screw; freight & pass., B. C. waters.
Clayoquot	12	May 29	87 18	5	00	Special for passengers.
City of Nanaimo	500	Sept. 4	761 37	68	88	Twin-screw; fish. & pass. B. C. waters.
Yosemite	400	July 5	1,525 03	130	00	Paddle do do
Water Lily		Sept. 15	73 81	10	92	Stern-wheel; water boat, Esquimalt.
Enterprise		do 16	12 02	5	96	Screw; fishing tug.
Denver		do 16	8 51	5	72	do cruising, Slocan Lake.
Spray		do 17	7 36	5	56	do do B. C. waters.
Mystery	20	do 26	64 80	10	20	do tug, B. C. waters.
Gipsy		do 29	10 06	5	80	do do fishing, Fraser River.
Stampede		do 30	11 96	5	96	do cruising, Frederick Arm.
Vancouver		do 26	49 96	9	00	do tug, B. C. waters.
Skidegate	20	Oct. 8	37 08	7	96	do do do
International	300	do 15	525 55	50	08	Stern-wheel; pass. Kootenay Lake.
Arrow		do 17	4 50	5	40	Screw; tug, Slocan Lake.
Columbia		do 20	49 84	9	00	do do Columbia River.
Penticton		do 22	49 69	9	00	do do Okanagan Lake.
Rainbow	35	Aug. 3	207 21	24	64	do freight & pass., B. C. waters.
1896.						
Robt. Dunsmuir	75	Dec. 31	231 75	26	56	Screw; freight & pass., B. C. waters.
1897.						
Emmeline		Oct. 29	5 39	5	40	Screw; tug, fishing, Burrard Inlet.
Thistle	12	do 12	222 36	25	76	do freight, B. C. waters.

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—British Columbia Division—*Continued.*

BOILERS AND MACHINERY—*Continued.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Vachie		Oct. 12	9 97	5 80	Screw; cruising, B. C. waters.
Maude	12	do 18	174 99	22 00	do freight do
Delta		Nov. 7	25 20	7 00	do do do
Islander	450	July 25	1,495 09	127 60	Twin screw; fgt. & pass., B.C. waters.
Etta White	15	Sept. 25	97 35	12 76	Screw; tug, B. C. waters.
Saturna		Oct. 15	22 05	6 76	do do do
Kildonan		do 9	51 41	9 08	do do do
Princess Louise	98	Oct. 25	931 76	82 56	Paddle, freight and pass., B. C. water.
		1898.			
Barbara Boscowitz ..	150	Jan. 4	269 08	29 52	Screw do do do
Prunette		do 11	37 03	10 92	Screw, tug, 2 years dues.
Iris		do 11	19 32	8 20	do 2 do
Robt. Dunsmuir	50	Feb. 1	231 75	26 56	Twins-crew, fr't. & pass., B.C. waters
Surrey	50	do 15	263 26	29 04	Paddle, ferry, Fraser River.
North Star		do 17	8 21	5 64	Screw, tug, fishing, Fraser River.
Winnetta		do 17	23 53	6 92	do do do
		1897.			
Danube	300	Oct. 11	886 89	78 96	Screw, freight and pass., B.C. waters.
		1898.			
Edith		Mar. 1	41 87	8 36	Screw, tug, rivers and inlets.
Capitano	25	do 1	231 14	26 48	Screw, freight, B. C. waters.
Coquitlam	50	do 1	256 33	28 48	do do
Gipsy		do 3	49 63	9 00	Stern-wheel, Fraser River.
Constance	12	do 17	49 52	9 00	Screw, tug do
Tepic	15	do 20	70 87	10 68	do B. C. waters.
Burt	20	do 11	50 41	9 00	Screw, passenger, Howe Sound.
Autolycus		do 20	25 47	7 00	Screw, yacht, B.C. waters.
Gladys	60	do 22	211 23	24 88	Stern-wheel, fr't & pass., Fraser River
Transfer	120	do 22	264 16	29 12	do do do
Erie		do 22	26 72	7 16	Screw, tug, Fraser River.
Bon Accord	45	do 22	84 15	11 72	Stern-wheel do
Telephone		do 24	80 66	11 48	do do
Brant		do 24	18 66	6 52	Screw, tug do
Lorne	20	do 15	287 96	31 04	do B. C. waters.
Muriel		do 30	44 13	8 52	do do
Chehalis	15	April 3	53 75	9 32	do do
Florence		do 14	9 15	5 72	do fishing, B. C. waters.
Daisy	12	do 17	60 10	9 80	do B. C. waters.
City of Columbia ..		do 23	25 63	7 08	do do
Fraser		do 23	36 20	7 88	do do
Blonde		do 24	32 64	7 64	do do
		1897.			
R. P. Rithet	81	Oct. 15	816 69	73 36	Stern-wheel, Victoria & Westminster.
		1898.			
Lottie		April 27	29 24	7 32	Screw, tug, coast, B.C.
Sadie	28	May 3	49 30	8 92	do do
Jenny June		do 4	4 24	5 32	do do
Agnes		do 5	22 70	6 84	do do
Nagasaki		do 5	15 13	6 20	do do
Reliance		do 5	36 14	7 88	do do
Active	20	do 6	171 74	21 76	do do
Oscar		do 7	95 42	12 60	do freight, coast, B.C.
Czar	15	do 7	152 18	20 16	do coast, B. C.
Alert	12	do 8	43 81	8 52	do do
Lois	12	do 7	25 15	7 00	do do
Comox	140	do 6	101 17	16 08	Screw, passenger, coast, B. C.

STEAM Vessels inspected, &c.—British Columbia Division—*Concluded.*BOILERS AND MACHINERY—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid	Class of Vessel and where Employed.
		1897.		\$ cts.	
Charlotte.....	30	May 13.....	217 06	25 36	Stern-wheel, Upper Fraser River.
Marion.....		do 18.....	14 78	6 20	do Columbia River.
Kootenay.....	350	do 18.....	1,117 09	97 36	do do
Slocan.....	300	do 19.....	578 03	54 24	do Slocan Lake.
Surprise.....		do 21.....	14 80	6 12	Screw, tug, Kootenay Lake
Kokanee.....	200	do 21.....	347 50	35 84	Stern-wheel do
Alberta.....	200	do 23.....	508 15	48 64	do do
Angerona.....		do 24.....	13 79	6 12	Screw, cruising do
Edgar.....	50	June 1.....	165 13	21 20	Stern-wheel, Fraser River.
Willie.....	27	do 1.....	82 60	11 64	do Harrison Lake.
Stella.....		do 1.....	16 32	6 28	Screw, tug, Fraser River.
Stranger.....		do 2.....	21 26	6 68	do do
Sunbury.....	30	do 2.....	37 72	8 04	Twin-screw tug do
Alarm.....		do 3.....	33 91	7 72	Screw, tug, coast, B.C.
Mischief.....	86	May 7.....	65 49	10 28	Screw, passenger, Harbour, Victoria.
Magnet.....		June 24.....	23 72	6 92	Screw, tug, coast, B.C.
Swan.....		do 4.....	16 65	6 36	do do
Duchess.....	30	do 5.....	145 48	19 60	Ster -wheel, Columbia River.
Hyak.....	15	do 6.....	39 04	8 12	do do
Gwendoline.....	50	do 7.....	90 59	12 28	do Kootenay River.
Advance.....		do 11.....	35 75	7 88	Screw, tug, coast, B.C.
Florence.....	124	do 23.....	59 44	9 80	Stern-wheel, Victoria Harbour.
Clayoquot.....	12	do 22.....	87 18	11 96	Screw, tug, coast, B.C.
Delta.....		do 23.....	14 90	6 20	do Fraser River.
Joe Adams.....		do 23.....	11 89	5 96	do do
May Queen.....		do 23.....	14 10	6 12	do do
Buzz.....		do 24.....	12 56	6 04	do do
Winnefred.....		do 24.....	12 96	6 04	do do
Eva.....		do 24.....	34 99	7 80	do do
Gipsy.....		do 24.....	10 06	5 80	do do
Wellington.....		do 24.....	16 30	6 28	do do
Ina.....		do 24.....	7 52	5 64	do do
Fingal.....		do 26.....	90 69	12 28	Screw, freight, coast, B.C.
Staffa.....		do 26.....	51 30	9 08	do do
Comet.....	12	do 15.....	85 26	11 80	Screw, tug do
Cleeve.....		do 25.....	35 94	7 88	do do
Charmer.....	500	do 22.....	1,044 41	91 52	Screw, freight and pass., coast, B.C.
Total.....			23,464 42	2,714 08	

J. A. THOMSON.
Steamboat Inspector, Victoria, B.C.

Marine and Fisheries—Marine Branch.

STEAM VESSELS not inspected for the year ended 30th June, 1897.

BRITISH COLUMBIA DIVISION.

BOILERS AND MACHINERY.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. — Why not Inspected, and Class of Vessel.
Bella.....	8·01	5·61	Fishing tug, laid up.
Evangeline.....	13·86	8·79	Missionary yacht, laid up.
Jessie.....	5·65	3·90	Screw yacht,
Lilly.....	33·38	27·74	do tug,
Nanaimo.....	70·79	44·61	Stern-wheel,
Popcum.....	12·64	7·97	Side-wheel,
Spratt's Ark.....	307·88	143·04	Twin-screw,
Cora.....	25·12	17·07	Screw tug,
Maimie.....	9·21	5·70	do do
Morris.....	11·66	8·04	do do
Glad Tidings.....	43·02	27·15	Missionary yacht,
Dispatch.....	6·91	4·71	Screw-tug,
Katie.....	46	31·28	do freight,
Surprise.....	19·60	13·33	do tug,
Esporanza.....	30·88	21·31	do do
Mermaid.....	128·55	87·42	Twin-screw,
Horse Shoe.....	17·71	11·41	Screw-tug,
Nell.....	207·97	125·47	Twin-screw,
	998·84	594·55	

J. A. THOMSON,
Steamboat Inspector, Victoria, B.C.

STEAM Vessels inspected for the year ended 30th June, 1897.

BRITISH COLUMBIA DIVISION.

HULL INSPECTION.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
1897.				\$ cts.	
Mermaid	100	June 29	128 55	18 32	Twin-screw.
Joan	400	Aug. 3	821 21	73 68	do
Hope	12	do 3	78 49	11 32	Screw.
Mamie	12	do 4	89 60	12 20	do
Senator	30	do 11	27 63	7 24	do
Dreadnaught	27	June 8	32 84	7 64	do
Courser	100	July 9	160 79	20 88	Stern-wheel.
Belle	12	Aug. 6	66 62	10 36	Screw.
Tees	71	do 29	569 24	53 52	do
Clayoquot	12	May 29	87 15	5 00	do
City of Nanaimo	500	Sept. 4	761 37	68 80	Twin-screw.
Yosemite	400	July 6	1525 03	130 00	Paddle.
Mystery	20	Sept. 18	64 80	10 20	Screw.
Skidegate	20	Oct. 8	37 08	7 96	do
Rainbow	35	Aug. 3	207 21	24 65	do
Thistle	12	Oct. 12	222 36	25 76	do
1896.					
Robert Dunsmuir	75	Dec. 31	231 75	26 56	Twin-screw.
Maude	12	Oct. 18	174 99	22 00	Screw.
Islander	450	July 25	1495 09	127 60	Twin-screw.
Etta White	15	Sept. 25	97 35	12 76	Screw.
Princess Louise	98	Oct. 25	931 76	82 56	Paddle.
1898.					
Barbara Boscowitz	150	Jan. 4	269 08	29 52	Screw.
Robert Dunsmuir	50	Feb. 1	231 75	26 56	Twin-screw.
Surrey	50	do 15	263 26	29 04	Paddle.
1897.					
Danube	300	Oct. 11	886 89	78 96	Screw.
1898.					
Coquitlam	50	Mar. 1	256 33	28 48	do
Capiteno	25	do 1	231 14	26 48	do
Lorne	20	do 15	287 96	31 04	do
Constance	12	do 17	49 52	9 00	do
Tepic	15	do 20	70 87	10 68	do
Burt	20	do 11	50 41	9 00	Twin-screw.
Gladys	60	Mar. 22	211 23	24 88	Stern-wheel.
Transfer	120	do 22	264 16	29 12	do
Bon Accord	45	do 22	84 15	11 72	do
Daisy	12	April 17	60 10	9 80	Screw.
Chehalis	15	do 13	53 75	9 32	do
1897.					
R. P. Rithet	81	Oct. 15	816 69	73 36	Stern-wheel.
1898.					
Sadie	28	May 3	49 30	8 92	Screw.
Alert	12	do 8	43 81	8 52	do
Czar	15	do 7	152 18	20 16	do
Comox	140	do 6	101 17	16 08	do
Lois	12	do 7	25 15	7 00	do
Active	20	do 6	171 74	21 76	do
Comet	12	do 15	85 26	11 80	do
Edgar	50	do 19	165 13	21 20	Stern-wheel.
Willie	27	June 1	82 60	11 64	do

Marine and Fisheries—Marine Branch.

STEAM Vessels inspected, &c.—British Columbia Division—*Concluded.*

HULL INSPECTION—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Mischief	86	May 7....	65·49	10 28	Screw.
Sunbury	30	June 2....	37·72	8 08	do
Clayoquot	12	do 22....	87·18	11 96	do
		1897.			
Florence.....	124	June 23....	59·44	9 90	Stern-wheel.
		1898.			
Charnier.....	500	June 22....	1044·41	91 52	Screw.

R. COLLISTER,
Hull Inspector.

STEAM Vessels not inspected for the Year ended 30th June, 1897.

BRITISH COLUMBIA DIVISION.

HULL INSPECTION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks. Why not Inspected, and Class of Vessel.
Bella	8·01	5·61	Fishing tug ; laid up.
Evangeline	13·86	8·79	Missionary yacht ; laid up.
Jessie	5·65	3·90	Screw yacht ; laid up.
Lilly	33·38	27·74	do tug do
Nanaimo.....	70·79	44·61	Stern-wheel do
Popcum	12·64	7·97	Paddle do
Spratt's Ark.....	307·88	143·04	Twin screw do
Cora	25·12	17·07	Screw tug do
Maine	9·21	5·70	do do do
Morris	11·66	8·04	do do do
Glad Tidings	43·02	27·15	Missionary boat ; to be inspected.
Dispatch.....	6·91	4·71	Screw tug ; to be inspected.
Katie	46	31·28	do freight do
Surprise	19·60	13·33	do tug do
Esperanza	30·88	21·31	do do do
Horse Shoe.....	17·71	11·41	do do do
Nell	207·97	125·47	Twin screw do
Mermaid	128·55	87·42	do do

R. COLLISTER
Hull Inspector.

STEAM Vessels inspected for the year ended 30th June, 1897.

KEEWATIN, MANITOBA AND NORTH-WEST TERRITORIES DIVISION.

BOILERS AND MACHINERY AND HULL INSPECTION.

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1897.		\$ cts.	
Squaw		July 16	21 60	6 76	Screw, tug, Lake of the Woods.
Empress		do 17	129 28	18 32	do do do do
Ethel		do 17	9 57	5 80	do do do do
Heather Bell		Aug. 7	21 18	6 68	do do do do
Ida		do 14	18 57	6 52	do do do do Winnipeg.
W. C. Vanhorn		do 17	59 91	9 80	do do do of the Woods.
Rambler		July 22	25 83	7 08	do do do do
Rover		Oct. 26	7 82	5 64	do do fishing do
Ninsongus		July 28	7 60	5 64	Side paddle, alligator, Rainy Lake.
Maple Leaf	30	do 29	75 07	11 00	Screw, passenger do
Chieftain		Aug. 22	36 26	7 88	do tug, fish'g, Lake of the Woods.
Lady Brooks	22	do 28	6 34	5 48	do passenger, Lake Minnewauka.
Mountain Bell	16	do 29	90	5 08	do do Bow River.
Isabelle		Sept. 12	60 90	9 88	do tug, Lake Manitoba.
Victoria		Not issued	22 69	6 84	do do fishing, Lake Manitoba.
Hudson Bay Messenger		do	1 48	5 08	do Lake of the Woods.
Widgion		do	2 29	5 16	do do do
		1897.			
Lotta S.	30	May 18	48 03	8 84	do frgt. & pass., Lake of the W'ds.
W. C. Vanhorne	30	do 18	59 91	9 80	do do do do
Rambler		April 25	25 83	7 08	do tug do do
D. L. Mather		do 22	103 32	13 24	do do do do
Keewatin		do 30	41 25	8 28	do do do do
Shamrock	35	May 20	79 84	11 40	do pass. & frt., Rat Portage and Fort Francis.
Edna Brydges	60	April 30	176 05	22 08	do do do
Cathrine S.	25	do 29	66 60	10 36	do do do do
Ethel		May 20	9 57	5 80	do tug, fishing, Lake of the W'ds.
Mary Hatch		April 29	121 18	17 68	do do Lake of the Woods.
Daisy Moore		May 28	31 16	7 48	do do do do
Minnittonka		do 1	68 34	10 44	do do do do
Nora		April 30	20 23	6 60	do do do do
Monarch	60	May 21	167 64	21 44	Side paddle, pass. and freight, Rat Portage and Fort Francis.
Sunbeam		April 30	2 86	5 24	Screw, tug, fishing, Lake of the W'ds.
Rover		do 30	7 82	5 64	do do do do
Keemina	40	do 30	41 86	8 36	do ferry, Rat Portage & Keewatin.
Alma T.		May 19	15 78	6 28	do tug, Lake of the Woods.
City of Selkirk	50	do 4	457 82	44 64	do pass. & frt., Lake Winnipeg.
Ogema		do 11	62 05	9 96	do tug do do
Miles		do 10	63 04	10 04	do do fishing do
Premier	60	do 10	413 99	41 12	do pass. & freight do
Frank Burton		do 11	52 00	9 16	do tug, fishing do
Lady Ellen		do 11	18 57	6 52	do do do do
Idell		do 11	53 92	9 32	do do do do
Millie Howell		do 11	24 11	5 92	do do do do
Fisherman		do 11	44 22	8 52	do do do do
Aurora		Not issued	224 50	23 00	Side paddle, tug do
Red River	30	May 10	166 47	21 28	Screw, pass., & freight do
Lady of the Lake	Not issued	Not issued	201 43	24 16	do do do do
Ida		May 12	18 57	6 52	do tug do do
Keewatin		Not issued	15 03	6 20	do do do do
Ripple		May 10	9 83	5 80	Side paddle, tug do
Hazzle		do 11	7 52	5 64	Screw, tug, fishing do
Assiniboia	150	do 15	102 02	13 16	Stern paddle, passenger, Red River.
Phantom		June 5	55 86	9 48	Screw, pass. & frt., Lake of the W'ds.
Pastime		May 19	4 00	5 32	do tug and yacht do
Spray		June 2	8 98	5 72	do do fishing do

Marine and Fisheries—Marine Branch.

STEAM VESSELS inspected, &c.—Keewatin, Manitoba and North-west Territories
Division—*Concluded.*

BOILERS AND MACHINERY AND HULL INSPECTION—*Concluded.*

Name of Vessel.	Number of Passengers Allowed.	Date Certificate Expires.	Gross Tons.	Tonnage Dues and Inspection Fees Paid.	Class of Vessel and where Employed.
		1896.		\$ cts.	
Elenor.....		June 7....	1 97	5 16	Screw, tug, Lake of the Woods.
Queen.....		May 22....	31 64	7 56	do do do
Squaw.....		do 28....	21 60	6 76	do do do
Regina.....		do 25....	6 78	5 56	do do do
Josie.....		June 30....	12 42	5 96	do do do
Empress.....		do 1....	129 28	18 32	do do do
Sultana.....		do 5....	3 35	5 24	do do do
May.....		do 30....	11 08	5 88	do do fishing do
Jenny Lind.....		do 30....	5 81	5 48	do do do
Heather Bell.....		do 30....	21 18	6 68	do do do
Cruiser.....		do 4....	11 59	5 96	do do do
Mikado.....		do 5....	24 92	7 00	do do do
William Whyte.....		do 28....	17 81	6 44	do do Lake Wabigoon.
Una.....		do 11....	19 42	6 52	Stern, paddle do
Mocking Bird.....		do 11....	38 02	8 04	Screw, tug, Lake Superior.
Zephyr.....		do 12....	19 27	6 52	do pleasure yacht, Thunder Bay.
Kate Marks.....		do 21....	54 15	9 32	do tug, Lake Superior.
Mary Arm.....		do 21....	86 86	11 96	do do do
Salty Jack.....		do 21....	44 62	8 60	do do do
Georgina.....		do 22....	43 78	8 52	do do do
Jas. Mayhew.....		Not issued..	16 94	6 36	do do do
Zena.....		do	6 66	5 56	do do Lake Allan.
Arcadia.....		June 23....	23 16	6 85	do do fishing, Lake Superior.
Ida.....		do 23....	19 37	6 53	do do do do
Minoto.....		do 21....	34 95	7 80	do do do do
Clara.....		do 21....	11 51	5 96	do do do do
Maria C.....		Not issued..	5 16	5 40	do do do do
Siskiwett.....	25	June 23....	47 17	8 76	do pass. & freight do
Brothers.....		do 22....	17 50	6 44	do tug, fishing do
Widgeon.....		do 28....	7 95	5 64	do do do Lake Wabigoon.
The Sport.....		do 26....	16 26	6 28	do do Lake of the Woods.
Gordon M.....		do 30....	3 01	5 24	do do do do
Minnehaha.....		Not issued..	2 42	.....	do do Lac des Milles Lacs.
Fida.....		do	2 37	.....	do do Jackfish Bay.
Total.....			4,418 47	815 46	

STEAM VESSELS not inspected for the year ended 30th June, 1897.

KEEWATIN, MANITOBA AND NORTH-WEST TERRITORIES DIVISION.

Name of Vessel.	Gross Tonnage.	Registered Tonnage.	Remarks : Why not Inspected, and Class of Vessel.
Graham.....	332 18	105 04	Too far to go ; did not have time.
Athabaska	166 73	25 58	do do
Wrigley	90 04	60 32	do do
North-west.....	425 00	305 00	do do
St. Joseph.....	49 13	33 41	do do
Sultana.....	357 55	243 13	do do
Harry Montgomery.....	3 65	2 91	To be inspected.
Angler.....	16 16	10 99	do
Ethel Banning.....	37 54	25 53	Not in use.
Beaver.....	34 51	23 22	To be inspected.
Lillian	1 61	1 10	do
Annie Mc.....	13 42	11 10	do was not ready.
Water Witch.....	2 21	1 49	do do
Agnes.....	5 30	3 60	do do
Osprey.....	14 47	9 84	do do
Dolphin	12 63	8 59	do do
St. Alphonse.....	Not survey'd	.....	On McKenzie River ; did not have time.
Northern Bell.....	do	.....	At Prince Albert do
Josie.....	do	.....	do do
Total.....	1,562 13	870 85	

GEO. P. PHILLIPS,
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and how employed.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Corona	309·84	Paddle	Steel	1,274	649	Toronto	Passenger, Toronto and Lewiston.
Topsy	4·53	Screw	Wood	9	6	Midland	Pleasure yacht, Georgian Bay.
Cyclone	2·13	do	do	44	30	Ahmie Harbour	Tug, Maganetawan River.
Herbert	4·8	do	do	21	10	Sault Ste. Marie	Tug, Ste. Marie's River.
Shamrock	1·63	do	do	14	10	Collingwood	Fish tug, Lake Superior.
Cynthia	4·8	do	do	35	24	do	Fish tug, Georgian Bay.
Julian and O'Brien	13·33	do	do	59	31	Buffalo	Tug, Georgian Bay.
Creole	3·33	do	do	21	14	Midland	Tug, Georgian Bay.
	344·39			1,477	774		

JAMES JOHNSTON,
Toronto.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, 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, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Belle	3.33	Screw	Wood	16	8	Port Burwell	Lake Erie, fishing tug.
A. D. Cross	10.80	do	do	47	32	do Colborne	Welland Canal, tug.
Sandford	8.53	do	do	56	38	Goderich	Lake Huron, tug.
Jubilee	5.44	do	do	10	7	Algonac, U. S.	Rondeau Bay, passenger.
G. W. Parker	4.03	do	do	12	8	Buffalo, U. S.	Detroit River, tug.
	32.13			141	93		

JOHN DODDS,
Toronto.

Marine and Fisheries—Marine Branch.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

EASTERN ONTARIO DIVISION.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Majestic.....	2-70	Screw ..	Wood.....	67-87	52-78	Young's Point, Ont.	Waters Victoria and Peterboro, passg'r
Jessie Forward.....	0-67	do	do	5-64	3-84	Mill Haven, Ont.....	Bay of Quinte, passenger.
Hydra.....	0-67	do	do	5-70	3-67	Trenton, Ont.	do fishing tug.
Trent.....	2-13	Saddle.....	do	19-51	12-30	Simcoe, Ont.....	do alligator tug.
Marmora.....	1-08	Screw.....	do	12-96	8-82	Marmora.....	Crow Lake, passenger.
Eclipse.....	2-13	do	do	17-94	12-41	Peterboro, Ont.....	Rice Lake and tributaries, passenger.
Jubilee.....	2-70	do	do	53-94	36-68	Portsmouth, Ont.....	Trenton and Prescott do
Fidelia.....	0-83	do	do	8-56	5-82	Kingston, Ont.....	Pleasure yacht.
Rosemount.....	160-83	do	Steel.....	1,580-37	980-28	Newcastle-on-Tyne, G.B.	All lakes, freight and passenger.
	173-74			1,772-39	1,125-50		

THOS. P. THOMPSON,
Steamboat Inspector.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

MONTREAL DIVISION.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how employed.
G. B. Greene.....	34.13	Paddle.....	Steel.....	254.81	218.25	Quyong.....	Tug, Lake Deschenes.
D. B. Mulligan.....	4	Screw	Wood	76.69	45.62	Pembroke	Ferry, Pembroke and Desjardins.
Beatrice B.	18.4	do	do	58.63	43.11	Ottawa.....	do Ottawa and Hull.
				390.13	306.98		

WM. LAURIE.

Marine and Fisheries—Marine Branch.

STATEMENT of the number of Steam Vessels added to the Dominion during the Year ended 30th June, 1897, their Class and horse-power, whether of iron or wood, their gross and registered tonnage, where built, and where and how employed.

QUEBEC DIVISION.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Register'd Tonnage.	Where Built.	Where and how Employed.
Champion.....	26-13	Pad. pass. beam eng ^s Steel.....	Steel.....	481-83	303-55	St. Jos., Levis, 1897.	Paddle, pass., Quebec & Berthier (below).
Fabiola.....	5-33	Screw, wrecking.....	Wood.....	81-48	.....	Anse St. Jean, 1893.	Wrecking schooner, Montreal and Gulf.
Nile.....	21-03	do pleas. trip. ex.	do.....	27-00	.....	Sorel.....	Screw, pleasure yacht, River St. Lawrence
Pierreville.....	8-53	Paddle.....	do.....	42-42	20-34	St. Thos. of Pierreville, 1896.	Side-wheel tug, Pierreville & Sorel.
Temiscouata.....	2-07	Screw.....	do.....	10-41	7-08	Rivière du Loup, '92.	Screw tug, Quebec Harbour.
	61-99			643-14	307-97		

JOS. SAMSON,
Engine and Boiler Inspector.
PIERRE D. BRUNELLE,
Hull Inspector.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

HALIFAX DIVISION.

Name of Vessel.	Horse-Power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Mascotte.....	18.24	Screw	Wood	35.40	24.07	Dartmouth, N.S.	Halifax Harbour, pleasure yacht.
Sea Bird	13.50	do	do	41.28	28.03	Liverpool, N.S.	Nova Scotia, coast fishing boat.
Bermuda.....	115.63	do	Iron.....	1,284.37	812.81	Sunderland, G.B.	Foreign, passenger and freight.
Westport.....	16.60	do	Wood	80.09	48.59	Shelburne, N.S.	Yarmouth and St. John, N.B., pass.
Leonore.....	1.20	do	do	15.23	5.43	Yarmouth, N.S.	Nova Scotia, coast fishing boat.
Star.....	3.74	do	do	6.07	4.13	Trenton, N.S.	Wallace Harbour, ferry boat.
Gem	0.83	do	do	6.00	4.23	Westport, N.S.	St. Mary's Bay, fishing boat.
	169.74			1,468.44	927.29		

JOHN P. ESDALLE,
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

NEW BRUNSWICK DIVISION.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how employed.
Princess.....	89.8	Screw . . .	Steel.....	541.79	252.14	Grangemouth, Scotland.	Passenger, Charlottetown, P.E.I., and Pictou, N.S.
Nelson.....	7.26	do	Wood.....	32.80	17.02	Charlottetown, P.E.I.	Tug, Charlottetown harbour.
Mildred.....	13.5	do	do	40.11	27.27	Queen's Co., N.B.	Tug, St. John River.
Frederick A.....	16.6	do	do	31.11	21.15	Pictou, N.S.	Tug, Richibucto, N.B.
Viking.....	17.3	do	do	127.70	86.84	Ashtabula, Ohio, U.S.A.	Passenger, St. Stephen, Campobello and intermediate ports.
G. K. King.....	16.8	do	do	45.48	30.93	King's Co., N.B.	Tug, St. John river.
Annie Currier.....	1.2	do	do	10.56	7.18	Oromocto, N.B.	do do
	162.26			829.55	442.53		

W. L. WARING,
Steamboat Inspector.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse-power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

BRITISH COLUMBIA DIVISION.

Name of Vessel.	Horse-power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
Fawn.....	6.6	Screw.....	Wood.....	32.70	22.24	Kamloops, B.C.....	Kamloops Lake, passenger,
Lardeau.....	1.4	do.....	do.....	9.60	6.53	Lardeau, B.C.....	Columbia River do
Trail.....	13	Stern-wheel.	do.....	682.77	417.56	Nakusp, B.C.....	do passenger and freight.
Tees.....	97.9	Screw.....	Steel.....	569.24	330.71	Stockton, Eng.....	British Columbia waters.
Water Lily.....	4.8	Stern-wheel.	Wood.....	73.81	50.20	Victoria, B.C.....	Esquimalt, water boat.
Enterprise.....	1.3	Screw.....	do.....	12.02	8.18	New Westminster.....	Fraser River, fishing.
Denver.....	3.1	do.....	do.....	8.51	5.79	do.....	Slocan Lake, cruising.
Gipsy.....	1	do.....	do.....	10.06	6.89	Seattle, U.S.A.....	Fraser River, fishing.
Stampede.....	3.5	do.....	do.....	11.97	8.14	Tacoma, U.S.A.....	Frederick Arm, cruising.
International.....	17	Stern-wheel.	do.....	525.55	280.75	Kaslo, B.C.....	Kootenay Lake, freight and passengers.
Columbia.....	16.6	Screw.....	do.....	49.84	33.90	Nakusp, B.C.....	Columbia River, tug.
Emmeline.....	5	do.....	do.....	5.39	3.66	Vancouver.....	Burrard Inlet, fishing.
Winneta.....	2	do.....	do.....	23.53	16	New Westminster.....	Fraser River do
Edith.....	8.4	do.....	do.....	41.87	26	Victoria.....	Rivers Inlet do
Chehalis.....	13.8	do.....	do.....	53.75	36.55	Vancouver.....	do do
Florence.....	1	do.....	do.....	9.15	6.23	Pt. Blakely, Wash., U.S.A.	Coast, B.C., towing.
Reliance.....	8.9	do.....	do.....	36.14	24.58	New Westminster.....	do do fishing.
Oscar.....	3.3	do.....	do.....	95.42	60.59	Victoria.....	Fraser River do
Czar.....	56.4	do.....	do.....	162.18	93	do.....	Coast, B.C., freight.
Charlotte.....	8	Stern-wheel.	do.....	217.06	77.23	Queenselle, B.C.....	do towing.
Kootenay.....	21.6	do.....	do.....	732.45	77.25	Nakusp, B.C.....	Upper Fraser, freight and passengers.
Slocan.....	17	do.....	do.....	578.03	364.16	Roseberry, Slocan Lake, B.C.	Columbia River do
Willie.....	4.2	do.....	do.....	82.60	55.94	Seattle, U.S.A.....	Slocan Lake do
Magnet.....	6.6	Screw.....	do.....	23.72	16.13	Vancouver.....	Harrison Lake do
Advance.....	3.3	do.....	do.....	36.75	24.31	Seattle, U.S.A.....	Rivers Inlet, fishing.
Cleave.....	8.9	do.....	do.....	35.94	24.45	New Westminster.....	do do
Bristol.....	274	do.....	Iron.....	1,983.15	1,274.40	Stockton-on-Tees, Eng.....	Victoria to Alaska, freight & passengers.
			Total.....	6,456.84	4,006.56		

J. A. THOMSON.
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

STATEMENT of the number of Steam Vessels added to the Dominion during the year ended 30th June, 1897, their class and horse power, whether of wood or iron, their gross and registered tonnage, where built, and where and how employed.

KEEWATIN, MANITOBA AND NORTH-WEST TERRITORIES DIVISION.

Name of Vessel.	Horse Power.	Class.	Wood, Iron or Steel.	Gross Tonnage.	Registered Tonnage.	Where Built.	Where and how Employed.
W. C. Vanhorn.....	3-33	Screw.....	Wood.....	59-91	21-74	Rat Portage.....	Lake of the Woods, passenger tug.
Rambler.....	1-20	do.....	Composite..	25-83	17-56	do.....	do passenger.
Cathrine S.....	4-03	do.....	Wood.....	66-60	45-29	do.....	do tug.
Ethel.....	1-20	do.....	do.....	9-57	6-51	do.....	Lake Winnipeg, passenger.
Lady of the Lake.....	16-06	do.....	do.....	201-43	115-10	Selkirk.....	do
Keewatin.....	4-00	do.....	do.....	15-03	11-09	do.....	Lake of the Woods, passenger.
Phantom.....	3-23	do.....	do.....	55-86	39-48	Keewatin.....	do
Spray.....	1-20	do.....	Composite..	8-98	4-39	Rat Portage.....	Lake of the Woods, passenger.
Josie.....	1-20	do.....	do.....	12-42	6-96	do.....	do
Sultana.....	0-53	do.....	do.....	3-35	2-83	do.....	do
May.....	1-20	do.....	Wood.....	11-08	7-20	Port Arthur.....	do
Jenny Lind.....	0-83	do.....	do.....	5-81	4-37	Owen Sound.....	do
Heather Bill.....	1-20	do.....	do.....	21-18	14-40	Rat Portage.....	do
Mikado.....	1-20	do.....	Composite..	24-92	16-86	do.....	do
Wm. Whyte.....	1-20	do.....	Wood.....	17-81	12-34	Wabigoon.....	do
Una.....	2-13	do.....	do.....	19-42	11-50	do.....	do
Zena.....	1-20	do.....	do.....	6-66	5-00	Port Arthur.....	Lake Allen.
Maud C.....	1-06	do.....	do.....	5-16	3-25	Rasport.....	Lake Superior, fishing tug.
The Sport.....	1-20	do.....	Composite..	16-26	11-64	Rat Portage.....	Lake of the Woods, tug.
Pastime.....	0-83	do.....	do.....	4-00	2-82	do.....	do yacht
Anne Mc.....	1-20	do.....	Wood.....	13-42	11-10	Port Arthur.....	Thunder Bay do
Water Witch.....	0-33	do.....	do.....	2-21	1-49	do.....	Lake Allen, tug.
Minnehaha.....	0-33	do.....	do.....	2-42	0-64	do.....	Lac Des Mille Lacs, tug.
Fida.....	0-33	do.....	do.....	2-37	1-89	Jack Fish.....	Jack Fish Bay, tug.
Agnes.....	0-53	do.....	do.....	5-30	3-60	do.....	do fishing tug.
			Total.....	627-00	419-05		

GEO. C. PHILLIPS,
Steamboat Inspector.

STATEMENT of Steam Vessels lost, broken up or laid up as unfit for service, in the Dominion, during the year ending 30th June, 1897, and where and how employed.

WEST ONTARIO DIVISION.

Name of Vessel.	Where and How Last Employed.	Gross Tonnage.	Class of Vessel and Reason of Unfitness.
Elgin.....	Lake Superior, fishing tug....	16	Screw, hull unfit for service.
Ethel May.....	Lake Muskoka, tug.....	4	do do do
Mary Beck.....	Georgian Bay, tug.....	16	do do do
Ontario.....	Lake Huron, tug.....	57	do do do
Kittie Haight.....	Detroit River, tug.....	60	do do do
Iris.....	Lake Huron, tug.....	9	do do do
Grace Darling.....	Georgian Bay, fishing tug....	28	do do do
Baltic.....	do passenger.....	1,324	Paddle, burned.
James Clark.....	do tug.....	48	Screw do
L. Shickluna.....	Lakes, freight.....	445	do sunk by collision.
Acadia.....	do passenger and freight..	806	do stranded on north shore of Lake Superior.
Victoria.....	Lake Huron, tug.....	3	do foundered on Georgian Bay.
Verbena May.....	do do.....	16	do stranded on east shore of Lake Huron.
Maganettawan.....	Georgian Bay, tug.....	187	do stranded near Byng Inlet.
Chicoutimi.....	Toronto Bay, passenger.....	110	Paddle, hull unfit for service.
		3,129	

JAMES JOHNSTON,
JOHN DODDS.

Toronto.

EAST ONTARIO DIVISION.

Mary Ellen.....	Waters Victoria and Peterborough, passenger.....	44 50	Screw, hull used up.
Swan.....	River St. Lawrence, passenger	24 31	do do
Triton.....	St. Lawrence canals, tug.....	11 11	do do
		79 92	

THOS. P. THOMPSON,

Steamboat Inspector.

MONTREAL DIVISION.

Reliance.....	Ottawa River, tug.....	84 36	Paddle, burnt.
Omata.....	St. Lawrence River, yacht.....	18 68	Screw do
Derrick No. 1.....	Montreal Harbour, derrick.....	100 00	Derrick, dismantled.
		203 04	

WILLIAM LAURIE,
LOUIS ARPIN,

Marine and Fisheries—Marine Branch.

STATEMENT of Steam Vessels lost, broken up or laid up, &c.—*Continued.*

QUEBEC DIVISION.

Name of Vessel.	Where and how Last Employed.	Gross Tonnage.	Class of Vessel and Reason of Unfitness.
Miramichi	Paddle, passenger, Montreal and Pictou	727·20	Steel, hull unfit for use.
Montmagny	Paddle, passenger	351·58	Wood do do
		1,078·78	

PIERRE D. BRUNELLE,
Hull Inspector.

JOS. SAMSON,
Engine and Boiler Inspector.

NOVA SCOTIA DIVISION.

Gulnare	Nova Scotia Coast, freight....	246·87	Wrecked near Canso, N. S., July, 1897.
Edith	Shubenacadie River do	52·17	Machinery taken out, made into a schooner.
Mascot	Halifax Harbour do	22·88	do do do lighter.
Magnolia	Bras d'Or Lakes, passenger ...	269·50	Burnt at anchor while laid up, Jan., 1897.
		582·42	

JOHN P. ESDAILE,
Steamboat Inspector, Halifax, N. S.

NEW BRUNSWICK AND PRINCE EDWARD ISLAND DIVISION.

Bellisle	St. John River, passenger....	155·44	Stern-wheel, worn out.
New City	Petitcodiac River, tug.....	78·38	Screw, burned.
Novelty	St. John do do	42·66	Paddle, old age.
W. E. Vroom	do do do	10·05	Screw, burned.
Coila	Foreign do freight....	325·45	do lost at sea.
St. Lawrence	Charlottetown to Pictou, pass..	845·63	Paddle, engines removed.
St. George	Miramichi River, tug	160·57	do do for new boat.
		1,618·18	

W. L. WARING,
Steamboat Inspector.

STATEMENT of Steam Vessels, lost, broken up, or laid up, as unfit for service, in the Dominion during the year ending 30th June, 1897, and where and how employed.

BRITISH COLUMBIA DIVISION.

Name of Vessel.	Where and How last Employ'd	Gross Tonnage.	Class of Vessel and Reason of Unfitness.
Georgie.....	Rivers Inlet, fishing.....	32·16	Screw-tug, lost.
Spinster.....	West Coast, freighting..	15·23	do lost.
Fairview.....	Okanagon Lake, freighting...	42·58	Stern-wheel, burnt.
Cutch.....	Vancouver & Nanaimo, pass..	324·27	Screw, boiler condemned.
Total.....		414·29	

J. A. THOMSON,
Steamboat Inspector.

KEEWATIN, MANITOBA AND NORTH-WEST TERRITORIES DIVISION.

Victoria.....	Tug, Lake of the Woods....	40·10	Screw, hull condemned, mach'y taken out.
Annie Mc.....	do do	25·22	do do do
Hud. B. Messenger..	do do	1·48	do do do
C. A. Neilson.....	do do	3·84	do do do
Swallow.....	Passenger do	137·90	Stern-wheel, wrecked on the Big Traverse of the Lake of the Woods, Aug. 14, '96
Total.....		208·54	

GEO. P. PHILLIPS,
Steamboat Inspector.

Marine and Fisheries—Marine Branch.

List of Certificates of Competency granted to Engineers of Steamboats, during the year ended 30th June, 1897.

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was Passed.	Fees.
	1896.					\$ cts.
1934	July 3.	Mitchell Kinville.	Permit.	Brockville, Ont.	Kingston.	2 00
1935	do 4.	Theophile Côté.	do	Grandes Piles, Que.	Grandes Piles.	2 00
1936	do 4.	Peter Brown.	do	Quebec.	Quebec.	2 00
1937	do 4.	Geo. Stevens.	do	Napanee, Ont.	Kingston.	2 00
1938	do 6.	Wm. Ed. Simpson.	2nd Class.	West Selkirk, Man.	Winnipeg.	5 00
1939	do 9.	Jonathan Hymers.	4th do	Parry Sound, Ont.	Parry Sound.	5 00
1940	do 15.	Jno. Jas. Sinnott.	3rd do	Penetanguishene, Ont.	Toronto	5 00
1941	do 15.	Clement Mondville.	Permit.	Thurso, Que.	Montreal.	2 00
1942	do 15.	Wm. Running.	do	Gananoque, Ont.	Kingston.	2 00
1943	Aug. 13.	Jno. Lackie.	do	Brockville, Ont.	do	2 00
1944	do 13.	Jno. Wm. Johnston.	do	Halifax, N.S.	Halifax	2 00
1945	do 13.	Richard Land.	do	Peterborough, Ont.	Kingston.	2 00
1946	do 13.	Jno. Ed. Bell.	do	Cæsarea, Que.	do	2 00
1947	do 13.	Robert Scott.	do	Peterborough, Ont.	do	2 00
1948	do 18.	Nelson H. Perkins.	3rd Class.	Ottawa, Ont.	Montreal.	5 00
1949	do 18.	Thos. Nicholas Fader.	4th do	Yarmouth, N.S.	Halifax	5 00
1950	do 28.	Jas. Tennant McKee.	2nd do	do	do	5 00
1951	do 26.	Wm. Thos. Windsor.	Permit.	Callendar, Ont.	Callendar.	2 00
1952	do 26.	Peter Power.	1st Class.	Halifax, N.S.	Halifax.	5 00
1953	do 28.	Edward Green.	4th do	Windsor, Ont.	Toronto.	5 00
1954	do 29.	Jos. Demeule.	Permit.	Montreal, Que.	Montreal.	2 00
1955	Sept. 16.	Oscar Earle.	do	Gananoque, Ont.	Kingston.	2 00
1956	do 16.	Almond Stevens.	do	Westport, Ont.	do	2 00
1957	do 16.	Sam. Prior James.	do	Combermere, Ont.	Montreal.	2 00
1958	do 16.	Daniel Kelly.	4th Class.	Victoria, B.C.	Victoria.	5 00
1959	do 18.	Marshall Almon Putney.	Permit.	North Hatley, Que.	Montreal.	2 00
1960	do 21.	Wm. O'Mara.	do	Smith's Falls, Ont.	Smith's Falls.	2 00
1961	do 21.	Alfred Bisnett.	4th Class.	Prescott, Ont.	Prescott.	5 00
1962	do 24.	James Wallace.	3rd do	Victoria, B.C.	Victoria.	5 00
1963	do 24.	Jno. T. Reid.	4th do	Montreal, Que.	Montreal.	5 00
1964	do 24.	Henry Bennett.	4th do	Victoria, B.C.	Victoria.	5 00
1965	Oct. 1.	Jos. Howard White.	4th do	Halifax, N.S.	Halifax.	5 00
1966	do 7.	Henry Fraser McKay.	4th do	New Glasgow, N.S.	do	5 00
1967	do 7.	Frank Leslie Goudey.	4th do	Yarmouth, N.S.	do	5 00
1968	Sept. 7.	Walter Peverill.	4th Class.	Halifax, N.S.	Halifax, N.S.	5 00
1969	do 24.	Nelson Stone.	Permit.	Gore Bay, Ont.	Gore Bay.	2 00
1970	do 24.	Clarence Fuller Golden.	3rd Class.	Yarmouth, N.S.	Halifax, N.S.	5 00
1971	do 24.	Jno. Julian Ewing.	2nd do	U.K. Halifax, N.S.	St. John, N.B.	5 00
1972	Nov. 10.	Jonathan Gillies.	4th do	Sault Ste. Marie, Ont.	Slt. Ste. Marie	5 00
1973	do 10.	Jno. Augustus McKian.	4th do	Deseronto, Ont.	Kingston, Ont.	5 00
1974	do 11.	Mathew Shea.	3rd do	Little Current, Ont.	Little Current	5 00
1975	do 11.	Jno. Osborne.	4th do	Toronto, Ont.	Toronto	5 00
1976	do 11.	Constant Lacoanet.	Permit.	Sorel, Que.	Sorel, Que.	2 00
1977	do 11.	Jos. O'Charley Duguay.	do	St. Felicien, Que.	Quebec	2 00
1978	do 21.	Robt. Lewis Brown.	3rd Class.	Banff, Alberta, N.W.T.	Banff, N.W.T.	5 00
1979	do 24.	John Sutherland.	3rd do	McKenzie River.	Winnipeg.	5 00
1980	Dec. 16.	Jas. Hen. Hayter.	3rd do	St. John, N.B.	St. John.	*
1981	do 16.	Fred. Augustus Weddleton.	4th do	Yarmouth, N.S.	Halifax.	5 00
1982	do 16.	Henry Naas.	Permit.	Lunenburg, N.S.	do	2 00
1983	do 19.	Joseph Lepage.	4th Class.	Village Bienville.	Quebec.	5 00
1984	do 19.	Thos. Gagnon.	Permit.	Ste. Anne, Que.	St. Anne, Que.	2 00
1985	do 22.	Thos. Robt. Cormick.	4th Class.	Charlottetown, P.E.I.	Halifax.	5 00
1986	do 23.	Robt. Hen. Veech.	3rd do	Garden Island, Ont.	Kingston.	5 00
	1897.					
1987	Jan. 4.	Jno. Toppings.	2nd do	Deseronto, Ont.	do	5 00
1988	do 4.	Robert Byers.	4th do	Nanaimo, B.C.	Victoria, B.C.	5 00
1989	do 4.	Jos. Wm. Dobeson.	4th do	do	do	5 00
1990	do 18.	Alex. Hicks.	4th do	Dunnville, Ont.	Toronto, Ont.	5 00
1991	do 18.	Jas. Ross.	4th do	Port Elgin, Ont.	do	5 00
1992	do 18.	Hen. McElroy.	4th do	Wiarton, Ont.	do	5 00
1993	do 16.	Jacob Walters.	4th do	Owen Sound, Ont.	do	5 00
1994	do 18.	Jos. Trottier.	3rd do	Montreal, Que.	Montreal.	5 00

List of Certificates of Competency granted to Engineers of Steamboats, &c.—*Con.*

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
1897.						
1995	Jan. 18.	Jacob York Baker	2nd Class	Sarnia, Ont.	Toronto, Ont.	5 00
1996	do 18.	Stephen Burgess	2nd do	Owen Sound, Ont.	do	5 00
1997	do 18.	Jno. McRae	2nd do	Penetanguishene, Ont.	do	5 00
1998	do 27.	Adolphe Derouin	4th do	Hull, Que.	Ottawa	5 00
1999	do 27.	Robt. Duke Prettie	4th do	Kingston, Ont.	Kingston, Ont.	5 00
2000	do 27.	Jno. Thos. Myler	4th do	Collingwood, Ont.	Toronto, Ont.	5 00
2001	do 27.	Burton Francis Dunn	4th do	Vancouver, B.C.	Dunnville, Ont.	5 00
2002	Feb. 3.	Donald Kingston	3rd do	Chatham, N.B.	St. John	5 00
2003	do 3.	Horace Lee Waring	3rd do	St. John, N.B.	do	5 00
2004	do 3.	John Hen. Hewson	3rd do	Hamilton, Ont.	Toronto	5 00
2005	do 3.	Robt. Toloer Postle	4th do	Owen Sound, Ont.	do	5 00
2006	do 23.	Thos. Robert Whiteley	Permit.	Sombra, Ont.	Sombra	2 00
2007	do 23.	Louis Petit	3rd Class	Sorel, Que.	Montreal	5 00
2008	do 23.	Wm. Ernest Cates	3rd do	Vancouver, B.C.	Victoria, B.C.	*
2009	do 23.	Frank Cleland	2nd do	Collingwood, Ont.	Toronto	5 00
2010	do 23.	Jas. Alex. Findlay	2nd do	East Toronto, Ont.	do	5 00
2011	do 23.	Lawson Burton Cronk	2nd do	Dresden, Ont.	do	5 00
2012	do 23.	David Brocher	4th do	Village Lauzon, Que.	Quebec	5 00
2013	do 23.	Joseph Amyot	4th do	St. Sauveur, Que.	do	5 00
2014	do 23.	Hen. Cartledge	4th do	Halifax, N.S.	Halifax	5 00
2015	do 25.	Benj. Jos. Gibson	4th do	Kingston, Ont.	Kingston	5 00
2016	do 23.	Luke Whalen	4th do	do	do	5 00
2017	Mar. 19.	Chas. A. Shephard	3rd do	Georgeville, Que.	Montreal	5 00
2018	do 24.	Oliver Lafleur	4th do	Sorel, Que.	Sorel	5 00
2019	do 24.	Daniel Allan Boyd	4th do	Owen Sound, Ont.	Toronto	5 00
2020	do 24.	Geo. Stewart Bigger	4th do	Oxenden, Ont.	do	5 00
2021	do 24.	Geo. Young Malcolm	4th do	Toronto, Ont.	do	5 00
2022	do 24.	Wm. Shaw Marsh	4th do	East Toronto, Ont.	do	5 00
2023	do 24.	Ed. Caulfield	3rd do	Vancouver, B.C.	Victoria	5 00
2024	do 24.	Charles Sauvageau	3rd do	Village Lauzon, Que.	Quebec	5 00
2025	do 29.	Ildebert Côté	3rd do	St. Henry, Que.	Montreal	5 00
2026	do 29.	Geo. Booth	2nd do	Kingston, Ont.	Kingston	5 00
2027	do 29.	Wm. Harwood	2nd do	Toronto, Ont.	Toronto	5 00
2028	do 29.	Michael Daniel Tetro	2nd do	Kingston, Ont.	Kingston	5 00
2029	do 29.	John Angus Sutherland	4th do	Halifax, N.S.	Halifax	5 00
2030	April 2.	Chas. Edward Pearce	4th do	Dartmouth, N.S.	do	5 00
2031	do 2.	Alex. Jenkins	4th do	do	do	5 00
2032	do 2.	John Kennedy	3rd do	Garden Island, Ont.	Kingston	5 00
2033	do 7.	Arthur Davis	Permit	Poole's Resort, Ont.	do	2 00
2034	do 8.	Nelson Stone	do	Gore Bay, Ont.	Gore Bay	2 00
2035	do 8.	Duncan Alex. Robertson	do	Ottawa, Ont.	Montreal	2 00
2036	April 12.	Nap. Lamothe	4th Class.	St. Nicholas, Que.	Quebec	5 00
2037	do 15.	Wm. Towles	Permit	Tyendinaga, Ont.	Kingston	2 00
2038	do 15.	John Dexter Adams	do	Parry Sound, Ont.	Parry Sound	2 00
2039	do 15.	Octave Labaye	3rd Class.	Village Bienville, Que.	Quebec	5 00
2040	do 15.	Etienne Thomas	4th do	Longueuil, Que.	Montreal	5 00
2041	do 26.	David Bishop	3rd do	Rat Portage, Ont.	Rat Portage	5 00
2042	do 26.	Jos. Blanchet	Permit	Village Lauzon, P. Q.	Quebec	2 00
2043	do 26.	Jno. Chas. Burkitt	do	Little Current, Ont.	Toronto	2 00
2044	do 26.	Fredk. William Richardson	do	Deer Island, N. B.	St. John	2 00
2045	do 28.	John Piele Nelson	1st Class, U.K.	Hantsport, N. S.	Halifax	5 00
2046	do 29.	Wm. Henry Fitzgerald	4th do	Georgetown, P. E. I.	do	5 00
2047	do 26.	Wm. Geo. Scott	3rd do	Halifax, N. S.	do	5 00
2048	May 3.	Archd. Marques Mains	4th do	Toronto, Ont.	Toronto	5 00
2049	do 3.	Lewis Matthews	4th do	Windsor, Ont.	Windsor	5 00
2050	do 4.	Jas. Ross	Permit	Southampton, Ont.	Southampton	2 00
2051	do 6.	Geo. North	do	Halifax, N. S.	Halifax	2 00
2052	do 6.	Hilbert Chas. Harris	do	Gore's Landing, Ont.	Kingston	2 00
2053	do 6.	Donald Andrew Chisholm	3rd Class.	Rat Portage, Ont.	Rat Portage	5 00
2054	do 14.	Martin Graber	Permit	Pembroke, Ont.	Pembroke	2 00
2055	do 14.	Avery James Howes	do	Sudbury, Ont.	Lake Wauapeta	2 00

* Second examination.

Marine and Fisheries—Marine Branch.

List of Certificates of Competency granted to Engineers of Steamboats, &c.—*Con.*

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was passed.	Fee.
	1897.					\$ cts.
2056	May 14..	Geo. Daniel	3rd Class	Halifax, N. S.	Halifax	5 00
2057	do 14..	Michael McFaul	2nd do	Deseronto, Ont	Kingston	5 00
2058	do 18..	Wm. Thos. Windsor	Permit	Callander, Ont.	Callander	2 00
2059	do 25..	Jas. Higgins	3rd Class	Pembroke, Ont	Pembroke	5 00
2060	do 25..	Chris. Walterson	4th do	Selkirk, Man.	Selkirk	5 00
2061	do 25..	Jno. Seaman	4th do	do	do	5 00
2062	do 25..	Danl. Currie	4th do	Toronto, Ont	Toronto	5 00
2063	June 2..	Clement Mandeville	Permit	Thurso, Que	Montreal	2 00
2064	do 2..	Angus McNeil	2nd Class	North Sydney, C.B., N.S.	Halifax	*
2065	do 3..	Pat. A. O'Reilly	3rd do	St. Catharines, Ont.	Toronto	5 00
2066	do 3..	Jno. Lackie	Permit	Brockville, Ont	Kingston	2 00
2067	do 9..	Edwd. Carson	do	Pictou, N. S.	Pictou	2 00
2068	do 10..	Francois Vigneaux	do	Valleé des Bois, Que.	High Falls	2 00
2069	do 10..	John Paul	do	Newboro', Ont	Kingston	2 00
2070	do 10..	Geo. Stevens	do	Napanee, Ont	do	2 00
2071	do 23..	Alberta Wheeler	do	Belleville, Ont	do	2 00
2072	do 21..	Jno. W. McMillan	do	Niagara, Ont	St. Catharines	2 00
2073	do 25..	Henry Good	do	Napanee, Ont	Kingston	2 00
2074	do 25..	Andrew Lajeunesse	do	Peterboro', Ont	Peterboro'	2 00
2075	do 29..	Jno. Andrew Camber	do	Georgeville, Que	Georgeville	2 00
2076	do 30..	Richd. Brewer Proutt	do	Marmora, Ont	Marmora	2 00

* Second examination.

APPENDIX No. 14.

REWARDS FOR SAVING LIFE.

LIST of persons to whom rewards have been granted by the Government of Canada for the fiscal year ended 30th June, 1897, for gallant and humane services rendered in life-saving from shipwrecked vessels, or by British and Foreign Governments for similar services rendered by Canadian vessels in saving life from shipwrecked British and Foreign vessels for the same period.

Names and Designations of Persons.	Nature of Services Rendered.	Date of Services Rendered.	Description of Reward.
Mr. E. H. Pierce, keeper; Clarence E. Marr, assistant keeper, fog signal station at East Cuckholds, Maine, U.S., and John Gray and Ellsworth Gray, fishermen.	Rescuing at considerable risk, the crew of schooner "Aurora" of Harbourville, N.S., stranded on the Cuckholds, on the coast of Maine, U.S.	Jan. 4, 1896.	A silver watch to keeper, value \$30; a silver watch to each of the three men, value \$25 each.
Captain John Prest, master; Wm. J. Chambers, 1st mate; Wm. Greig, carpenter; Wm. Lindross, cook; David Brown and Robert Armstrong, seamen of the British SS. "Blakemoor" of South Shields.	Humanity and kindness in the rescue of the shipwrecked crew of the schooner "Clifford" of Shelburne, N.S.	Feb. 13, 1896.	A binocular glass to captain, value £5; a gold watch to mate, value \$75; a silver watch to carpenter, value \$25; a silver watch to cook, value \$20, and \$10 to each of the seamen.
Captain A. Henning, coxswain; A. Henning, S. Mahoney, J. Mahoney, W. McCormick, J. McCormick, P. Monaghan, P. Fitzgerald, crew of life-saving station at Pelée Island, Ont.	Services in going to assistance of the crew of the stranded schooner "Brenton."	May 17, 1896.	\$3 to each man, \$24 in all.
Captain O. Cafiero, master of the Italian barque "Teresina" of Castellamare.	Humane services in the rescue of the crew of the barque "Zebina Goudey" of Yarmouth, N.S., wrecked at sea.	Aug. 19, 1896.	A binocular glass to master, value £5. The subsistence expenses of crew also paid, amounting to £12 13s. 0d.
Captain F. H. Bonjer, of the SS. "Spaarndam" of Rotterdam.	Services in the rescue of the shipwrecked crew of the barque "Perfection," of Parrsboro, N.S., abandoned on fire off the banks of Newfoundland.	Aug. 31, 1896.	The thanks of the Dominion Government
Charles Rumsey, of schooner "Charlotte" of Jersey.	Rescuing a boy from drowning near Grand River wharf, Gaspé, P.Q.	Sept. 5, 1896.	A special silver medal, the gift of Lady Grant, awarded by the Royal Canadian Humane Association.
Captain F. N. Scott, master; C. M. Horsburgh, 2nd officer; John Provan, quarter master; Wm. Giles, Alex. McPherson, Wm. C. Brown and John Orr, seamen of the SS. "Hestia" of Glasgow, Scotland.	Meritorious conduct in rescue of the shipwrecked crew of the brigantine "Margaret E. Dean" of Parrsboro, N.S.	Sept. 10, 1896.	A binocular glass to master, value £5; silver watch to 1st officer, value \$35; silver watch to quarter master, value \$25, and \$10 to each of the seamen.
Captain B. Perry and 11 men volunteering as a crew on board a seine boat.	Rescue of the shipwrecked crews of the schooners "Azoff" and "Hattie E" at Charlottetown, P.E.I., stranded at Alberton, P.E.I.	Oct. 2, 1896.	\$5 to captain and \$3 to each of the men.

Marine and Fisheries—Marine Branch.

REWARDS for Saving Life—*Concluded.*

Names and Designations of Persons.	Nature of Services Rendered.	Date of Services Rendered.	Description of Reward.
Captain J. L. Proctor, master of SS. "Delaware" of Philadelphia, Pa., United States	Rescue of crew of schooner "Southern Cross" of Halifax, N.S., at sea.	Oct. 16, 1896.	The thanks of the Department of Marine and Fisheries.
Captain Henriques, commander of the United States revenue cutter "Woodbury" of Rockland, Maine, U.S.	Services rendered to the schooner "Elma D." of Yarmouth, N.S., run ashore on a ledge half a mile from Port Clyde, Maine, N.S.	Oct. 26, 1896.	Captain advised of the Department of Marine and Fisheries high appreciation of his services.
Richard Clark, coxswain Life Saving Station, Port Rowan, Ont.	Services in rescue of six persons off schooner "Arctic" of St. Catharines, off West End lighthouse, Long Point, Ont.	July 9, 1896.	} Advised that Department of Marine and Fisheries had heard with satisfaction of the services rendered.
Baker's Cove, Yarmouth, N.S., Life Saving Station.	Rescue of a hunting party. Services rendered to the schooner "Osceola" of Windsor, N.S., which went on shore about half a mile from Life Saving Station.	Nov. 5, 1896. Nov. 15, 1896.	
Captain C. R. Dobbins, keeper, and R. E. Dobbins, assistant keeper of the light at Moose Beak Beach, West Jonesport, Maine, U.S.	Humane and gallant services in rescue of the crew of the schooner "Ashton" of Weymouth, N.S., wrecked at Steel Harbour Ledge, State of Maine, U.S.	Dec. 1, 1896.	A gold watch to keeper, value \$100; a silver watch to assistant keeper, value \$30.
Captain Reuben Ritcey, master; Wm. Cook, mate, and 8 fishermen of schooner "Majestic" of Lunenburg, N.S.	Assistance rendered to crew of the Rostock barque, "Der Wanderer," when in distress at sea.	1896....	A binocular glass to master; \$20 to mate, and \$10 to each of the fishermen, awarded by the Emperor of Germany.
Daniel Sit-ke-lah-chey, an Indian of the Wyah Nitnat village, B.C.	Bravery and humanity in the rescue of the crew of the American steamer "Puritan," wrecked on the west shore of Vancouver Island, B.C.	1896.....	\$25 presented by the Department of Indian Affairs.
Captain Z. Surette, master of the American schooner "George J. Boutwell" of Gloucester, Mass.	Services in rescue of the crew of the wrecked SS. "Warwick" on the Murr ledge.	Dec. 31, 1896.	A binocular glass from the British Government.
D. Rooney, coxswain; and crew of Life Saving Station at Cobourg, Ont.	Noble efforts in a vain endeavour to save from drowning a young couple who had got adrift off Port Hope, Ont.	} July 23, 1896	A letter of thanks from Messrs. W. G. Glidden and Robt. B. Stott, the fathers of the young people.
	Going to assistance of steamer "Corsican," disabled off Cobourg harbour.			June 7, 1897.

APPENDIX No. 15.

STATEMENT giving Names and Stations of Light-keepers, &c., in the Dominion up to date.

ABOVE MONTREAL.

Name.	Station.	Appointed.	Salary.	
			\$	cts.
Acton, Jas. A.	Burnt Island	April 12, 1890.	250	00
Armstrong, John	Kaministiquia River.	" 28, 1894	200	00
Alexander, Andrew	Lamb Island	May 1, 1897	400	00
Baker, Henry F.	Clapperton Island.	December 2, 1895	350	00
Boyd, Robert P.	Cole Shoal	April 9, 1894	250	00
Boyd, Wm. S.	Griffith Island	May 14, 1889	350	00
Burlingham, James	Point Peter, light and fog alarm.	May 1, 1876	650	00
Butler, Silas L.	Port Dover	July 15, 1897	260	00
Buyere, Mrs. Frank, acting keeper	Victoria Island, Galetta	March 31, 1891	100	00
Baxter, Wm. I.	Gin Rock	November 23, 1895	300	00
Barr, Robert	Nepising South River Beacon Light.	May 22, 1889	80	00
Barron, Edward	French River	September 13, 1875	500	00
Beaulieu, Octave	Point à Cadieux	July 26, 1892	150	00
Boucher, Francois	Aylmer Island	November 17, 1882	175	00
Bamford, Robert	Wilson's Channel, Algoma.	June 21, 1888	250	00
Bertrand, Felix	Lower End Coulonge Lake	March 16, 1885	100	00
Boyd, Wm. M.	Kagawong.	April 13, 1893	72	00
Campbell, Thos.	Burlington Beach	April 1, 1875	350	00
Collins, Allen	Christian Island	March 25, 1891	*425	00
Cross, Manly R.	Gananoque Narrows and Jack Straw Shoal.	August 25, 1896	480	00
Campbell, Robert	Goderich	June 9, 1886	400	00
Currie, Geo.	Isle of Coves	April 1, 1878	+650	00
Craig, Wm.	Thunder Cape	May 17, 1892	600	00
Cook, Seldon B.	Long Point light and fog alarm.	June 9, 1897	700	00
Cullis, William	Manitoulin Island	October 1, 1877	740	00
Campbell, John	McTavish Point	November 18, 1896	100	00
Clark, Arthur Geo.	Nottawasaga Island	July 5, 1890	500	00
Crevier, Dolphis	Point Claire	May 11, 1888	200	00
Cartier, H. J.	River Thames	October 19, 1884	425	00
Chase, Jonathan	Middle Island	September 21, 1893	240	00
Chisholm, John W.	Michael's Point.	June 4, 1883	250	00
Cooper, John	Prince Arthur's Landing	October 14, 1882	250	00
Cosgrove, George.	Victoria Island, Lake Superior	November 14, 1889	350	00
Columbus, Christopher	Penetanguishene and Whiskey Island	March 13, 1893	300	00
Conover, Forrest H. C.	Leamington	April 24, 1883	150	00
Covert, John.	Belleville	June 1, 1881	200	00
Cox, John	Morrison's or Hawley's Island	" 22, 1887.	100	00
Chabot, Joseph	Papineauville Range Lights	" 17, 1897	100	00
Davieux, Joseph	Corbay Point, Batchewana	May 27, 1890	350	00
Durnan, George	Gibraltar Point	May 31, 1854	625	00
Daoust, Daniel	Lake St. Louis Light-ship No. 2	October 20, 1897	300	00
Dickinson, Wm. E.	Long Point, West End	September 30, 1879	*400	00
Davieau, Hyacinth	Michipicoten Island	July 1, 1881.	400	00
Daoust, Dosthée.	McKie's Point	September 22, 1893.	175	00
Davis, John H.	Pidgeon Island	May 6, 1896.	350	00
Dick, Andrew	Point Porphyry.	August 10, 1880.	400	00
Dutcher, Samuel.	Meaford.	May 7, 1877	150	00
Davis, Henry	Tobermory	November 23, 1895	130	00
Darling, Thomas.	Nipissing, South-east Bay Beacon Light.	July 1, 1890.	60	00
Dixon, Joseph G.	Lake Rosseau	July 21, 1890.	100	00

* Allowance \$10.

† Allowance \$100.

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

ABOVE MONTREAL.—Continued.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Dempsey, J. Frank	Potter's Island Pole Light	June 14, 1892	*10 00
Daby, A. W.	Pie Island, Port Arthur	September 12, 1895	75 00
Ead, Mrs. C.	Port Stanley.	August —, 1890	300 00
Ely, Henry R. A.	Warton Pole Light	September 14, 1891	75 00
Felan, Maurice	Oakville Pier	April 28, 1894	150 00
Fortier, David H. A.	Port Colborne, range lights and fog alarm	April 11, 1865	550 00
Farley, William	Scotch Bonnet	February 19, 1896	350 00
Fellowes, W. R.	Rondeau Harbour	December 18, 1888	300 00
Filiatreault, Thomas	Coteau Landing	May 27, 1890	140 00
Grignon, Xavier	Beauharnois	March 16, 1885	†200 00
Gloude, Benjamin	Pointe Claire	September 7, 1872	300 00
Grubb, W. A.	Point Pelee Reef, light and fog alarm	October 21, 1893	700 00
Gillespie, Wm.	Wolfe Island	March 16, 1885	250 00
Gauthier, Charles	St. Placide	May 1, 1874	100 00
Gordon, Robert	Cobourg Pier	May 16, 1883	180 00
Gates, William	Neebish, St. Mary's River	August —, 1892	14 00
Hackett, Andrew	Bois Blanc	January 13, 1864	435 00
Hudgins, Jas. M.	False Ducks	April 23, 1894	350 00
Hamilton, John	Hamilton's Island	September 3, 1873	130 00
Hill, Thomas H.	Lancaster Pier	July 1, 1877	325 00
Haitze, Jean	Lonely Island	May 11, 1885	450 00
Hunter, David	Port Dalhousie	October 29, 1879	350 00
Hewitt, W. J.	Owen Sound	November 6, 1894	126 00
Hawkins, David B.	Peninsula Harbour	August 31, 1891	400 00
Huff, Thomas H.	Parry Sound Range Lights	July 25, 1894	500 00
Harvey, James	Thessalon	November 23, 1897	150 00
Hughes, Wm.	Red River Light-ship	— 1895	250 00
Irving, Mathew	Manitowaning	May 30, 1887	150 00
Johnson, Issac S.	Cherry Island	November 5, 1883	300 00
Jackson, Wm.	Spectacle Shoal and Red Horse Rock	August 1, 1880	400 00
Jeffrey, Carson	Nigger Island Shoal	April 28, 1894	200 00
Kay, William	Kiucardine	March 5, 1875	375 00
Kinney, James	Gore Bay	July 27, 1895	350 00
Kennedy, James	Allumette Island	May 23, 1887	100 00
Lambert, Wm. McGregor	Chantry Island	October 1, 1880	500 00
Labelle, Louis	Deep River Island	May 5, 1897	100 00
Laberge, Alfred	Green Shoal	January 26, 1866	‡240 00
Lamorandière, Pierre Régis de	Killarney	September 24, 1880	400 00
Léger, Thomas	Lachine Pier	July 14, 1897	200 00
Lamondin, Joseph	Byng Inlet	April 19, 1884	375 00
Lee, John	Southampton	October 7, 1882	150 00
Lockerbie, Andrew	Collingwood Harbour	May 4, 1883	300 00
Low, Robert	Thornbury	April 12, 1887	80 00
Little, Rolland B.	Giant's Tomb Island	February 6, 1893	250 00
Lowry, Robert M.	Port Elgin	March 14, 1896	60 00
Lumsden, A.	Sourcier's Lake, Témiscamingue	October 6, 1890	200 00
Meloche, Simon	Lake St. Louis Light ship No. 1	May 1, 1880	250 00
Munroe, John Jacob	Lancaster Bar	June 8, 1892	250 00
Moreland, F.	Nine Mile Point	April 1, 1895	200 00
Masson, Lucas	Pointe aux Anglais	September 4, 1897	200 00
Mongeon, Chas. A.	Way Shoal	May 23, 1887	100 00
Marcheldon, Thomas	Hope Island	April 28, 1894	450 00
Matheson, Normand	Cape Robert, Algoma	October 7, 1896	350 00

* Per month during season of navigation.

† Allowance \$60.00.

‡ Allowance, \$10.00.

STATEMENT giving Names and Stations, &c.—Continued.

ABOVE MONTREAL—Continued.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Manson, John	Colchester Reef	June 9, 1886	600 00
Morriseau, Michael	Rainy River, Algoma	June 9, 1886	250 00
Martin, Wm. J.	Spanish River	July 9, 1890	250 00
Malott, Albert E.	Kingsville Range Lights	April 12, 1890	150 00
Miron, Louis	Gargantua	October 26, 1889	450 00
Maguire, Jas. W.	Corunna Range Lights	April 12, 1890	120 00
Milligan, Alexander	Vallyfield Range Lights	April 25, 1892	150 00
Montgomery, Wm.	Toronto Harbour, Eastern Channel	October 16, 1895	150 00
McKillop, John	Campbell's Island	April 2, 1892	150 00
McIntosh, John	Arnprior Island	April 2, 1892	150 00
McLachlan, Mrs. K.	Glenarry, or Stone House Point	April 9, 1890	250 00
McKenzie, John	Owen Sound	July 14, 1873	100 00
McConachie, John	Red Rock, Parry Sound	June 30, 1897	450 00
McDonald, Murdock	Point Clark	January 8, 1897	350 00
McDonald, Amos	Salmon Point	July 12, 1897	300 00
McKillop, Donald	St. Anicet Shoal	June 8, 1892	230 00
McLaren, Allan, J.	Brown's or Knapp's Point	February 11, 1896	180 00
McKay, Chas. S.	Battle Island	August 27, 1877	500 00
McIntosh, Daniel	South Marysburg	October 1, 1881	200 00
McKenzie, Wm.	Strawberry Island	May 17, 1893	300 00
McQuestion, Mrs. Maria	McQuestion Point	June 9, 1886	100 00
McLeod, Murdock	Saug-en River	August 4, 1883	80 00
McDonald, Lauchlin D.	Mississagua Island	May 16, 1896	450 00
McCool, James	Fort William Beacon Light, Ottawa River	May 23, 1887	90 00
McDevitt, Chas.	Point au Baril	March 1, 1897	300 00
McKay, John	Lyal Island	October 27, 1884	450 00
McDonnell, Eugene	Point aux Pins	August 8, 1893	250 00
Orr, Wm. B.	Snake Island	July 2, 1888	350 00
Orser, Wm.	Weller's Bay	February 16, 1889	150 00
Ouillette, Godfrey	Buckams Point	May 1, 1884	180 00
O'Rourke, Michael	Centre Brother Island	June 18, 1894	200 00
Prinyer, John	Point Pleasant	January, 4, 1867	300 00
Plumb, Ward S.	Wind Mill Point	November 18, 1882	180 00
Purvis, William	Great Duck Island, light and fog alarm	March 21, 1877	700 00
Pim, Chas. Jas.	Caribou Island, Lake Superior	May 23, 1887	*500 00
Pettypiece, Stephen	Lime Kiln Crossing	May 11, 1888	*350 00
Peters, William	Narrow Island	November 4, 1890	200 00
Parke, Samuel J.	Cabot's Head, light and fog alarm	January 25, 1897	650 00
Prosser, John	Muskoka or Fox Island	September 4, 1896	250 00
Plunkett, H. E.	Swampy Island, Lake Winnipeg	October 12, 1884	350 00
Quick, James E.	Peelee Island	July 11, 1888	300 00
Root, Albert	Grenadier Island	December 15, 1863	250 00
Roddick, Robert	Gull Island	March, 1872	500 00
Rowe, Geo. Albert	Telegraph Island	October 25, 1895	200 00
Repentigny, Toussaint de.	Ste. Anne de Bellevue	February 23, 1881	†125 00
Robillard, Honore	Isle Perrot	January 28, 1897	100 00
Redmond, William H.	Gravenhurst Narrows	June 18, 1894	100 00
Rains, Evan	Shoal Point, Algoma, Sailors' Encampment	November 24, 1884	250 00
Rains, A. M.	St. Mary's River	August, 1892	†17 00
Rains, W. W.	St. Mary's River, Westfield Range Light	August, 1892	§7 00
Shannon, William	Gross Point	September 27, 1866	**425 00
Shannon, George	Assistant	September 27, 1866	175 00
Seguin, Grégoire	L'Orignal	May 8, 1894	100 00
Smithers, R. O.	Mohawk Island	March 31, 1896	400 00
Sutherland, Jno.	Port Burwell	June 18, 1894	225 00
Scholfield, Fergus	Port Maitland	April 10, 1871	350 00
Simpson, Hedley V.	Presqu'Isle, range light	May 11, 1888	540 00
Sherwood, Wm. H.	Presqu'Isle, main light	April 29, 1874	375 00
Shepperd, Mrs. Wm., acting keeper	Sulphur Island	August, 1890	†300 00

* Allowance \$300. † Allowance \$25. ‡ Per month while light in operation. § Per month while light in operation. ** Allowance \$10.

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

ABOVE MONTREAL.—Concluded.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Stoner, Abraham	Frenchman's Bay	July 11, 1888	125 00
Sullivan, Silas	Barkin's Wharf	December 22, 1896	130 00
Sauvé, Honoré	Caron's Point	February 16, 1889	60 00
Spence, Bernard	Paquet Rapids	April 2, 1892	100 00
Stoneburner, John A.	Cornwall Canal, upper entrance	April 12, 1890	100 00
Smith, Richard	Western Island	March 5, 1896	700 00
Smith, Donald	Flower Pot Island	November 8, 1897	300 00
Veech, Stannes	Nine Mile Point ; light-keeper and engineer of fog alarm.	March 7, 1894	450 00
Wallace, John G.	Lindoe Island	July 1, 1881	250 00
Winthrop, Robert W.	Georgeville, Lake Memphremagog	April 13, 1891	100 00
Weightman, Wm.	North Sisters Rock, Algoma	November 6, 1885	350 00
Wootton, Edward	Niagara	July 11, 1887	50 00
White, Chas. L.	Snug Harbour, Parry Sound	July 25, 1894	350 00

BETWEEN MONTREAL AND QUEBEC AND BELOW QUEBEC.

Arcand, Elzéar	Cap de la Madeleine	May 17, 1892	80 00
Alarie, Pierre	Pointe du Lac	March 21, 1896	100 00
Ayer, R.	Georgeville, Lake Memphremagog	From year to year.	*1 50
Arcand, Flavien	Seven Islands	April 20, 1876	500 00
Ascah, J. M.	Fame Point	May 4, 1896	400 00
Asselin, A.	Ste. Famille	October 19, 1885	76 00
Biron, Edmund	Lake St. Peter Light-ship, No. 3	August 20, 1890	400 00
Beaudet, Fulgence	Lotbinière (1)	June 1, 1895	80 00
Beaudet, George	Lotbinière (2)	January 4, 1883	80 00
Beaudet, Charles	Platon	August 24, 1894	120 00
Brassard, Philippe	Port St. Francis	April 20, 1897	†30 00
Bourque, Peter	Bird Rocks	November 27, 1896	1,300 00
Bouilliane, Pierre	Lark Islet	September 1, 1872	200 00
Bertrand, Auguste	Mackerel Point	December 21, 1877	300 00
Banville, Joseph	Matane	February 1, 1897	‡250 00
Bourget, F.	Percé Roadstead	March 18, 1893	200 00
Babin, Louis D.	Pillars	February 23, 1874	450 00
Babin, Louis D.	Algernon Rock	February 23, 1874	150 00
Breton, Narcisse	Point Rich	May 16, 1896	500 00
Bourget, Charles	Cape Despair	November 1, 1897	\$400 00
Bisson, Wm.	Grand River	October 22, 1896	**150 00
Bergeron, George	River Valise	June 16, 1885	70 00
Bouchard, Louis	Cap au Saumon, lighthouse and fog alarm	May 16, 1896	600 00
Beaulieu, Jos. Hudon dit.	Point aux Origeneaux	April 7, 1875	250 00
Carignan, P. L.	Champlain Main Light	October 1, 1893	80 00
Cormier, Will am	Amherst Island	April 26, 1885	††300 00
Coltin, Michael	Belleisle	" 1, 1882	‡900 00
Côté, Louis T.	Cape Chatte	September 10, 1874	§300 00
Campbell, John W.	Cape Norman, lighthouse and fog alarm	April 12, 1890	720 00
Costin, Eugene	Cape Rosier	November 4, 1890	800 00
Cassidy, James	Entry Island	September 22, 1873	***300 00
Côté, Paul	Egg Island	November 3, 1871	500 00
Chabot, Edouard	Pointe St. Laurent	August 1, 1880	300 00
Chiasson, Edward	Etang du Nord	October 22, 1896	350 00
Dubreuil, Hector	Pointe aux Trembles	February 18, 1897	130 00
Desmarais, Phileas	River St. Francis	July 2, 1897	††200 00
Desjardin, Jean B.	Kamouraska	August 23, 1887	400 00
Desjardin, David	Pilgrims	April 1, 1881	340 00
Duperie, Alfred J.	Pointe aux Jones	May, 1873	40 00

*Per week. †Per month. ‡Allowance \$50. §Allowance \$20. **Allowance \$30.

†† Allowance \$50. ‡‡ Allowance \$100. §§ Allowance \$200. *** Allowance \$20. ††† Per month.

STATEMENT giving Names and Stations, &c.—Continued.

BETWEEN MONTREAL AND QUEBEC AND BELOW QUEBEC—Continued.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Eden, Francois.....	Gaspé Wharf.....	May 2, 1888.....	42 00
Fugère, Léandre.....	Batiscan (1).....	April 19, 1868.....	80 00
Fugère, Napoléon.....	Batiscan (2).....	January 10, 1887.....	80 00
Fiset, Jean H.....	Lake St. Peter Light-ship No. 2.....	April 22, 1875.....	500 00
Francoeur, Siméon C.....	St. Pierre Les Bequets.....	September 24, 1862.....	70 00
Fontaine, Edouard.....	Cape Bauld lighthouse and fog alarm.....	November 1, 1892.....	800 00
Faffard, Victor.....	Pointe de Monts.....	August 1, 1889.....	*400 00
Fraser, Pierre T.....	Red Island.....	April 12, 1890.....	450 00
Fagot, George.....	Greenly Island lighthouse and fog alarm.....	June 30, 1890.....	800 00
Gervais, Ovilas.....	Contrecoeur (1).....	March 1, 1877.....	100 00
Giguère, Denis.....	Lavaltrie.....	April 24, 1870.....	300 00
Gagné, Joseph Z.....	Anticosti East or Heath Point.....	July 5, 1890.....	+600 00
Galibois, Jean B.....	Bellechasse.....	June 23, 1880.....	320 00
Gourdeau, Isaac.....	Lower Traverse Light-ship.....	May 8, 1866.....	2,300 00
Gauthier, Jean.....	Martin River.....	February 21, 1876.....	300 00
Godreault, Jos. M.....	River Caribou.....	— 1874.....	40 00
Gauthier, Francis.....	Pointe aux Jones.....	April, 1872.....	40 00
Goudreault, Abraham.....	Eboulements Pole Light.....	May 10, 1892.....	40 00
Grenier, Solomon.....	Newport.....	June 3, 1897.....	100 00
Houde, Athanase.....	Cape Charles.....	November 4, 1890.....	150 00
Hébert, Moïse M.....	Cap de la Madeleine.....	May 11, 1888.....	80 00
Heppel, Elzear.....	Bicquet lighthouse and fog alarm.....	April 17, 1891.....	700 00
Harvey, André.....	Chicoutimi Wharf.....	May 30, 1889.....	40 00
Huot, Joseph.....	L'Ange Gardien.....	August 1, 1885.....	70 00
Irvine, John J. A.....	Red Island Light-ship.....	April 14, 1897.....	‡500 00
Laféche, Désiré.....	Lake St. Peter Light-ship No. 1.....	April 12, 1887.....	400 00
Lachapelle, Jean B.....	Repentigny (2).....	February 1, 1861.....	75 00
Langlois, Antoine.....	River du Chêne.....	July 11, 1888.....	100 00
Laliberté, Arthur.....	Ste. Emelie, Front Range.....	September 24, 1880.....	70 00
Laliberté, Florent.....	Ste. Emelie, Back Range.....	March 31, 1887.....	80 00
Lavoie, M.....	St. Fulgence.....	— 1893.....	70 00
Landry, Elmira.....	Carleton Point.....	April 1, 1872.....	300 00
Le Huguet, François.....	Gaspé Cape.....	October 22, 1896.....	650 00
Lindsay, Irénée.....	Green Island.....	September 25, 1888.....	600 00
Loisel, John.....	Point Paspebiac.....	August 27, 1894.....	150 00
Lafleur, Leon.....	St. Antoine.....	March 15, 1867.....	175 00
Label, Esdras.....	Upper Traverse Light-ship.....	April 13, 1893.....	1,400 00
Le Blanc, Régis.....	White Island Light-ship.....	January 11, 1878.....	\$500 00
Lachance, Louis.....	Port of St. John.....	September 26, 1896.....	300 00
Lavoie, F.....	Anse St. Jean Wharf.....	— 1889.....	40 00
Montplaisir, Antoine E.....	Cap de la Madeleine.....	August 6, 1877.....	175 00
Martineau, Valerie.....	Champlain Pole Light.....	August 2, 1889.....	60 00
Mercier, O.....	Isle à la Bague.....	August 31, 1883.....	150 00
Malo, Joseph.....	Isle Ste. Thérèse (1).....	February 1, 1897.....	130 00
Menard, Denis.....	North of Halfway Point.....	September 12, 1890.....	170 00
Marchand, Ferdinand.....	Pointe aux Citrouilles.....	April 27, 1896.....	200 00
Martin, Paul.....	St. Valentine.....	April 28, 1873.....	150 00
Molson, Mrs. Alexander.....	Molson's Island, Lake Memphremagog.....	From year to year.....	**2 50
Malouin, Alfred.....	Anticosti, West Point.....	July 1, 1877.....	†450 00
Martin, Jule G.....	Little Metis.....	December 23, 1879.....	300 00
Marceau, Louis.....	St. Francis.....	April 1, 1884.....	75 00
Maltais, Eli.....	Murray Bay.....	May 10, 1882.....	50 00
Myrick, John.....	Cape Race, Newfoundland, lighthouse and fog whistle.....	November 1, 1897.....	1,000 00
McWilliams, John J.....	Father Point.....	June 1, 1876.....	200 00
McLaren, Donald.....	River du Moulin.....	September 19, 1889.....	35 00

* \$200 for attending signal gun, &c. † Allowance \$50.

‡ Allowance, \$1,900.00.

§ Allowance, \$2,300.00.

* Per week.

‡‡ Allowance, \$250.00.

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

BETWEEN MONTREAL AND QUEBEC AND BELOW QUEBEC—Concluded.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Nadeau, Alphonse	Anticosti, South Point.....	June 18, 1894..	800 00
Paul, Edouard	Isle de Grace	September 7, 1871..	*30 00
Pagé, Celestin	L'Islet Richelieu.....	January 9, 1895.....	150 00
Peters, D. E.	Witch Rock, Lake Memphremagog.....	From year to year..	+2 50
Peters, J. H.	Green Point do	do	+1 50
Patterson, J. C.	Wadleigh do	do	+1 50
Pope, Herbert	Anticosti, South-west Point	October 22, 1892..	‡400 00
Painchaud, Joseph	Crane Island	do 1, 1864.....	320 00
Paquet, Pierre	Ste. Famille	do 19, 1885.....	70 00
Poitras, Alexander	Bersimis Range Light.....	September 21, 1891..	100 00
Pedneau, Pierre	Isle aux Coudres Pole Light.....	April 6, 1896.....	40 00
Reeves, Samuel	Isle Ste. Thérèse (2).....	October 12, 1870.....	270 00
Rivet, Léon L.	Repentigny (1).....	April 23, 1894.....	75 00
Robinson, George L.	Ash and Bloody Islands.....	June 18, 1894.....	200 00
Richard, Alphonse	Brandy Pots.....	October 7, 1878.....	400 00
Rennie, E. A.	Cape Ray Lighthouse and Fog Whistle.....	do 19, 1884.....	800 00
Robin, Jean B.	St. Thomas Wharf.....	April 30, 1883.....	80 00
Roberge, C. Honoré	St. Pierre Island.....	October 19, 1885.....	70 00
Rodrique, F. F.	Fortneuf (1).....	January 22, 1858.....	250 00
St. Onge, Thomas	Contrecoeur	June 14, 1886.....	75 00
Salvail, Omer	Isle à la Pierre	May 6, 1897.....	220 00
St. Pierre, Frederick	Isle aux Prunes.....	June 15, 1895.....	120 00
Simard, Edward	Montée du Lac, and Cape Rouge Beacons.....	October 28, 1876.....	400 00
Sasseville, F. J.	Cape Magdalen, lighthouse and fog whistle.....	June 9, 1886.....	700 00
Simard, Arthur	River Caribou	1870.....	40 00
Savard, Xavier	River Caribou	May 1, 1873.....	40 00
St. Croix, George	Plateau Rock.....	September 22, 1896.....	400 00
Trottier, Widow J.	Grondines (1).....	August 1, 1872.....	100 00
Trottier, Ephrem	Grondines (2).....	May 17, 1892.....	100 00
Thurber, Wm.	St. Croix	October 5, 1878.....	175 00
Tremblay, W. T.	Goose Cape.....	April 4, 1888.....	250 00
Tremblay, Dorilas	Portneuf (2).....	February 18, 1875.....	350 00
Tremblay, George	River du Moulin.....	September 9, 1889.....	35 00
Trudelle, Ambroise	L'Ange Gardien.....	October 19, 1885.....	70 00
Tremblay, Pitre	St. Alphonse Wharf.....	June 19, 1895.....	40 00
Tremblay, Henry	Cape l'Aigle Pole Light.....	February 6, 1896.....	40 00
Verville, Theodore	Isles aux Raisins	July 7, 1883.....	240 00
Vigneau, Pléside	Perroquet Island.....	September 19, 1892..	600 00
Vézina, Olivier	St. Pierre.....	October 28, 1897.....	70 00
Whitman, Robert H.	Lacolle.....	May 14, 1883.....	150 00
Wheeler, W.	Lead Mines, Lake Memphremagog.....	From year to year..	+1 50
Wyatt, Thomas M.	Forteau, lighthouse and fog whistle.....	October 18, 1889.....	‡800 00

NEW BRUNSWICK.

Arseneau, James	Dalhousie	June 18, 1894.....	100 00
Archer, Wm.	North Tracadie.....	November 7, 1872..	275 00
Allain, Joseph	Hay Island, Beacon Light.....	May 21, 1895.....	150 00
Barbour, Jas. G.	Cape Enragé lighthouse and fog whistle.....	May 11, 1888.....	800 00
Bent, A. W.	Cape Jourmain or Cape Tormentine.....	September 15, 1875..	300 00
Blacklock, Fred G.	Cape Spencer.....	March 5, 1888.....	400 00
Brown, Charles	Quaco.....	November 25, 1884..	400 00
Bradshaw, L. B.	Quaco Fog Alarm.....	September 3, 1887..	400 00

* Per month. † Per week. ‡ \$250 for assistance.
 † Allowance 75.00.

STATEMENT giving Names and Stations, &c.—Continued.

NEW BRUNSWICK—Continued.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Bridges, Abraham	Bridge's Point	October 9, 1891.	80 00
Brune, John David	Goose Lake	May 11, 1888.	250 00
Boyd, B. G.	Spruce Point	September, 1892.	120 00
Boudreau, Jos. B.	Petit Rocher	February 26, 1896.	150 00
Beleyea, S. B.	Beleyea's Point	May 19, 1882.	90 00
Blakley, Lawrence	Harper's Point.	September 9, 1887.	75 00
Bellmore, Fredk.	Dipper Harbour	March 12, 1895.	100 00
Belleveau, Philip T.	Folly Point	November 29, 1897.	175 00
Barton William	Cox's Point	December 1, 1897.	80 00
Cochran, Fredk. M.	St. Martin's Wharf, Quaco.	March 25, 1892.	100 00
Clarke, Geo. H.	St. John Harbour.	October 2, 1893.	350 00
Conley, John C.	Beaver Harbour	April 2, 1892.	250 00
Cummings, Geo.	Campbellton Beacon Light.	January 1, 1880.	100 00
Chapman, James.	Baie du Vin Island	July 24, 1882.	200 00
Delaney, John	Grant's Beach.	October 7, 1880.	125 00
Drake, Jeremiah.	St. John Signal Station	March 24, 1881.	50 00
Dunaresq, Francis X.	Shippegan	November 7, 1872.	280 00
Dalzell, Geo. Y.	Swallow Tail	March 18, 1893.	400 00
Dutch, John	Heron Island	May 7, 1875.	200 00
Davison, Warren P.	Pea Point.	January 14, 1897.	250 00
Daggett, Mark.	Grand Harbour	November 15, 1880.	*400 00
Dinsmore, Samuel G.	Big Duck Island Fog Alarm	July 5, 1886.	550 00
DeGrace, John.	Indian Point.	June 14, 1889.	150 00
Egan, Edward	Bellonie's Point.	May 17, 1892.	100 00
Flewelling, M.	Flewelling's Wharf.	April 12, 1890.	80 00
Gallant, Wm. A.	Point Lepreau, fog alarm	April 1, 1871.	450 00
Gillard, John	Point DuChene, range lights	June 13, 1888.	90 00
Gillespie, David.	Hillsborough Pier	December 31, 1892.	75 00
Hendry, E. M.	Hendry Farm	May 18, 1897.	80 00
Hayden, Michael	Pokemouche	October 17, 1888.	200 00
Henderson, Arthur.	Midjic Bluff.	October 5, 1894.	200 00
Hamm, Chas. P.	Musquash	January 14, 1879.	300 00
Helms, Geo.	Petit Passage fog whistle.	May 5, 1882.	+400 00
Hachey, Octave.	Pokesudie Island.	July 12, 1881.	180 00
Hagen, E.	Ward's Point.	April 12, 1890.	80 00
Kent, Oliver A.	Gannet Rock	January 20, 1880.	‡600 00
Lantaigne, Gervais.	Caraquet Island	June 16, 1888.	200 00
Leblanc, Charles P.	Cassie's Point	May 4, 1872.	250 00
Looney, Thos. E.	Greenhead, St. John River.	October 14, 1896.	80 00
Lebaron, Lacy	Oak Point.	February 23, 1897.	80 00
Mott, C. H.	Fanjoy's Point	October 24, 1892.	80 00
Mills, George	Lower Fox Island.	June 23, 1897.	200 00
Morrison, Peter.	Oak Point.	July 24, 1882.	100 00
Morrison, Peter, jr.	Portage Island	July 1, 1892.	200 00
Morrison, Duncan.	Sheldrake Island	February 25, 1880.	300 00
Munrow, Ezra	Southern Wolves	September 19, 1882.	500 00
Maloney, Harry G.	Passamaquoddy Bay.	August 8, 1893.	350 00
Maillet, D. O.	Indian Point, Buctouche	July 7, 1883.	150 00
Merry, William.	Newcastle.	June 30, 1884.	100 00
Moore, Rev. S. C.	Anderson's Hollow	May 14, 1889.	100 00
McGee, Joseph E.	Bliss Island	November 2, 1897.	300 00
McLennan, Kenneth	Escuminac lighthouse and fog whistle.	March 7, 1892.	750 00
McEwen, David	Middle Island	July 22, 1875.	300 00
McIntosh, Chas.	Neguac, range lights.	December 19, 1892.	100 00

* Allowance \$20.00.

† Allowance \$180.

‡ Allowance \$100.

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

NEW BRUNSWICK—Concluded.

Name.	Station.	Appointed.	Salary.
			\$ cts.
McMonagle, Miles.....	Oromocto Shoals.....	May 26, 1891.....	80 00
McDonald, Whitfield.....	Musquash Island.....	June 1, 1888.....	80 00
McMann, Robert.....	McMann's Point.....	September 7, 1876.....	80 00
McLaughlin, Walter B.....	South-West Head.....	October 29, 1879.....	500 00
McNeill, Henry H.....	Dalhousie, beacon lights, and Douglas Island light.....	January 1, 1880.....	150 00
McConnell, Robert.....	Miscou Gully.....	September 9, 1887.....	100 00
Nevers, George.....	Jemseg.....	November 24, 1884.....	80 00
Nobles, Israel.....	Belleisle Point.....	November 23, 1885.....	80 00
Purvis, David.....	No Man's Friend.....	June 2, 1897.....	80 00
Preston, S.....	Preston's Beach.....	July 11, 1889.....	125 00
Pendlebury, Wm. J.....	St. Andrews.....	April 10, 1889.....	250 00
Pickett, Robert E.....	Farmers' Point.....	May 11, 1897.....	80 00
Parker, Malachi.....	Mulholland's Point.....	April 4, 1885.....	200 00
Quinton, Wm. N.....	Mark's Point.....	April 12, 1890.....	120 00
Russell, Geo. N.....	Grindstone Island.....	November 6, 1885.....	700 00
Ryan, William.....	Miramichi Light ship.....	May 22, 1889.....	*400 00
Rivers, Robert.....	Miscou lighthouse and fog whistle.....	April 24, 1877.....	800 00
Robinson, John.....	Neguae.....	June 30, 1896.....	150 00
Richard, Peter F.....	Richibucto.....	May 30, 1895.....	185 00
Robertson, Chas. M.....	Robertson's Point.....	June 30, 1897.....	80 00
Robertson, Meier.....	Shediac Island Beacons.....	December 29, 1893.....	250 00
Ross, Elijah.....	Negro Point.....	March 5, 1878.....	400 00
Robichaud, Jude.....	Richibucto Beacon.....	December 5, 1891.....	225 00
Robicheau, Henry B.....	Dixon Point.....	June 21, 1884.....	150 00
Roberty, A.....	Belledune.....	February 5, 1895.....	100 00
Sutherland, Geo. A.....	Bathurst Harbour.....	March 20, 1882.....	†200 00
Seely, Chas. F.....	Machias Seal Island lighthouse & fog whistle.....	June 14, 1883.....	1,000 00
Seely, Neil.....	Head Harbour lighthouse and fog whistle.....	May 3, 1882.....	800 00
Scott, Chas. F.....	Stonehaven.....	July 20, 1885.....	100 00
Thomas, Geo. H.....	Point Leprean.....	August 29, 1884.....	400 00
Tatton, Geo. T.....	Grand Manan Fog Whistle.....	October 16, 1886.....	550 00
Williston, Wm. W.....	Fox Island.....	May 31, 1873.....	300 00
Wilson, James.....	Partridge L. H. F. W.....	December 5, 1857.....	800 00
Wagner, Richard.....	Sand Point.....	June 7, 1883.....	80 00
Wilmot, Henry.....	Wilmot's Bluff.....	May 23, 1896.....	80 00
Williams, Forrest W.....	William's Wharf.....	May 11, 1897.....	80 00

* Allowance \$300.

† Allowance \$10.

NOVA SCOTIA.

Amero, Geo. D.....	Pubnico.....	February 6, 1893.....	200 00
Amero, Basil.....	Sissiboo.....	April 17, 1871.....	200 00
Amero, Chas. A.....	Whitehead Island.....	November 9, 1897.....	200 00
Aucoin, Henry.....	Cheticamp Range Lights.....	May 14, 1889.....	150 00
Beaman, Edwin.....	Digby Pier.....	May 29, 1897.....	100 00
Bancroft, Jos. E.....	Brier Island.....	April 19, 1884.....	400 00
Burk, James.....	Main-à-Dieu.....	May 2, 1871.....	300 00
Bonner, George.....	Point Aconi.....	April 18, 1874.....	200 00
Burgess, Watson.....	Port l'Hébert.....	July 26, 1892.....	150 00
Boutillier, R. J.....	Superintendent of Sable Island.....	November 13, 1884.....	*450 00
Bollong, James.....	Pope's Harbour.....	August 6, 1877.....	300 00

* With board of self and family.

STATEMENT giving Names and Stations, &c.—Continued.

NOVA SCOTIA.—Continued.

Appointed.	Station.	Appointed.	Salary.
			§ cts.
Baker, Thomas.....	Pease's Island.....	May 19, 1879.....	350 00
Burns, Wm. H.....	Wedge Island.....	April 2, 1892.....	400 00
Brackett, Wm.....	Herring Cove.....	August 28, 1897.....	100 00
Belleveau, John H.....	Belleveau's Cove.....	February 16, 1889.....	80 00
Brownell, Alfred.....	Cold Spring Head.....	May 26, 1891.....	100 00
Chiasson, Germain.....	Caveau Point Range Lights.....	August 20, 1897.....	120 00
Crichton, H. H.....	Crichton's Head.....	May 6, 1874.....	200 00
Condon, Wm., jr.....	Egg Island.....	May 6, 1874.....	500 00
Crooks, Demas.....	Liscomb.....	October 5, 1894.....	300 00
Connington, Thomas.....	Louisburg Range Lights.....	do 26, 1897.....	150 00
Crowell, Corning.....	Seal Island Lighthouse and Fog Whistle.....	May 1, 1880.....	*800 00
Campbell, Samuel C.....	St. Paul's Island Superintendent.....	July 17, 1897.....	†600 00
Comeau, Louis C.....	Meteghan River Wharf.....	October 12, 1875.....	100 00
Christain, Patrick.....	Betty's Island.....	September 27, 1875.....	500 00
Croucher, Geo. A.....	Croucher's Island.....	January 1, 1883.....	300 00
Clough, Daniel.....	Grandigne Pole Light.....	July 4, 1884.....	70 00
Clory, Abraham.....	Glasgies Point Pole Light.....	do 25, 1894.....	60 00
Coolin, Joseph.....	Westhaver's Point.....	August 5, 1885.....	250 00
Carey, James.....	Carey's Beach.....	do 18, 1886.....	60 00
Cameron, John.....	Beaver Point.....	September 29, 1896.....	150 00
Crowell, Benjamin S.....	Pagis Island, Port La Tour.....	June 30, 1890.....	150 00
DeCoste, C.....	Arichat.....	June 14, 1875.....	250 00
Dunlap, Wm. H.....	Bird Island.....	do 26, 1897.....	400 00
Doane, Isaac.....	Cape Sable.....	July 1, 1871.....	800 00
Duane, Wm.....	Green Island.....	October 30, 1871.....	500 00
Doody, James.....	Meagher's Beach Lighthouse and Fog Whistle.....	February 19, 1896.....	800 00
Dunn, James N.....	Fort William.....	October 26, 1859.....	260 00
DeMings, Francis.....	McNutt's Island, Shelburne Harbour, Lighthouse and Fog Whistle.....	May 10, 1880.....	800 00
Doane, John H.....	Yarmouth Fourchu Lighthouse and Fog Whistle.....	July 1, 1874.....	800 00
Doane, Joshua.....	Yarmouth Harbour.....	February 23, 1874.....	‡350 00
Doyle, Edward.....	Mabou Range Lights.....	June 14, 1897.....	70 00
D'Entremont, W. H.....	Abbott's Harbour.....	May 22, 1888.....	75 00
Ellis, Wm. E.....	Annapolis Point Prim or Digby Lighthouse and Fog Whistle.....	March 8, 1875.....	800 00
Early, John.....	Margaretville.....	February 19, 1887.....	230 00
Fowler, James E.....	Apple River L. H. and F. W.....	July 25, 1894.....	700 00
Fisher, Joel W.....	Baccaro or Barrington.....	August 8, 1893.....	350 00
Fulker, William G.....	Devil's Island.....	July 1, 1886.....	420 00
Firth, Charles M.....	Coffin Island, Liverpool.....	June 30, 1880.....	400 00
Foster, Israel C.....	Port Medway.....	October 13, 1892.....	260 00
Foster, George M.....	Port George.....	November 5, 1897.....	100 00
Fraser, John A.....	Callaghan's Island.....	December 31, 1892.....	200 00
Giffin, Spencer H.....	Country Harbour.....	September 18, 1883.....	400 00
Gilkie, Henry A.....	Sambro.....	January 8, 1877.....	800 00
Giffin, Ira L.....	Hawley Point, Isaac's Harbour.....	April 28, 1894.....	200 00
Goudock, Edward.....	Shelburne Sand Point.....	December 3, 1880.....	280 00
Gerriar, Dennis.....	Torbay.....	June 17, 1878.....	300 00
Gardner, Frederick T.....	Brooklyn Pier.....	February 6, 1885.....	100 00
Helm, William.....	Flint Island.....	July 31, 1883.....	450 00
Hopkins, Leslie.....	Bon Portage Island.....	October 20, 1897.....	350 00
Huntley, Charles H.....	Kingsport Pier.....	June 30, 1890.....	100 00
Hensbee, David S.....	Crowe Harbour.....	November 10, 1897.....	300 00
Hawley, Matthew.....	South Bay.....	May 13, 1897.....	140 00
Hardy, John.....	Gabarus.....	November 22, 1890.....	200 00

* Allowance \$120.

† Allowance \$1,200.

‡ Allowance \$30.

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

NOVA SCOTIA—Continued.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Johnson, Edward	Chibucto Head, L. H. and F. W.	May 14, 1872	800 00
Johnston, John J.	Red Islands.	November 15, 1895	120 00
Joyce, Simon.	Seal Island Pole Light.	July 4, 1884	100 00
Jollimore, Peter	Terence Bay.	September 1, 1884	100 00
Jamieson, Charles.	Cape St. Lawrence.	September 21, 1893	400 00
Kirkpatrick, J. W.	Cape d'Or.	April 4, 1888	*500 00
Long, Joseph.	Canso Harbour	December 31, 1896	200 00
LeBlanc, Severin.	Fish Island.	July 1, 1889	250 00
Lowden, David.	Pictou Harbour Range Lights	July 12, 1897	150 00
Latimer, Charles.	Cape LaRonde	December 1, 1874	300 00
Lyons, John W.	Barrington Light-ship.	June 18, 1897	500 00
Landry, Edward	Big Arrow Island.	February 23, 1897	200 00
Larkin, Ephraim.	Shag Harbour, Stoddart's Island	March 18, 1896	150 00
Livingstone, Geo. S.	Advocate Harbour.	May 8, 1884	250 00
LeBlanc, Benjamin.	Tusket Wedge.	November 1, 1892	300 00
Morrison, Charles.	Amet Island.	October 5, 1894	320 00
Morrison, M. D.	Black Rock Point.	June 8, 1892	250 00
Mosher, John P.	Burnt Coat.	March 10, 1884	250 00
Muise, Marcellin.	Cheticamp	November 27, 1896	300 00
Misner, John E.	Fort Point.	May 16, 1896	150 00
Moser, Samuel.	Moser's Island	November 6, 1885	450 00
Mullins, James.	Mullin's Point.	June 8, 1892	250 00
Munro, Wm	Pictou.	November 22, 1890	460 00
Murphy, Michael	Pomket Island	December 18, 1890	350 00
Mundell Joseph.	Sand Point.	October 18, 1869	400 00
Martele John T.	Scatteris L. H. & F. W	July 30, 1897	800 00
Murray, John.	Cape George.	November 3, 1882	200 00
Munroe, Wm. L.	Three Top Island.	October 28, 1879	300 00
Mitchell, John W.	Jeddore Rock	September 29, 1882	400 00
Mitchell, Wm. A.	Quaker Island	February 19, 1896	300 00
Matheson, Murdoch.	Whycocomah Pole Light.	September 11, 1884	60 00
Morrison, Widow	Freestone Pole Light.	June 15, 1897	150 00
McDonald, Hugh.	Cape St. George.	July 11, 1889	450 00
McDonald, Robert.	Carter's Island.	January, 1885	250 00
McKenzie, R.	Gull Rock, Carribou Island	August 1, 1881	300 00
McCully, Ernest	Masstown	April 18, 1895	25 00
McDonald, Henry S.	Little Hope Island.	April 3, 1897	500 00
McFarlane, Alexander.	Margaree Harbour.	August 18, 1886	60 00
McFarlane, John C.	Margaree or Sea Wolfe Island	June 27, 1884	400 00
McKay, Rodie	North Canso	February 4, 1882	350 00
McFarlane, Andrew.	Pictou Island.	June 8, 1892	400 00
McDonald, John A.	Port Hood.	May 10, 1880	280 00
McDonald, James	Point Tupper.	March 15, 1870	300 00
McAskell, Donald	St. Anne's Harbour.	June 26, 1889	140 00
McPherson, A.	Port Mouton	June 8, 1892	300 00
McNeil, Philip E.	Gillis Point.	December 31, 1895	120 00
McRae, Hector.	McKenzie Point, Plaster Harbour	August 20, 1890	160 00
McDonald John.	Cape North.	December 14, 1885	400 00
McLeod, John	Engineer Fog Alarm. St. Paul's Island.	July 17, 1897	400 00
McRae, Donald.	Kidston's Island.	May 17, 1892	200 00
McLeod, Angus.	St. Esprit	October 27, 1880	400 00
McDonald, Chas. L.	Little Narrows	January 17, 1896	120 00
McDonald, Norman.	Marjorie's Isle Pole Light	July 4, 1884	100 00
McAskill, James	Jerome Point.	November 8, 1897	250 00
McNeil, Edward A.	Piper's Cove.	August 29, 1884	120 00
McNeil, Lauchlin	McNeill's Beach Pole Light.	August 6, 1884	60 00
McFadyen, M.	Mabou Range Lights.	April 17, 1891	50 00
McNeil, James.	Cranberry Head Fcg Alarm.	August 26, 1897	500 00
McVicker, Archibald.	Cow Bay Breakwater.	July 3, 1896	70 00
McDonald, Donald	Clark's Harbour Pole Light.	April 25, 1892	50 00
McNeil, Neil.	Campbell's Island, Victoria Co.	December 1, 1897	100 00

* Allowance \$300.

STATEMENT giving Names and Stations, &c.—Continued.

NOVA SCOTIA—Concluded.

Appointed.	Station.	Appointed.	Salary.
			\$ cts.
Nass, Henry	Lunenburg	May 12, 1897	300 00
Nickerson, Byron	Negro Island	July 26, 1897	250 00
Nunn, George	Sidney South Bar	June 20, 1872	300 00
Leary, John F.	Beaver Island	March 7, 1894	350 00
Orchard, L. D.	Gull Rock	January 1, 1877	400 00
Pearl, Albert	Green Island	December 29, 1873	500 00
Price, Philip	Louisburg	November 8, 1897	350 00
Peters, John G.	Low Point	October 1, 1865	460 00
Pettis, Wm.	Parrsboro	December 6, 1888	340 00
Palmer, H. W.	Fort Point	May 22, 1878	200 00
Perry, John	Sheet Harbour	December, 17, 1878	500 00
Phinney, Elisha	Cape Sharp, Diligent River	July 6, 1893	250 00
Quinn, James	Lingan	April 13, 1874	200 00
Robinson, Chas.	Black Rock	March 16, 1885	330 00
Ruggles, H. M.	Boar's Head	December 1, 1864	425 00
Robicheau, B. H.	Cape St. Mary's	July, 5, 1886	350 00
Rathburn, S. M.	Horton Bluff	October 26, 1870	250 00
Reid, George J.	Isle Haute	October 18, 1889	500 00
Ross, Robert	George's Island	January 17, 1885	250 00
Robblee, Jacob V.	Shafner's Point	May 29, 1897	150 00
Riley, Simon W.	Annapolis Royal	March 7, 1892	100 00
Sullivan, James	Cape Canso, Cranberry Island, L.H. & F.W.	May 23, 1897	800 00
Smith, Geo. E.	Cross Island, L.H. & F.W.	July 1, 1872	800 00
Scott, M. C.	Guysborough	April 19, 1884	220 00
Smith, M. A.	Ingonish Island	June 29, 1895	300 00
Swinehammer, Geo.	Peggy's Cove Point	January 4, 1883	350 00
Spencer, Robert A.	Spencer's Point	April 1, 1870	125 00
Suthern, Edward W.	Westport	April 12, 1890	300 00
Suthern, John F.	Brier Island Fog Whistle	October 1, 1874	500 00
Saulnier, John H.	Church Point	August 8, 1878	200 00
Sampson, C.	Onetique Island	December 1, 1874	350 00
Strum, James A.	Westhaver Island	September 25, 1888	200 00
Sollows, Walter	Green Cove Pole Light	August 15, 1884	60 00
Sampson, Theodore	South Beaver Harbour Pole Light	October 15, 1892	80 00
Smith, Caleb	Salter's Head Beacon Light	June 21, 1888	60 00
Smith, Wm. B.	Westhead Barrington	April 12, 1890	200 00
Simpson, W. H.	Pictou Custom House Light	Dec. 21, 1897	100 00
Vigneau, George	Jerseyman's Island	March 23, 1883	300 00
Wolfe, Howard M.	Iron Bound	June 22, 1895	250 00
Wheaton, Burton	Walton Harbour	May 26, 1891	125 00
Wells, James	Whitehead	October 20, 1897	510 00
Winton, Robert B.	Guion Island	April 28, 1877	450 00
Wambold, James	Sheet Harbour Passage	May 11, 1887	50 00
Webb, Patrick	Harbour-au-Bouche	February 19, 1896	250 00
Young, Uriah	Chester, Quaker Island	February 15, 1884	400 00
Zinck, Jeremiah	Mahone Bay on Hobson's Nose	December 2, 1895	300 00

Marine and Fisheries—Marine Branch.

STATEMENT giving Names and Stations, &c.—Continued.

PRINCE EDWARD ISLAND.

Appointed.	Station.	Appointed.	Salary.
			\$ cts.
Champion, Wm.	Cascumpec Harbour	October 25, 1897	80 00
Costain, Frederick	Miminigash, Rix Point Range Light	May 19, 1897	40 00
Daley, Abraham	Murray Harbour Beach Light	March 13, 1883	50 00
Fraser, John	Summerside Wharf	April 12, 1897	100 00
Gallivan, James	Brighton Beach Range Lights	April 12, 1890	100 00
Gaudet, Agate	Tignish	August 30, 1897	130 00
Hardy, Wm.	Little Channel	July 26, 1875	100 00
Howatt, Abner J.	Crapaud, Outer Range Light	July 22, 1893	100 00
Harris, Wm.	Cape Bear	November 11, 1896	300 00
Kennedy, Alexander	Haszard's Inner Range Light	June 27, 1890	60 00
Leard, Solomon J.	Crapaud Inner Range Light	May 14, 1889	100 00
Munn, Duncan	Little Sands	May 1, 1877	30 00
Morrison, Angus	Cardigan	September 21, 1883	100 00
McLaine, Archibald	Block House, Charlottetown	April 3, 1867	340 00
McDonald, Lauchlin	East Point L. H. & F. W.	February 23, 1897	500 00
McDonald, Wm.	Pannure Island	November 20, 1853	300 00
McGrauth, Wm. W.	St. Peter's Harbour	May 8, 1872	130 00
McDonald, Chas. Æ.	St. Andrew's Point Outer Range	July 18, 1887	125 00
McDonald, John	Orwell	June 25, 1879	80 00
McLeod, James	New London	January 29, 1896	100 00
McDonald, Wm.	West Point	December 1, 1875	300 00
McMillan, Wm. D.	Wood Island	January 27, 1887	250 00
McMillan, Donald	Covehead Range Lights	October 21, 1893	90 00
McDonald, Angus	Souris	November 13, 1880	300 00
McDonald, Jas. A.	Savage Harbour	July 11, 1889	100 00
Oulton, Robert T.	Savage Island Cascumpec	June 14, 1897	80 00
O'Brien, Patrick	Miminigash Range Light	May 14, 1897	60 00
Phee, James	North Cape	September 4, 1897	300 00
Penny, Robert	Murray Harbour, Penny's Light	November 11, 1897	50 00
Pino, Joseph N.	North Rustico	February 6, 1897	100 00
Perry, Bruno	Cape Egmont	July 21, 1884	200 00
Ranaghan, Peter	Sea Cow Head	April 21, 1873	250 00
Ready, Michael	Tracadie	August, 1867	100 00
Sinclair, Wm.	Fish Island	March 8, 1897	250 00
Stewart, Geo.	Summerside Harbour Back Range Light	September 5, 1895	80 00
Tuplin, Jas. C.	Sandy Island, Cascumpec	May 5, 1897	200 00
Taylor, Chas.	Darnley Basin Range Lights	July 14, 1897	40 00
Taylor, James W.	St. Peter's Island	May 1, 1897	200 00
Wood, George	Haszard's Outer Range Lights	May 4, 1893	70 00
Westaway, Roger D.	St. Andrew Point Inner Range	May 19, 1883	125 00
Wiggins, G. W. J.	Darnley Point Range Lights	October 16, 1896	100 00
Wright, Charles L.	Wright's Range Light, Crapaud	June 14, 1894	100 00
Walsh, James	Indian Point Pier	November 15, 1881	350 00

STATEMENT giving Names and Stations, &c.—*Concluded.*

BRITISH COLUMBIA.

Name.	Station.	Appointed.	Salary.
			\$ cts.
Armour, Hamilton	Sand Heads.....	August 27, 1892.....	900 00
Brinn, Richard	Discovery Island L. H. & F. W.	June 14, 1886.....	900 00
Cummins, H. C.	Balfour.....	July 10, 1897.....	*20 00
Crozier, James	Bare Point, Chemainus.....	June 12, 1897.....	120 00
Clark, M. G.	Entrance Island L. H. & F. W.....	November 26, 1897..	900 00
Dare, Joseph	Fisgard.....	April 19, 1884.....	500 00
Daykin, William P.	Carmanah Point L. H. & F. W.....	November 4, 1890....	1,200 00
Eastwood, F. M.	Race Rocks.....	January 31, 1891....	1,200 00
Erwin, Walter	Point Atkinson L. H. & F. W.....	October 5, 1880.....	1,000 00
Georgeson, Henry	Plumper Pass L. H. & F. W.	July 21, 1884.....	900 00
Georgeson, James	Saturna Island.....	October 22, 1889....	500 00
Harrison, S. G.	Beren's Island.....	November 4, 1897....	300 00
Jones, William D.	Brockton Point, Burrard Inlet.....	August 20, 1890.....	300 00
Patterson, Thomas	Cape Beale.....	March 2, 1895.....	†500 00
Piercy, Thomas H.	Yellow Island.....	November 4, 1890....	500 00
Richardson, John	Portlock Point L. H. & F. A.....	December 2, 1895....	460 00

* Per month. † Allowance, \$700.00.

Marine and Fisheries—Marine Branch.

APPENDIX No. 16.
 RECORD of Live Stock Shipped from Port of St. John, N.B.

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.				HORSES.		SWINE.		Hay for Feed.	Grain for Feed.	Number of Men.	
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Fees Collected.	Shipped.	Lost.	Shipped.				Lost.
1896.																	
1	Dec. 8.	*Lake Huron.	Liverpool	144	0	475		475	0	7 13				118,750		18	
2	do	Concordia.	Glasgow	144	1	289		289	1	5 06				74,960	22,680	12	
3	do	Lake Superior	Liverpool	69	0	300		300	0	4 85	17			82,875	13,090	13	
4	do	Alicides.	Glasgow	140	6	273		273	8	4 80	53	2		80,775	29,790	12	
5	do	Lake Winnipeg.	Liverpool			300		300	0	4 50				140,000	36,000	12	
6	do	Lake Ontario.	do	80	0	300		300	8	4 90	17			75,000	24,000	12	
Total				432	7	1,937		1,937	17	31 24	105	2		572,360	125,560	79	
1897.																	
7	Jan. 13.	Lake Huron	Liverpool		0	225		225	0	3 38	18			86,150	18,090	9	
8	do	Concordia.	Glasgow	441	8	262		262	2	6 14	30			91,889	32,856	12	
9	do	Lake Superior	Liverpool	1,061	0	240		240	0	8 91	18			93,250	35,300	14	
Total				1,502	8	727		727	2	18 43	66			270,789	86,246	35	
1898.																	
10	Feb. 1.	Alicides	Glasgow	191	14	352		352	7	6 24	49			98,135	33,000	15	
11	do	Lake Ontario.	Liverpool	416	16	118		118	0	3 85	138	1		37,125	20,250	6	
12	do	Lake Winnipeg	do	65	65	303		303	303	4 88	20	20		77,500	27,900	12	
13	do	Keenum	Glasgow	210	1	252		252	1	4 83	76			83,755	36,540	11	
14	do	Lake Huron.	Liverpool			237		237		3 56	78			53,325	23,700	10	
15	do	Carlisle.	London.			94		94		1 41	100	1		47,530	17,500	4	
16	do	Lake Superior	Liverpool			268		268	3	4 02	111			67,500	24,300	11	
Total				882	96	1,624		1,624	314	23 79	572	22		464,870	183,190	69	

RECORD of Live Stock Shipped from the Port of St. John, N.B.—*Concluded.*

Number.	Date.	Steamer.	Destination.	SHEEP.		CATTLE.				HORSES.		SWINE.		Hay for Feed. Lbs.	Grain for Feed. Lbs.	Number of Men.	
				Shipped.	Lost.	Fat.	Stockers.	Total.	Lost.	Fees Collected. \$ cts.	Shipped.	Lost.	Shipped.				Lost.
	1897.																
17	Mar. 1	Concordia	Glasgow			300				2	4 50	34	2	75,040	31,500	12	
18	do 6	Assaye	Liverpool			363					5 45	76		80,750	39,900	15	
19	do 11	Lake Ontario.	do			263					3 95	53	1	63,750	26,300	10	
20	do 16	Alctides	Glasgow			359			4		5 94	65	1	104,190	42,300	14	
21	do 25	Lake Huron	Liverpool			509					7 64	36		127,500	40,800	21	
22	do 29	Keenum	Glasgow			261					3 92	88	1	68,130	37,200	10	
		Total		110		2,055				6	31 40	352	5	519,360	218,000	82	
23	April 8	Carlisle City	London			200		200		1	3 00	90	1	70,725	29,408	8	
24	do 10	Concordia	Glasgow	141		292		292			5 09	74		93,776	32,400	12	
25	do 14	Lake Ontario.	Liverpool	28		631		631			9 61	20		136,665	51,480	25	
do	do 17	†Finshowen Head	Belfast									18					
do	do 19	Alctides	Glasgow	225	6	396		396		1	7 07	113	1	28,000	50,900	17	
		Total		394	6	1,519		1,519		2	24 77	315	2	328,166	164,088	62	

* Ranch cattle, no grain required. † Cattle washed off bridge deck owing to the long passage and the condenser giving out and fresh water getting short, the balance of the cattle were thrown overboard. ‡ Return from Custom Department.

F. J. HARDING,
Inspector.

Marine and Fisheries—Marine Branch.

TOTAL number of Sheep, Cattle and Horses shipped to the United Kingdom from Montreal, Quebec, St. John, N.B., and Halifax during the season of 1897, and from St. John, N.B., during December, 1896.

	Sheep.	Cattle.	Horses.
Montreal.....	60,688	117,247	10,061
Quebec.....	616	2,656	
St. John, N.B.....	3,321	7,862	1,410
Halifax.....			1
Total.....	64,575	127,765	11,462

NOTE.—The above statement was compiled at the end of the shipping season, and therefore contains more complete information, with regard to the total number of live stock shipped, for the season of 1897, than is to be found in Part I, page 19, under the heading of Live Stock Shipments.

61 Victoria.

Sessional Papers (No. 11A.)

A. 1898

THIRTIETH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

1897

FISHERIES

PRINTED BY ORDER OF PARLIAMENT



O T T A W A

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY

1898

[No. 11a—1898.]

Marine and Fisheries—Fisheries Branch.

*To His Excellency the Right Honourable SIR JOHN HAMILTON-CAMPBELL GORDON, EARL
OF ABERDEEN, Governor General of Canada, etc., etc.*

MAY IT PLEASE YOUR EXCELLENCY :

I have the honour to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Thirtieth Annual Report of the Department of Marine and Fisheries, Fisheries Branch.

I have the honour to be,

Your Excellency's most obedient servant,

LOUIS HENRY DAVIES,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 31st December, 1897.

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FISHERIES REPORT

1897

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REPORT OF THE DEPUTY MINISTER.

To the Honourable
Sir LOUIS H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries.

SIR,—I have the honour to submit the annual report of the Fisheries Branch of the Department of Marine and Fisheries for the fiscal year ending on the 30th June, 1897. The Fisheries Protection Service, the Fish-culture and Behring Sea Reports comprise the whole calendar year to the 31st December, 1897. In doing so it is interesting to recall the fact that precisely thirty years have elapsed since the department was organized and the fisheries of the Dominion placed under the supervision of a Minister of the Crown at Ottawa. During these three decades the fishing industries have grown with remarkable rapidity, and it cannot be questioned that the enforcement of fishery laws and regulations, and the general administration of the fisheries from the capital, have had on the whole beneficial and salutary results.

At the date of Confederation a branch of the Department of Crown Lands for the United Provinces of Upper and Lower Canada was responsible for this administrative work. This branch organized in 1859 had done useful work; but in the provinces of Nova Scotia and New Brunswick, where the fisheries were of the highest value and importance, no parallel organization existed. It is true that in these two provinces there existed a body of statutory and municipal regulations, but failing effective machinery to carry these regulations out, and in the absence of a proper system under which the restrictions could be enforced, these regulations and restrictions were practically a dead letter. "The fisheries were subject to serious abuses," it was stated authoritatively at the time, "that in many respects had already reduced them almost to exhaustion." The work of regulation, protection and development effected a beneficial change, and encouraging results attended the efforts of the department. Where the existing fishery laws could, by slight changes and improvements, be made more serviceable this was done, and a staff of officers was organized to enforce these amended regulations. In the "Fisheries Act" of 1867, under which the fishery laws of Nova Scotia were practically left intact, and the New Brunswick Acts incorporated, there were consolidated the various provincial regulations, with power provided for altering them from time to time, and substituting new and improved by-laws.

The code of fishery regulations resulting from attempts year after year to make them more effective by additions and amendments, has been regarded by other countries as beneficial to our fisheries and worthy of imitation. Thoughtful men in various States of the neighbouring republic have repeatedly expressed their approval and admiration of the system of fishery conservation and improvement in Canada. In the last report of the Michigan State Fish Commissioners published this year (1897) reference is made to the unwisdom of the policy of non-protection, *i.e.*, of free fishing, adopted in many States, "especially" to quote from the Commissioners' report (pp. 16 and 17).

"When we consider that the country lying opposite our border, having an extent of territory on the Great Lakes far exceeding that of our own and adjoining states, long since awakened to the necessity of conserving her fisheries. Without taking advice from her neighbours or awaiting their action she went sturdily, forcefully and promptly to work to enact regulations which have resulted in preserving her waters to a point where her fisheries are more profitable than our own. We refer to the Dominion of Canada, whose fisheries have been watched over and cared for by men keenly alive to their importance and the necessity for their preservation. Her territory is opposed to our own on our entire eastern coast and to the greater part of our Lake Superior coast.

"The extent of our coast adjoining Ohio is small, but that state has passed more laws for the protection of her fisheries than our own and so has Minnesota. Wisconsin has but a small amount of border compared with ours and her fisheries are insignificant in extent or value with Michigan's.

"Illinois has ceased to be a fish producing state. So has Indiana, which has but a fragment of frontage on the great lakes. Both of these states have permitted their fisheries to be destroyed without an effort to prevent it. So there can be no expectation they will take action in this regard.

"Canada protects her fish by the imposition of a close season for all the lakes, of the month of November, which is the great spawning month of the whitefish and salmon trout. She also prescribes the number of pounds that may be set in a string, the number of strings in a locality, the size of the mesh, the distance nets shall be set from shore, and the manner in which they may be set in channels. She also imposes a license upon nets and boats, and in other respects exercises a complete control over an industry she appreciates to be of great material value.

"Intelligent laws should be passed and *enforced*, permitting the taking of adult fish, and leaving the smaller ones to come to maturity. Opportunity should be afforded the gravid fish to spawn unmolested. If this be done, with the large output of artificially hatched fish now being put in the lakes, we know that the waters of our state will in a few years again teem with the whitefish and salmon trout. The food of the young and of the adult fish is as plentiful now as it ever has been, and if by the enactment and enforcement of just laws we throw the protection about the fisheries they need, and which the commonest intelligence must see is necessary for their preservation, we shall have ever ready at hand a wholesome food, abundant in quantity, cheap in price, that has grown to maturity, without cost or care.

"Objection has always been raised by the opponents of the regulation of the fisheries, that we should secure co-operation from adjoining states and secure a uniformity of statute in all. The fallacy of this argument so far as our own fisheries are concerned, is apparent. But if we admit that as the argument, would it not be an equally bad policy for the state to attempt to stamp out epidemic diseases, unless adjoining states would agree to take similar action? Facts show that Michigan has more value in her fisheries than any other adjoining state, and under such conditions the first duty of the state is to attend to its own material interests.

"The state has taken pains to surround the game fish, like the brook trout, the game birds, and the game quadrupeds of this state with the most rigid laws protecting them from interference during their period of reproduction, and for a

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sufficient time thereafter to protect the young until they can care for themselves; yet the state has not invested a single dollar in the propagation of any of these, except the brook trout, neither does it derive any substantial return from their capture. Stringent laws have been passed and are rigidly enforced to protect the peach orchards of the state from the scourge known as the "yellows." Such laws are just, and have been adopted and are rigorously enforced in the interest of the public good; but the great commercial fisheries of the state that yield a million of dollars yearly at the wholesale price, are constantly subjected to the most destructive methods of fishing, with the certain prospect that in a short time they will become absolutely extinct. If there is any one thing in the state that deserves protection, it is the commercial fisheries. It is not only a matter of the greatest concern to our present population, but it is of vital interest to those who are to come after us."

There is, of course, no doubt that wise protection of spawning fish and judicious limitation of fishing operations to prevent overfishing must in the long run restore endangered or depleted fisheries; but on the Great Lakes the steps taken by this department have been only partial in their effects an account of the reverse policy pursued in the United States portion of these prolific waters. The department has indeed been constrained to carry out concessions and relaxations, and the remarks of Mr. Herschell Whitaker, so well known as a Fish Commissioner for the State of Michigan and one of the most enlightened and enthusiastic advocates of fish preservation in these international inland waters may be quoted. Referring to one of these Orders in Council which nullified certain protective provisions in the fishery regulations of Canada, Mr. Whitaker observes:

"The effect of this order meant a notice to the Canadian fishermen that until further notice they could join their American fellow-fishermen in working the final destruction of the commercial fisheries of the lakes.

"The Canadian government exhibited wisdom in making the original order. The reasons for its promulgation were founded on the experience of years of observation of the pernicious and ruinous effect of the practices of the netters on the lakes. The enforcement of the order was wholesome and resulted in better fishing in their waters than in ours. Ever since the order was given effect, the Department of Marine and Fisheries has sought by every means in its power, to urge upon those entrusted with the passage and enforcement of laws for the regulation of the fisheries upon the American side of the waters, the necessity of a co-operation with them in the passage and enforcement of a similar act. They have had occasion to feel disheartened at the result. They have had further to bear the importunities of the lake fishermen of the different provinces and the petty politicians for a revocation of the order, because the states bordering the lakes upon the other side permitted their fishermen to fish at any and all times and with all sorts of devices. And so, at last, the order has been revoked—in a spirit of weakness, perhaps—until such time as the states shall see fit to join the Dominion in an effort to protect the fisheries.

"No action, either public or private, concerning the fisheries of this country, has ever been taken which may be more pregnant of evil, or perhaps of good result, if we shall profit by the lesson, than this order of revocation. The result must depend on future action or non-action on the part of the states whose territory is co-extensive with that of Canada on the lakes, in moving for the preservation of the great lake fisheries, by the passage of just and reasonable laws controlling the fishermen. While the action of the Department of Marine and Fisheries is one to be deeply regretted it has been, perhaps, in a measure justified by the absolute lack of co-operation on the part of the bordering states in meeting the Canadians upon this question in a spirit of fairness, and with a desire to protect the public's interests."

(Trans. Am. Fisheries Society 1895, pp 61 & 62).

EXPENDITURE AND REVENUE.

The details of the total expenditure for the different fisheries services during the last fiscal period, amounting to \$443,586, will be found in the first appendix of this report. This comprises fisheries proper, \$99,731; fish-culture, \$27,330; fisheries protection service, \$99,357; miscellaneous expenditure, \$62,777, besides the \$154,389 distributed as fishing bounties.

The total amount received during the same period as revenue from fishery licenses, fines, &c., in the different provinces of Canada is given at \$106,469.

This amount also includes the *modus vivendi* licenses granted to United States fishing vessels. See page 7.

FISHING BOUNTIES.

The sum of \$154,389 was paid to the deep-sea fishermen of the Maritime Provinces during the year 1896. Of this amount, \$57,014 were divided amongst 862 vessels manned by 5,665 men, and \$97,385 amongst 23,821 fishermen using 14,106 boats. The total number of claims paid for bounty was 14,975.

Since its inception (1882), over *two million and a quarter dollars* were paid by this department to encourage the Canadian fishermen in developing our sea fisheries.

The regulations governing the payment of said bounty are given in detail in Appendix No. 2 of this volume, as well as a complete list of all vessels having received such bounty for the year 1896.

GENERAL STATISTICS OF FISHERIES.

EXTENT OF COAST.

The fisheries of Canada are the most extensive in the world, comprising an immense sea-coast line, besides innumerable lakes and rivers. The eastern sea-coast of the Maritime Provinces from the Bay of Fundy to the Straits of Belle Isle covers a distance of 5,600 miles, and that of British Columbia is given at 7,180 miles, that is more than double that of Great Britain and Ireland.

While the salt water inshore area, not including minor indentations, covers more than 1,500 square miles, the fresh water area of that part of the great lakes belonging to Canada is computed at 72,700 square miles, not including the numerous lakes of Manitoba and the Territories all stocked with excellent species of food fishes.

VALUE OF THE FISHERIES.

The value of the sea and inland fisheries in 1857 was estimated at under one million dollars, and in 1859 they were valued at about a million and a half dollars, but in 1867 they had reached \$4,000,000; in 1877 \$12,000,000; in 1887 \$18,386,000, and in 1896 \$20,400,000.

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This amount is subdivided by provinces as follows, showing the fluctuations as compared with the previous year :—

Provinces.	Value.	Increase.	Decrease.
	\$	\$	\$
Nova Scotia.....	6,070,895		142,236
New Brunswick.....	4,799,433	396,275	
British Columbia.....	4,183,999		217,355
Quebec.....	2,025,754	157,834	
Ontario.....	1,605,674	21,201	
Prince Edward Island.....	976,126		710
Manitoba and North-west Territories.....	745,543		6,923

While the provinces of New Brunswick, Quebec and Ontario gave an aggregate increase of \$575,310, the other provinces show a decrease of \$367,224, making a net surplus of \$208,086 over the total value of last year. The various fluctuations are fully explained in the different inspectors' reports comprised in Appendices 3 to 10.

The above does not include the large quantity of fish consumed by the Indian population of British Columbia.

The comparative tables at page xviii give the totals for each period of twelve months during the last twenty-seven years, but the above figures sufficiently show how considerable has been the progressive advance in value of the Canadian fisheries.

The following table shows the relative values of the principal kinds of commercial fishes (above \$100,000) for the year 1896 as compared with the values of the preceding year :—

Kinds of Fish.	Amount.	Increase.	Decrease.
	\$	\$	\$
Salmon.....	4,001,679	268,962	
Cod.....	3,619,385		19,134
Herring.....	2,909,744	123,228	
Lobsters.....	2,205,762		4,334
Whitefish.....	773,345	6,038	
Mackerel.....	727,743		8,912
Trout.....	713,449	10,860	
Smelts.....	498,539	47,431	
Haddock.....	493,384	48,681	
Hake.....	276,020	65,764	
Pickarel.....	274,931		28,365
Halibut.....	253,435		17,466
Pullock.....	221,118	72,351	
Alewives.....	209,194	16,762	
Sardines.....	205,249		218,243
Oysters.....	194,296	2,000	
Sturgeon.....	152,757		2,419
Tom cod and frost fish.....	137,832		693
Eels.....	132,942		18,494

The quantity of fish used as bait is valued at \$384,219, and that of fish oil at \$224,633. The seal skins are valued at \$520,250.

With the exception of salmon which shows an increase of over a quarter of a million dollars, of herring of over \$100,000, and the falling off in the sardine industry, the other fluctuations in the values of the principal kinds of fish as compared with the previous yield are not very considerable, as a glance at the above table will show. The large surplus noted in the salmon yield is not only due to an immense pack in the British Columbia salmon industry, but also to the improved catch of fresh salmon in the Maritime Provinces. The decline in the sardine industry is chiefly from New Brunswick, where the strikes in the neighbouring state during the packing season necessarily limited the production for want of markets.

Between the years 1869 and 1896 inclusive the five principal commercial fisheries have yielded as follows :—

Cod	\$106,433,217
Herring	54,373,042
Lobsters	48,964,860
Salmon	45,740,470
Mackerel...	37,589,835

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RECAPITULATION

Of the yield and value of the Fisheries in the Dominion of Canada for the Year 1896.

No.	Kinds of Fish.	Quantity.	Value.	Total Value.
			\$	\$
1	Cod, dried	Cwt. 809,608	3,610,935	
2	do tongues and sounds.	Brls. 845	8,450	3,619,385
3	Salmon, preserved in cans	Lbs. 29,872,740	2,988,258	
4	do fresh	" 5,439,942	965,029	
5	do pickled	Brls. 3,186	36,498	
6	do smoked	Lbs. 49,133	11,894	4,001,679
7	Herring, salted	Brls. 490,171	2,183,559	
8	do fresh	Lbs. 22,289,796	504,893	
9	do smoked	" 10,980,430	221,292	2,909,744
10	Mackerel, salted	Brls. 37,765	523,710	
11	do fresh	Lbs. 2,427,972	199,033	727,743
12	Lobster, preserved in cans.	" 10,906,638	1,526,928	
13	do alive or fresh.	Tons. 8,988	678,834	2,205,762
14	Hake, dried	Cwt. 94,808	241,687	
15	do sounds.	Lbs. 69,867	34,933	276,620
16	Haddock, dried	Cwt. 125,122	421,204	
17	do smoked (finnan haddies).	Lbs. 1,116,000	72,180	493,384
18	Pollock, dried	Cwt. 88,781	221,118	
19	Trout	Lbs. 6,950,986	690,699	
20	do	Brls. 2,275	22,750	713,449
21	Whitefish	Lbs. 13,374,000	773,345	
22	Smelts	" 9,970,805	498,539	1,271,884
23	Halibut	" 3,672,625	253,435	
24	Shad	Brls. 8,536	87,370	
25	Eels	Lbs. 1,037,535	62,252	
26	do	Brls. 7,333	70,690	132,942
27	Alewives	" 52,616	209,194	
28	Sardines	" 86,981	176,414	
29	do preserved.	Cans. 576,700	28,835	205,249
30	Bass	Lbs. 1,294,595	94,442	
31	Pickarel	" 6,897,810	274,931	
32	Pike	" 3,594,790	99,008	
33	Maskinongé	" 807,950	48,477	
34	Sturgeon	" 2,403,801	152,757	
35	Squid	Brls. 24,500	98,000	
36	Flounders	Lbs. 189,159	9,613	
37	Ouananiche	" 90,000	5,400	
38	Oysters	Brls. 48,574	194,296	
39	Clams	" 19,791	70,960	
40	Perch	Lbs. 1,333,550	38,840	
41	Tom cod or frost fish.	" 2,657,465	137,832	
42	Oulachons	" 581,500	29,550	
43	Coarse and mixed fish	Brls. 104,832	284,639	
44	Home consumption not included above.	" 1,894,856	287,896	
45	Fur seal skins (British Columbia).	No. 55,677	501,093	
46	Hair do	" 16,808	19,157	
47	Sea Otter skins	" 23	4,025	
48	Beluga (white whale)	" 222	5,328	
49	Fish oils	Galls. 557,140	224,633	
50	do used as bait	Brls. 256,146	384,219	
51	do do manure	" 127,658	63,830	
52	do guano	Tons. 3,416	49,540	
Total for 1896				20,407,424
do 1895				20,199,338
Increase				208,086

STATEMENT of the Production of each Branch of the Fisheries

Number.	KINDS OF FISH.	NOVA SCOTIA.		NEW BRUNSWICK.		BRITISH
		Quantity.	Value.	Quantity.	Value.	Quantity.
			\$		\$	
1	Cod, dried..... Cwt.	485,625	2,151,575	108,877	489,946	2,872
2	do tongues and sounds..... Brls.	574	5,740	59	500	
3	Salmon, preserved in cans..... Lbs.	8,124	1,219	11,060	1,659	29,853,056
4	do fresh..... "	537,926	107,585	2,637,565	527,513	1,229,595
5	do pickled..... Brls.	408	6,528	16	256	2,413
6	do smoked..... Lbs.	7,783	1,557			41,350
7	Herring, salted..... Brls.	158,236	689,352	232,218	1,044,981	1,000
8	do fresh..... Lbs.	508,895	5,406	13,469,760	269,395	191,000
9	do smoked..... "	712,500	14,250	10,195,600	203,912	21,050
10	Mackerel, salted..... Brls.	25,345	354,830	1,426	19,964	
11	do fresh..... Lbs.	1,717,317	113,754	698,975	83,877	
12	Lobster, preserved in cans..... "	5,363,300	750,861	2,355,807	329,813	
13	do alive or fresh..... Tons.	7,627	572,044	1,357	106,490	
14	Hake, dried..... Cwt.	54,930	134,969	25,833	64,582	
15	do sounds..... Lbs.	19,665	9,832	22,282	11,141	
16	Haddock, dried..... Cwt.	102,354	341,516	20,616	72,156	
17	do smoked..... Lbs.	321,000	25,680	795,000	46,500	
18	Pollock, dried..... Cwt.	42,835	106,253	45,946	114,865	
19	Trout..... Lbs.	127,960	12,796	176,140	17,614	64,500
20	do..... Brls.					
21	Whitefish..... Lbs.	13,753	690			
22	Smelts..... "	494,897	24,744	8,310,063	415,503	55,000
23	Halibut..... "	1,017,707	101,771	215,620	21,562	2,276,556
24	Shad..... Brls.	2,105	21,050	5,731	57,310	
25	Eels..... Lbs.					
26	do..... Brls.	3,587	35,870	2,769	27,690	
27	Alewives..... "	17,141	67,293	34,585	138,340	
28	Sardines..... "	200	800	83,979	167,208	
29	do..... Cans.			477,500	23,875	
30	Rass..... Lbs.	6,580	658	348,395	34,806	
31	Pickereel..... "			132,300	6,615	
32	Pike..... "					
33	Maskinonge..... "					
34	Sturgeon..... "			28,800	2,415	380,500
35	Squid..... Brls.	20,402	81,608	1,596	6,384	
36	Flounders..... Lbs.	109,680	5,484	79,479	4,129	
37	Ouananiche..... "					
38	Oysters..... Brls.	2,460	9,840	14,700	58,800	1,200
39	Clams..... "	4,208	28,672	10,578	24,399	3,007
40	Perch..... Lbs.					
41	Tom Cod or frost fish..... "	82,795	4,140	2,570,870	128,544	
42	Oulachons..... "					581,500
43	Coarse or mixed fish..... Brls.	16,638	44,606	24,027	48,464	15,384
44	Home consumption not included above.....					
45	Fur, seal skins, B.C..... No.					55,677
46	Hair do..... "	1,103	1,373	21	29	3,700
47	Sea Otter skins..... "					23
48	Beluga (white whale) skins..... "					
49	Fish oils..... Galls.	243,650	97,459	70,572	30,007	61,500
50	Fish used as bait..... Brls.	76,419	114,628	94,759	142,138	
51	do manure..... "	17,392	8,697	80,172	40,086	
52	Fish guano..... Tons.	991	15,765	635	15,875	
	Totals.....		6,070,895		4,799,433	

Marine and Fisheries—Fisheries Branch.

in the different Provinces of Canada for the Year 1896.

COLUMBIA		QUEBEC.		ONTARIO.		PRINCE EDWARD ISLAND.		MANITOBA AND N. W. TERRITORIES.		Number.
Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
\$		\$		\$		\$		\$		
14,360	189,417	852,376				22,817	102,676			1
	211	2,110				1	10			2
2,985,305						500	75			3
122,959	1,034,856	206,971								4
24,130	349	5,584								5
10,338										6
5,000	45,479	204,656	3,555	15,997	49,683	223,573				7
5,730	1,777,700	35,154	6,289,166	188,675	53,275	533				8
2,105	51,080	1,021			200	4				9
	6,835	95,690			4,159	58,226				10
					11,680	1,402				11
	1,158,822	162,235			2,028,709	284,019				12
	4	300								13
					14,015	42,135				14
					27,920	13,960				15
	922	3,227			1,230	4,305				16
										17
6,450	494,300	49,430	5,975,661	597,566	24,425	2,443	88,000	4,400		18
			2,275	22,750						19
	132,927	10,634	3,432,560	272,283			9,794,760	489,738		20
2,750	431,645	21,582			679,200	33,960				21
113,828	160,642	16,064			2,100	210				22
	750	9,010								23
	897,550	53,853	139,985	8,399						24
	317	3,170			660	3,960				25
					890	3,560				26
	2,802	8,406								27
	99,200	4,960								28
	119,465	10,248	804,155	48,249			16,000	480		29
	268,945	13,447	2,998,595	149,930			3,497,970	104,939		30
	169,695	8,485	1,101,050	44,042			2,324,045	46,481		31
	48,590	2,915	759,360	45,562						32
19,025	136,618	7,799	1,590,135	110,130			267,748	13,387		33
	2,351	9,404			151	604				34
										35
	90,000	5,400								36
4,800					30,214	120,856				37
9,022	1,437	7,185			561	1,683				38
	156,596	4,698	1,111,160	33,335			65,800	808		39
		4,960			3,800	190				40
29,550										41
46,154	8,957	27,847	17,188	68,755	700	1,400	21,938	47,412		42
250,000							1,894,866	37,897		43
501,093										44
2,775	11,984	14,980								45
4,025										46
	222	5,328								47
24,600	162,655	65,062			18,763	7,505				48
	51,052	76,578			33,916	50,874				49
	29,969	14,985			125	62				50
					1,790	17,900				51
										52
4,183,999		2,025,754		1,605,673		976,125		745,542		

RECAPITULATION

Showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1896, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

Year.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-west Territories.	Total for Canada.
1870.	\$ 4,019,425	\$ 1,131,433	No data	\$ 1,161,551	\$ 264,982	No data	No data	\$ 6,577,391
1871.	5,101,030	1,185,033	do	1,069,612	193,524	do	do	7,573,199
1872.	6,016,835	1,965,459	do	1,320,189	267,633	do	do	9,570,116
1873.	6,577,087	2,285,662	207,545	1,391,564	293,091	do	do	10,754,997
1874.	6,652,302	2,685,704	288,863	1,608,650	446,267	do	do	11,681,886
1875.	5,573,851	2,427,654	268,927	1,593,759	453,194	do	do	10,350,385
1876.	6,029,050	1,953,889	494,967	2,097,668	437,229	104,637	do	11,117,000
1877.	5,527,858	2,133,237	763,036	2,560,147	438,223	583,433	do	12,065,934
1878.	6,131,600	2,305,790	840,344	2,664,055	348,122	925,767	do	13,245,678
1879.	5,752,937	2,554,722	1,402,301	2,820,395	367,133	631,766	do	13,529,254
1880.	6,291,961	2,744,477	1,675,080	2,631,556	444,491	713,335	do	14,499,979
1881.	6,214,782	2,980,904	1,955,280	2,751,962	509,903	1,454,321	do	15,817,162
1882.	7,131,418	3,192,339	1,865,687	1,976,516	825,437	1,842,675	do	16,824,002
1883.	7,689,374	3,185,674	1,272,468	2,138,997	1,027,033	1,644,646	do	16,938,192
1884.	8,763,779	3,730,454	1,085,619	1,694,361	1,133,724	1,358,267	do	17,766,404
1885.	8,283,922	4,005,431	1,293,430	1,719,460	1,342,692	1,078,038	do	17,722,973
1886.	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,577,348	186,980	18,679,288
1887.	8,379,782	3,559,507	1,037,426	1,773,367	1,331,850	1,374,887	129,084	18,386,103
1888.	7,817,030	2,941,863	876,862	1,860,912	1,839,869	1,902,195	180,677	17,418,510
1889.	6,346,722	3,067,039	866,430	1,876,194	1,963,123	3,348,067	167,679	17,655,256
1890.	6,636,444	2,699,055	1,041,109	1,615,119	2,019,637	3,481,432	232,104	17,714,902
1891.	7,011,300	3,571,050	1,238,733	2,008,678	1,896,389	3,908,755	332,969	18,977,878
1892.	6,340,724	3,203,922	1,179,836	2,236,732	2,042,138	2,849,483	1,088,254	18,941,171
1893.	6,407,279	3,746,121	1,133,368	2,218,905	1,694,930	4,443,963	1,042,093	20,686,661
1894.	6,547,387	4,351,526	1,119,738	2,308,386	1,650,968	3,950,478	787,087	21,719,573
1895.	6,213,131	4,403,158	976,836	1,847,920	1,584,473	4,401,354	752,466	20,199,338
1896.	6,070,895	4,799,433	976,126	2,023,754	1,605,674	4,183,999	745,543	29,447,425
Totals	177,942,367	80,940,323	25,042,091	52,755,301	27,966,807	45,458,906	5,644,846	415,746,655

Marine and Fisheries—Fisheries Branch.

CAPITAL AND MEN ENGAGED IN THE FISHERIES OF CANADA.

The accompanying statements show that last year over 75,000 men were engaged in the Canadian fishing industry, using nets and other fishing gear and fixtures aggregating a capital of over *nine and three quarters million dollars*. Besides the 1,200 fishing schooners and tugs valued at two million dollars manned by 9,735 sailors, 65,500 fishermen, using 35,400 boats, valued at over one million dollars, toiled the sea for a livelihood, using altogether 6,344,450 fathoms of nets.

The lobster plant for 1896 amounted to \$1,114,920. This represents the 665 canning establishments dispersed on the littoral of the Maritime Provinces, and 1,100,000 traps required to keep them going. Over 14,000 persons find employment in this branch of industry alone.

COMPARATIVE TABLE showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1896.

YEAR.	VESSELS.			BOATS.		Value of Nets and Seines.	Value of other Fishing Material.	Total of Capital Invested.
	No.	Tonnage.	Value.	No.	Value.			
						\$	\$	\$
1879.....	1,183	43,873	1,714,917	25,616	854,289	988,698	456,617	4,014,521
1880.....	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1881.....	1,120	48,339	1,765,870	26,108	696,710	970,617	679,852	4,113,049
1882.....	1,140	42,845	1,749,717	26,477	833,137	1,351,193	823,938	4,757,985
1883.....	1,198	48,106	2,023,045	25,825	783,186	1,243,366	1,070,930	5,120,527
1884.....	1,182	42,747	1,866,711	24,287	741,727	1,191,579	1,224,646	5,014,663
1885.....	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1886.....	1,133	44,605	1,890,411	28,187	850,545	1,263,152	2,720,187	6,814,295
1887.....	1,168	44,845	1,989,840	28,092	875,316	1,499,328	2,384,356	6,748,840
1888.....	1,137	33,247	2,017,558	27,384	859,953	1,594,992	2,390,502	6,863,005
1889.....	1,100	44,936	2,064,918	29,555	965,010	1,591,085	2,149,128	6,770,151
1890.....	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1891.....	1,027	39,377	2,125,355	30,438	1,007,815	1,644,892	2,598,124	7,376,186
1892.....	988	37,205	2,112,875	30,513	1,041,972	1,475,043	3,017,945	7,647,835
1893.....	1,104	40,096	2,246,373	31,508	955,109	1,637,707	3,174,404	8,681,557
1894.....	1,178	41,768	2,409,029	34,102	1,009,189	1,921,352	4,099,546	9,439,116
1895.....	1,221	37,829	2,318,290	34,268	1,014,057	1,713,190	4,208,311	9,253,848
1896.....	1,217	42,447	2,041,130	35,398	1,110,920	2,146,934	4,527,267	9,826,251

STATEMENT of the Lobster Industry in Canada for the Year 1896.

PROVINCES.	Number of persons employed.	PLANT.				CATCH.					
		Number of Canneries.	Value.	Number of Traps.	Value.	Total Value, Plant.	Number of Cans.	Value.	Fresh or Alive.	Value.	Total Value.
Nova Scotia	3,839	206	\$ 192,085	587,612	\$ 313,145	\$ 565,230	5,363,300	\$ 750,861	Tons. 7,627	\$ 572,044	\$ 1,322,905
New Brunswick.....	4,208	198	112,500	205,621	167,805	280,365	2,355,807	329,813	1,357	106,490	436,303
Prince Edward Island.....	3,748	174	109,123	219,105	117,432	226,555	2,028,709	284,019	.....	.....	284,019
Quebec.....	2,380	87	39,705	94,551	63,126	102,831	1,158,822	162,235	4	300	162,535
Totals.....	14,175	665	453,413	1,106,889	661,508	1,114,921	10,906,638	1,526,928	8,988	678,834	2,205,762

Marine and Fisheries—Fisheries Branch.

COMPARATIVE TABLE showing the number of men employed in the Fishing Industry since 1879.

Years.	Number of Men in Vessels.	Number of Men in Boats.	Total Number of Fishermen.
1879.....	8,818	52,577	61,395
1880.....	8,757	51,900	60,657
1881.....	8,359	50,679	59,056
1882.....	8,498	52,785	61,283
1883.....	9,966	52,259	62,225
1884.....	9,968	51,854	61,822
1885.....	9,539	53,282	62,821
1886.....	8,927	53,073	62,000
1887.....	8,911	55,247	64,158
1888.....	9,574	53,109	62,683
1889.....	9,621	55,382	65,003
1890.....	8,726	55,000	63,726
1891.....	8,666	56,909	65,575
1892.....	8,330	55,348	63,678
1893.....	8,899	58,854	67,753
1894.....	9,525	61,194	70,719
1895.....	9,804	61,530	71,334
1896.....	9,735	65,502	75,237

RECAPITULATION

Showing the Number and Value of Fishing Vessels, Boats, Nets and other Fishing Material, as well as the Number of Fishermen in Canada, 1896.

PROVINCE.	FISHERMEN IN		VESSELS.			BOATS.		GILL-NETS AND SEINES.		Value of Pound-nets, Traps-nets, Prawls, Weirs, &c.	Value of Lobster and Smoked Plant.	Approximate Value of Freezers, Fish-houses and other fixtures not itemized.	TOTAL VALUE.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
Nova Scotia.....	5,801	19,174	593	25,465	878,675	14,549	315,020	2,516,791	659,768	199,024	505,230	512,036	3,069,753
New Brunswick.....	1,035	10,235	274	3,758	131,160	5,562	243,887	772,230	541,991	223,007	280,305	458,109	1,878,459
Prince Edward Island..	86	4,668	17	493	12,050	2,069	55,551	93,059	36,570	9,920	226,555	31,345	371,991
Quebec.....	242	13,173	40	1,600	34,450	6,961	186,399	320,541	161,000	192,236	162,831	212,821	799,737
Ontario.....	433	2,865	*86	2,673	231,900	1,370	104,842	1,745,435	236,665	137,870	.....	127,255	838,532
British Columbia.....	+2,071	13,854	193	6,802	646,395	3,981	190,430	628,665	480,200	.....	.....	1,297,553	2,614,578
Manitoba and N.-W.T.	67	1,533	*14	1,655	106,500	906	14,791	267,735	30,740	.....	.....	101,170	253,201
	9,735	65,502											
Total .....	.....	75,237	1,217	42,447	2,041,130	35,398	1,110,920	6,344,456	2,146,934	672,057	1,114,921	2,740,289	9,826,251

*Mostly all tugs. † Including sealing fleet and crews.

Marine and Fisheries—Fisheries Branch.

FISHERIES PROTECTION SERVICE.

A full report on the operations of the Fisheries Protection Service during the season of 1897, by Commander O. G. V. Spain, will be found in Appendix No. 12 of this publication. It is pleasing to note that this service has been again carried on in a very satisfactory manner.

With the exception of the D.S.S. "La Canadienne" and "Stanley" which were not put in commission, the fleet of cruisers was about the same as usual, consisting of the following steamers:—The "Acadia," "Constance," "Curlew," "Aberdeen," "Petrel," "Dolphin" and the schooners "Osprey" and "Kingfisher." The "Petrel" and "Dolphin" cruised on the Ontario great lakes, and all the others on the Atlantic coast. The D.G.S. "Quadra" was partly employed on the Pacific coast for the protection of fisheries. Capt. Walbran's report in this respect will be found at page 288. The reports of other Captains commanding cruisers are also published as annex A to appendix 12.

The number of United States fishing vessels taking advantage of the *modus vivendi* licenses was nearly 50 per cent less than during the season of 1896.

Only one seizure of a foreign fishing vessel was made during the last season for violation of the customs laws. This vessel (the "Carrie E. Philips") was subsequently released on payment of a deposit.

Toward the end of the season Commander Spain paid particular attention to the observance of the lobster close-season, and many thousand traps and gear found set illegally were seized and destroyed.

The total amount expended by this service for the last fiscal year is given at \$99,357.

FISHERIES INTELLIGENCE BUREAU.

A full report on this branch of the service by Mr. W. M. Huchins, clerk in charge at Halifax, forms annex C to the Fisheries Protection Service report. In view of the absence of official figures for the yield of fish for 1897, this report on the principal kinds of fish at the most important fishing districts will be found of interest.

FISH CULTURE.

The fish-breeding report for the year 1897 by Professor E. E. Prince, Commissioner of Fisheries, forms Appendix No. 11 of this publication. It also includes a complete description of all proceedings such as the capturing of parent fish, collection of eggs, etc., at the different hatcheries by the respective officers in charge.

There are now fifteen government hatcheries in the Dominion, but the establishments at Dunk River, P. E. Island, and at Selkirk, Manitoba, were not in operation last season.

About *two hundred million fry* were hatched and successfully distributed from the thirteen establishments in operation during 1897, some ninety millions of which were young lobsters.

During the summer an attempt was made to artificially hatch out brook-trout at the Miramichi government establishment, with the co-operation of the Provincial authorities.

The total expenditure for this branch of the service aggregated \$27,330, being over \$10,000 less than the previous year.

OYSTER CULTURE.

A full report of the last season's work of the culture of oysters by the expert, E. Kemp, follows as an Annex to the fish-breeding report, page 268.

Mr. Kemp began operations at Shediac where the beds were found free from eel-grass and the oysters growing in a satisfactory manner. Bay du Vin was next examined and barring certain depredations was also found satisfactory. The expert afterwards devoted his time examining areas most suitable for oyster culture in Cape Breton, Nova Scotia and Prince Edward Island. Mr. Kemp also visited and reported favourably on a certain area of nearly 500 acres in the County of Bonaventure, near Carleton, where a Quebec company has been organized to attempt the culture of oysters on a large scale.

The total water area now under license for a term of years to different parties for private cultivation is given at 1,147 acres.

BEHRING SEA QUESTION.

This question has occupied a particularly prominent position during the year just closed, both as regards the diplomatic correspondence between the different governments interested and the meetings of conferences and commissions.

The conference of fur-seal experts met and concluded their work at Washington during the fall, and diplomatic negotiations have since proceeded looking to some satisfactory settlement of the question which has so long engaged the attention of the three governments concerned.

The argument by the respective counsel before the Behring Sea Claims Commission was completed at Halifax in October and the award of the commissioners was reached at a session in Boston during December.

An article by Mr. R. N. Venning, which forms Appendix No. 13 to this report, treats of this question, embracing a fairly comprehensive reference to the principal features of the case which developed within the year, including statistics, the season's catch, proposals for changes in the regulations, requests for supplementary arrangements for enforcing the present regulations, scientific and expert inquiry into seal life, and other features of interest incidental to the question.

SPECIAL REPORTS.

This report is immediately followed by three special articles of a scientific character by Professor Edward E. Prince, Commissioner of Fisheries for Canada, which will be found very interesting to all parties interested in fish life.

1. *The Fisheries of Canada.*
2. *On the treatment and planting of salmonoid fry.*
3. *The propagation of black bass.*

Marine and Fisheries—Fisheries Branch.

CONCLUSION.

Fishing Season of 1897.

During the last five years the value of the Canadian Fisheries has but slightly varied above twenty million dollars. By a glance at the preliminary reports received from our different inspectors and officers, it is feared that the yield of the sea for the last season will not equal that of 1896.

In the Maritime Provinces the *lobster* industry, employing about 14,000 hands, using over 1,000,000 traps to supply 665 canneries, in all representing a capital of over \$1,000,000, will show a considerable decline in quantity, fortunately prices were higher than usual. *Mackerel* fishing seems to be steadily failing. Some of those caught were of a large size and commanded high prices in foreign markets. *Cod* may be as plentiful as ever but prices were lower, and the demand in foreign markets somewhat limited.

The *salmon* canning industry of British Columbia has exceeded by far any previous output. The total capture of that game fish in the above named province is estimated at 49,000,000 lbs. for the season of 1897.

CAPE BRETON ISLAND.

Inspector Bertram says that notwithstanding the increased number of lobster canneries and a higher price paid to the fishermen, the production is much inferior to the previous one. This is ascribed to stormy weather as well as to the scarcity of fish. The extension of the fishing time was not generally taken advantage of. The prices of dry cod being very low, this fishery was not prosecuted as vigorously as in former years. Respecting this branch of industry the inspector says: "There is no doubt that one of the causes of the low prices of cod is due to the immense quantity of the French article which finds its way into the markets formerly held by the product of our own fishermen. The French fishermen in Newfoundland and St. Pierre receive a bounty of \$2 per quintal for the fish they catch. This bounty has stimulated the industry to such an extent that at least sixty per cent more are now caught by French fishermen than before they received a bounty from their government. Canadian and Newfoundland fishermen complain bitterly of the advantage the French fishermen have over them and the competition they have to suffer from the product of foreigners even in their own country." The spring and fall run of herring were as good as formerly but the summer run of fat herring was a complete failure. The cause of this scarcity is unexplained, and it is quite a loss to the Island as these fat herring were easily taken and always commanded a good price. The mackerel fishing will be one of the poorest on record. Prices ruled high. Salmon fishing both angling and netting were satisfactory, especially the latter. The Margaree River is now getting to be quite a sportsmen's resort.

NOVA SCOTIA.

Inspector Hockin says that the fisheries of his district during 1897 will be as follows: codfish, haddock, hake and pollock, about 90 per cent of last year's catch; herring, an increase of 60 per cent; mackerel and alewives a decrease of 50 per cent,

while lobsters and salmon fell about 20 per cent. Of the minor branch of the fishing industry there will not be any material difference from previous years.

Inspector Ford, of the western counties, reports that while the bank fishermen have secured an average yield, the shore fishermen have fared poorly. Prices were discouragingly low. Herring will yield as much, perhaps more than during the previous year. Mackerel seem to have almost deserted that part of the coast, and their capture was a complete failure. Lobsters are getting scarce; it now requires more men with an increased plant to secure the same or even a smaller production. Mr. Ford says their bays and harbours are overfished and the natural propagation of the species is not sufficient to cope with the annual drain of mature fish.

NEW BRUNSWICK.

Inspector Pratt, of the Bay of Fundy coast states that although the strikes of the employees of the Maine Sardine Canneries somewhat interfered with the weir catch of herring, still the general results will prove satisfactory. Herring were later than usual in appearing on the Grand Manan grounds, and the catch of these large fish will be much below the average. Lobsters will produce about the same quantity as in 1896, with a slight advance in value. The cod family or line fish will show a considerable diminution attributed to scarcity of fish.

Inspector Chapman, for the eastern counties of the above named province remarks that although the fisheries of his district have more than doubled since 1890, and will probably aggregate over \$3,000,000, he has to report a falling off for the first time since he has taken charge of the division. "This deficiency," says this officer, "is principally in salmon, mackerel and smelts with the usual yearly shrinkage in the lobster pack. Codfish were plentiful, but stormy weather and low prices may also have slightly reduced the catch of this staple fish below the large capture of last year. Smelts were not less abundant than in 1896, but the weather was not so favourable as during the previous winter. Salmon, owing, it is believed, to the late cold spring, were very late ascending the rivers, but the pools are reported well filled this fall. Mackerel were almost a failure on all parts of their coast."

Inspector Miles, of the western and inland counties, including St. John, expects a better yield of the fisheries generally, as prices of fish were higher and more men went in the business. While there will be a falling off in the catch of shad, alewives and sardines, there will be marked improvement in the yield of salmon, lobsters and the cod family. Herring about an average catch.

PRINCE EDWARD ISLAND.

Mr. J. A. Matheson, who has succeeded Mr. Perry as inspector of fisheries for Prince Edward Island, states that the sea product of 1897 will be below that of previous years. The lobster pack is short, but owing to higher prices, the aggregate value will not be considerably lessened. Stormy weather and scarcity of bait have somewhat interfered with the cod and hake fishery and reduced their catch. Here also, mackerel is reported as a failure, the worse in fifty years. "The oyster fishery," adds this officer, "has been energetically pursued, stimulated no doubt by the present exceptionally high prices. Hitherto the supply has been obtained from Prince

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County chiefly from Richmond Bay, but the demand has caused the beds in Queen's County, formerly little used, to be operated. As some interest seem arising in oyster culture, a large future supply may be looked for." Extensive preparations are made for smelt fishing in December. The trout streams are in good condition, affording ample sport to tourists and visitors.

PROVINCE OF QUEBEC.

Dr. Lavoie, fishery officer, in charge of the Gulf St. Lawrence Division states, that on the whole the fishery operations were satisfactory, and the north shore fishermen need not dread the long winter season. Cod struck abundantly everywhere except at Magdalen Islands, where the yield proved poor. It is true that cod fishing was somewhat neglected for the lobster fishing in the vicinity of the islands. Cod was caught as far up the St. Lawrence as Cape Chatte and at Carleton in Bay des Chaleurs where it had not been noticed for years. The price of this staple fish, however, ruled very low. Herring seemed plentiful and the catch was only limited by a scarcity of curing material. Few mackerel were caught. The salmon yield will be far below that of last year, which was an exceptional season. The shortage in the lobster pack is somewhat compensated by the remunerative prices obtained. Traps were seriously damaged by storms in June. The number of canneries is still increasing, at the Magdalen Islands alone there are now 62 such establishments.

ONTARIO.

In Ontario the catch will be about an average one. Fishing in Lake Erie specially is reported very good. The proximity and easy access of good markets renders the fisheries of this province valuable to the majority of parties interested in the fresh water fishing industry.

MANITOBA.

Inspector R. L. Tupper says that the last fishing season has been a disappointing one. In anticipation of a poor market, although the commercial fishing firms had limited the output in their freezers, still they were obliged to give away many tons of fish in the spring. The depression in the United States markets and the open winter on the great lakes and eastern rivers, allowing fishing when these waters are generally frozen up, increased the production and greatly reduced the prices. Sturgeon fishing was vigorously prosecuted. Both its flesh and its caviare are highly appreciated and bring fair remuneration. The demand for pickerel is increasing and they now bring almost as much as whitefish on the market. In Lake Winnipeg a small improvement in the catch of all kinds of fish, excepting whitefish, may be expected. The southern part of Lake Manitoba has been extensively fished during the summer, and unless closely guarded, will become depleted.

Now that railway communications extend to Lake Winnipegosis, there will be a great rush to it. Many fishermen formerly [from Lake of the Woods are now seeking licenses thereto. Although the season was unusually stormy, it has passed without any loss of life or serious accidents.

The people are delighted to see the hatchery again in operation as they believe in its efficiency.

NORTH-WEST TERRITORIES.

Inspector E. W. Miller, who has succeeded Mr. Davidson, briefly reports as follows: "The number of licenses applied for and granted during the season of 1897 will show a diminution from the preceding year, but the total catch of fish is likely to be larger, owing to the greater scarcity of game in the northern districts. The lakes that have been restocked with fry have given very favourable results therefrom this year, and increasing demands are likely to be made on the department in this respect. The Indians are beginning to better appreciate the necessity of the close seasons, but the destitution of the half-breds in some localities renders it difficult to strictly enforce the regulations. Fishing for export is confined to the Saskatchewan River and has not proved very profitable. Irrigation ditches in Southern Alberta are having a bad effect on its trout streams and much care will be required in harmonizing the conflicting interests."

BRITISH COLUMBIA.

Inspector John McNab states that the run of *sock-eye* salmon in the Fraser River was unprecedentedly large, and over 40 million cans were packed on that stream alone. In fact, salmon were so plentiful that the insufficiency of labour and material alone prevented a larger output. Of the 65 canning establishments in operation, 44 were on the Fraser River and 21 on the coast. The packing on the northern coast and rivers will be below the average. A new venture, the shipping of fresh salmon in cold storage, direct to England by steamships, was attempted as an experiment, so was a shipment of dry salted salmon to Japan. Should these ventures prove satisfactory, they no doubt will soon assume large proportions. Altogether, the yield of salmon in British Columbia is estimated at 49,000,000 pounds for the season of 1897. Sturgeon fishing is fast becoming an important and valuable industry. Those of the Fraser River are of large size and of superior quality. They can be readily caught with nets, but trawl lines are still extensively used, to the great injury of the fishery as well as to the detriment of honest fishermen. The halibut industry is also making rapid strides and its catch will aggregate nearly one million pounds.

Only 41 schooners were engaged in the sealing industry this year, as against 64 in 1896. The total number of skins is given at 30,410, as against 55,667 last year.

Besides salmon, halibut and sturgeon, the waters of this western province teem with a great variety of valuable food fishes, which are yearly assuming more commercial importance.

REMARKS.

It is generally recognized that fishery statistics, while of the highest value, are of necessity incomplete; the difficulties attending their compilation being very great. Every effort is made through the fishery inspectors and officers to procure complete returns for official use; but the annual reports of the department for obvious reasons understate, no doubt, the total catches of the Canadian fisheries rather than overstate them, and "in justice to the fishery officers through whom

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the detailed returns of each season's fishing were procured (to quote from a former report of the department) it should be observed that, considering the limited number of persons employed at nominal salaries and (with few exceptions) at a very moderate expense for disbursements, whose districts extend over such a vast extent of coast, more or less inaccessible at all times, the general accuracy of the materials procured under directions from this department is certainly creditable to their industry and intelligence."

It remains true, as was affirmed officially three decades ago, that there is no country in the world possessing finer fisheries than British North America. As a national possession they are inestimable; and as a field for industry and enterprise they are inexhaustible. Besides their general importance to the country as a source of maritime wealth and commerce they also possess a special value to the inhabitants. The great variety and superior quality of the fish products of the sea and inland waters of these colonies afford a nutritious and economic food admirably adapted to the domestic wants of their mixed and laborious population. They are also in other respect specially valuable to such of our people as are engaged in maritime pursuits, either as a distinct industry or combined with agriculture. The principal localities in which fishing is carried on do not usually present conditions favourable to husbandry. They are limited in extent and fertility and are subject to certain climatic disadvantages. The prolific nature of the adjacent waters and the convenience of their undisturbed use, are a necessary compensation for defects of soil and climate. On such ground alone the sea and inland fisheries to which British subjects have claims on this continent, are of peculiar value, and as regards particular sections of the country, the benefit of sole privilege of fishing are practically speaking an almost vital necessity.

Whether, therefore, we regard them as being abundant and important for domestic subsistence, or in their much larger import as a valuable resource, capable of ever increasing development and limitless reproduction, employing an amount of capital reckoned by many millions of dollars, and engaging the labour of hundreds of thousands of persons,—encouraging maritime pursuits, fostering the commercial marine, promoting foreign trade, keeping always and productively in active training an independent spirited class of sea-faring men,—the teeming waters around the coast of the British North American possessions, and those which form their great lakes and magnificent rivers, present to our view a national property richer and more perpetual than any mere monied estimation could express.

It is in the highest degree gratifying to find that British subjects are becoming every year more and more alive to their vast importance, and that Canadians especially are now more than ever anxious to preserve them as the finest material portion of our colonial heritage.

The fact of foreign nations having always clung with such tenacity to every right and common liberty which they have been enabled to secure in these fisheries,

and the eagerness which foreigners manifest to establish themselves in the actual use of such extensive and lucrative privileges, constitute the best extrinsic evidence of the wide spreading influence of their possession and the strongest testimony to their industrial and commercial worth.

I have the honour to be, sir,

Your obedient servant,

F. GOURDEAU,

Deputy Minister of Marine and Fisheries.

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SPECIAL REPORTS

ON

- I.—The Fisheries of Canada.
- II.—On the Treatment and Planting of Salmonoid Fry.
- III.—The Propagation of Black Bass.

BY

PROFESSOR E. E. PRINCE, B.A., F.L.S.

Commissioner of Fisheries for Canada,

1897

I.

THE FISHERIES OF CANADA.

BY PROFESSOR EDWARD E. PRINCE, DOMINION COMMISSIONER OF FISHERIES, OTTAWA.

Last year I had the honour of being invited by the Royal Society of Canada to deliver the annual evening address at their May meeting. It is not customary to put in permanent form a popular address of that nature; but when asked this year to contribute a short article on fisheries to the "Handbook of Canada," prepared for the British Association for the Advancement of Science, which held its sixty-sixth meeting in Toronto, I summarized my notes for the purpose, in the form of a *résumé*.

The present account is based upon the Royal Society address and the *résumé*, referred to. The time appears opportune for publishing this sketch, as there is no work available, which attempts an adequate review of Canada's fishery resources, fishery administration, &c. There are, it is true, accounts by Joncas, Lemoine and others, and works upon provincial fisheries by Perley, Knight and lesser known writers, but the great fisheries of the west have received very inadequate treatment as compared with those of the east, and a summarized sketch of the whole subject is now essayed, it is believed, for the first time.

That the fisheries of Canada are the most vast in extent and the most varied in their products, can hardly be questioned. The Dominion's waters on the Pacific and Atlantic shores teem with fish of the greatest economic value, while the system of fresh water lakes, really inland seas, which stretch in a linear direction for over a thousand miles; the productive lakelets, countless in number, and the noble rivers which flow through her far-reaching territory, provide the amplest field for gigantic fishing industries.

The annual value of the inland and sea fisheries has been variously estimated; but it cannot be much below \$30,000,000. Official returns, it is generally admitted, underestimate rather than overestimate their total value, as vast quantities of fish are used for food which it is hardly possible to accurately estimate, and enormous catches are made in remote regions of Canada of which no returns are available. Fishermen generally exhibit an unwillingness to state with any precision the amount and value of their takes each season; and shipments of fish are frequently taken from Canadian fishermen by United States tugs, especially upon the great lakes, which are not entered upon Dominion records.

The growth of the fisheries has been phenomenal. In 1850 their value did not exceed \$150,000; in 1852 the value was doubled, and in 1859 it rose to \$1,407,000, while ten years later (1869) it amounted to \$4,376,526. By 1872 the value again more than doubled, and reached \$9,570,116. In 1877 it was \$12,005,934; in 1887, \$18,386,103, and official estimates this year put it at \$20,407,424, which do not probably adequately account for the value of fish consumed by the Indians, the Eskimo, and settlers in remote districts of the Dominion, or the large quantities shipped from Hudson Bay, Hudson Strait and other distant waters.

An army of fishermen, 75,237 in number, possessing boats, nets and gear valued at about \$10,000,000 engage in these fisheries. Many profitable industries are largely connected with and dependent upon the fisheries, such as boat building, net and twine manufactures, the making of cans (for salmon, &c.) some of these industries being extensive. The following summary, suggested by the system of territorial regions which Sir William Dawson laid down in his work on the "Ice Age," recognizes seven great divisions, each characterized by fisheries more or less distinctive.

REGIONAL DIVISIONS.

(1.) The Atlantic division, from the Bay of Fundy to the coast of Labrador, embracing deep-sea and inshore fisheries, cod, mackerel, haddock, halibut, herring, hake, lobsters, oyster, seal and white whale (Beluga) fisheries. Annual value: \$10,000,000.

(2.) The Estuarine and inland waters of the Maritime Provinces (Nova Scotia, New Brunswick, Prince Edward Island and Quebec), including fisheries for salmon, shad, gaspereaux (alewife), striped bass, smelt, and in the lakes, ouananiche or fresh water salmon, lake trout or lunge, maskinonge, &c., of the annual value of \$2,500,000.

(3.) The great lakes and tributary waters: Lake whitefish, great lake trout, lesser whitefish (called erroneously lake herring), sturgeon, pike-perch, (doré or pickerel), black bass, brook-trout, maskinonge, pike and numerous carps, suckers and catfish. Value: \$2,000,000.

(4.) Great North-west lakes, including Manitoba and northern waters, yielding lake whitefish, sturgeon, pike-perch, tullibee (a peculiar lesser whitefish), pike and gold-eye (a true fresh-water herring).

Value, including newly developed "caviare" and "sturgeon sounds" industries, \$1,000,000.

(5.) Pacific interior, or Rocky Mountain plateau, comprising little developed fisheries, land-locked Pacific salmon, lake whitefish, lake trout, river trout and numerous *cyprinoids*, none of which are probably identical with eastern species. Annual value small and unrecorded.

(6.) Pacific coast fisheries which are almost unworked, if the estuarine salmon fisheries be excepted. At least seven different species of Pacific salmon occur belonging to the genus *Oncorhynchus*, excluding *Salmo gairdneri*, the steelhead. Halibut, skill (black cod), oolachan (candle fish), anchovy, herring, smelt, and a great variety of other marketable fishes abound, but are not to any adequate extent utilized. Shark, dog-fish and whale fisheries exist, and there are limited oyster fisheries. Exclusive of the fur seal, which is an oceanic industry, less than \$1,000,000 in value, the coast fisheries may be given at \$4,000,000.

(7.) Hudson's Bay and Peri-Arctic area (Ungava Bay to the Mackenzie River), Whale, walrus, sea-trout, the inconnu, resembling a huge river whitefish, pike, suckers, sturgeon, and possibly salmon and cod, occur in these vast waters, of which Hudson Bay alone exceeds the Mediterranean Sea in extent. The richest whaling grounds in the world are in this little-known part of Canada, off the mouth of Mackenzie River and as far east as Cape Chudleigh, in Hudson Strait, where the Baleen whale and walrus were until recently numerous. "The tidal channels of Canada's Arctic archipelago are destined," it has been truly said "to be the last home of the leviathans, which within the memory of living men, have been driven from Newfoundland latitudes to the places where their survivors have now sought retreat."

COAST LINE, LAKE AREAS, &c.

It may be pointed out that the waters grouped in this seven-fold manner include on the Atlantic, a Canadian coast line at least 10,000 miles long, and on the Pacific not less than 8,000 miles, while the portions of the great lakes (Superior, Huron, Erie and Ontario), which lie within the British boundary line, embrace a fishing area computed at 72,700 square miles, and containing one-half the fresh water upon the surface of the globe. To these extensive waters must be added giant streams like the St. Lawrence, the largest river on the North American continent, having a drainage area of 367,000 square miles, the Mackenzie River (over 2,000 miles long), the Saskatchewan (2,000 miles long), the Fraser and Red Rivers, each 600 miles long, and others, like the rivers Peace, Nelson, Albany, Great Whale, Skeena, Ottawa, St. John, Restigouche and Miramichi, all of which are great rivers abounding in the choicest species of fish.

There are few rivers or lakes in this vast continental stretch, which do not furnish to the angler fishing with rod and line unapproachable elsewhere. The

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salmon rivers of the maritime provinces have no equal, and the inland waters inhabited in the east mainly by speckled trout; and further west, especially in Ontario, by black bass and maskinongé, afford the highest kind of sport. The large trout of the Nepigon River and Lake Nepigon in western Ontario have a reputation hardly inferior to the ouananiche or fresh-water salmon of Lake St. John, in the province of Quebec.

The principal salmon streams of New Brunswick and Quebec, such as the famous Restigouche, the peerless Miramichi, the St. John and its tributaries, the Nipissiquit, the Cascapédia, the Saguenay, &c., are for the most part leased by clubs or private parties, many of them from the United States, and their commodious club-houses occur at picturesque points along the banks. Such is the value placed upon angling in some of these waters that the Cascapédia, which may be cited as an example, was leased not long ago by the Quebec Provincial Government at no less a sum than \$6,125 per annum. While angling for trout and other fish, excepting salmon, has in the past been freely permitted in the various provinces, the necessity with the increase of sportsmen and the leasing of lakes and rivers has arisen for effective restrictions. In Ontario, for example, no one except resident Canadians can angle for bass, maskinonge, trout, &c., without a permit which is issued at a moderate fee. The Commissioner of Crown Lands, Toronto, has power to issue free permits for one month for waters adjacent to Crown lands, and visitors who are domiciled for a time in Canada may have the privilege of fishing without permit or license. In waters so numerous and extensive as those of Canada the angler has no difficulty in finding scope for his *penchant*, and such resorts as the Thousand Islands attract myriads of sportsmen every season. In each province indeed there are localities which abound in game fish where the angler can freely exercise his skill.

In the tidal portions of rivers licenses and leases are granted by the Department of Marine and Fisheries for commercial fishing, and in the estuary of such rivers as the Restigouche and Miramichi, most extensive salmon netting for the market is carried on. In the harbour of St. John the net fishings are under the control of the city of St. John, but elsewhere the Dominion Government possesses the leasing or licensing power. As already stated, the provincial governments have the right to issue leases for non-tidal portions in the case of ungranted frontages; but this power is vested in the riparian proprietors in the case of granted lands. In Nova Scotia and Ontario the waters, as a rule, are not leased, and the riparian owner's rights have not been very generally enforced.

It is important to note that the Atlantic inshore fisheries of Canada, embracing an area of more than 15,000 square miles, are prosecuted not by Canadian fishermen alone, but by those of the United States, Newfoundland and France under international treaties. The great lakes also are, for the most part, divided between the United States and Canada, and the recorded Canadian catches represent therefore only a proportion of the total yield of those waters.

In Hudson Bay and the northern seas, as well as in the Pacific inshore waters of British Columbia, foreign fishermen have very largely encroached on the fishery resources of the Dominion. There are, it may be added, extensive waters as yet untried and undeveloped, and valuable resources which in the near future will add to the annual value of the Canadian fisheries.

The importance of the fishing industries did not in the past go unrecognized. A government department charged with the administration of fishery, as well as shipping matters, was created at Confederation (1867), prior to which the fisheries had been regulated by a branch organized in 1859, of the Crown Lands Department of Upper Canada. Such control as the provincial governments still exercise in Ontario, Quebec, and the other provinces, is carried out by the Commissioners of Crown Lands in the several provinces. Since Confederation the vast fisheries of the Dominion have been under the direct supervision of a Cabinet Minister (the Minister of Marine and Fisheries) at Ottawa. A Deputy Minister acts immediately under the Minister, and has the administration of the department in his hands, while a Commissioner of Fisheries, who is also General Inspector for the Dominion, has important

advisory and executive functions. In addition to the usual inside staff of officers and clerks, there is a body of outside officers who enforce at a yearly cost of about \$120,000, the close seasons, and the fishery license system, collect statistics, &c.

The staff includes 12 inspectors of fisheries (who receive \$700 to \$1,500 per annum): several hundred overseers, vested with magisterial powers for the purposes of the Fisheries Act, (receiving \$100 to \$900): and a still larger body of temporary fishery guardians, whose pay ranges from \$1.50 to \$2 per day. A fleet of armed cruisers, costing about \$100,000 annually, patrol the coastal and great inland waters, exercising surveillance over foreign as well as Canadian fishing operations in Dominion waters. Finally, a bounty system is carried out for encouraging the pursuit of the deep-sea fisheries in the Atlantic, the provision for which was secured by the Halifax Award, (November 23, 1877), whereby a sum of \$5,500,000 was paid by the United States in consideration of the fishery concessions in Canadian inshore waters along the Atlantic coast granted to the United States fishermen. A sum of \$160,000, voted annually by Parliament is by this means available, and is distributed amongst the deep-sea fishermen in the Maritime Provinces. The work of the Fisheries Department is thus extremely varied and important. The late Professor Brown Goode, United States Commissioner of Fisheries, at a fisheries conference in London, 1883, said:—"It seemed to him that the Canadian Department of Marine and Fisheries was one of the most valuable organizations in the world, and that the system of gathering statistics was one which other countries ought to study with a great deal of care. In the United States they had nothing of the kind." The collection and publication of statistics is indeed an invaluable branch of the department's work.

The methods of protection and restoration adopted by the Department of Marine and Fisheries are:—

- (1) Close seasons preventing the capture of spawning fish.
- (2) Fishing licenses specifying the kind of net, amount, mesh, &c.
- (3) Prohibition of obstructions, pollutions, &c.
- (4) Protection of spawning grounds, spawn, immature fish, &c.
- (5) Artificial fish culture, as a means of supplementing natural reproduction and introducing fish into new waters.

The last is carried on by means of 14 hatcheries under the supervision of the Commissioner of Fisheries. Salmon (Atlantic and Pacific), great lake trout, and lake whitefish, are hatched and shipped *gratis*, if the waters applied for are suitable. A lobster hatchery at Pictou, N.S., turns out annually one hundred to one hundred and sixty millions of minute larval lobsters. The fish culture operations cost between \$30,000 to \$40,000 per annum, and in 1895, close upon three hundred millions of fry of the various fishes above named were planted in the several provinces.

A most effective aid to the protection of fish is the prohibition of obstructions caused either by dams or by nets and other fishing apparatus. Main channels of rivers may not be obstructed, and the law requires that nets or fishing apparatus shall leave two thirds of the course of any river or stream clear for the ascent of fish. It is required that fish-passes shall be provided by mill owners or others to enable fish to ascend above dams or barriers and such fish-ways must be kept in efficient condition. In special cases the department is empowered to provide one-half of the cost if the Minister of Marine and Fisheries judges it to be called for. A special provision of the Fisheries Act requires that fish shall not be impeded in their migrations on Sunday, and all nets, fish traps, &c., must therefore be taken out of water, or raised or opened to allow of free passage. In British Columbia for 36 hours each week fishing is prohibited in order to allow of the ascent regularly of a certain proportion of every week's run of salmon.

A sea-fisheries Intelligence Bureau established in 1889, including between fifty and sixty stations under the charge of the Commander of the Protection Fleet, announces daily to the fishermen the movements of fish and the localities for bait.

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The following table shows in graduated series the various fish and fish products with the relative value of each for the years 1895 and 1896.

Number.	Kinds of Fish.	1895.		1896.	
		Quantity.	Value.	Quantity.	Value.
			\$		\$
1	Cod, dried..... Cwt.	806,415	3,630,279	809,608	3,610,935
2	do tongues and sounds..... Brls.	824	8,240	845	8,450
3	Salmon, preserved, in cans..... Lbs.	28,858,897	2,886,479	29,872,740	2,988,258
4	do fresh..... "	4,872,770	794,964	5,439,942	965,029
5	do pickled..... Brls.	3,825	42,312	3,186	36,498
6	do smoked..... Lbs.	56,460	8,962	49,133	11,894
7	Herring, salted..... Brls.	511,470	2,301,616	490,171	2,183,559
8	do fresh..... Lbs.	11,556,085	295,705	22,289,796	504,893
9	do smoked..... "	10,051,613	203,235	10,980,430	221,292
10	Mackerel, salted..... Brls.	35,554	497,756	37,765	528,710
11	do fresh..... Lbs.	2,068,236	238,899	2,427,972	199,033
12	Lobster, preserved in cans..... "	12,345,592	1,666,388	10,906,638	1,526,928
13	do alive or fresh..... Tons.	7,374	543,708	8,988	678,834
14	Hake, dried..... Cwt.	73,424	186,890	94,808	241,687
15	do sounds..... Lbs.	47,931	23,966	69,867	34,933
16	Haddock, dried..... Cwt.	120,758	422,653	125,122	421,204
17	do smoked (finan haddies)..... Lbs.	231,000	22,050	1,116,000	72,180
18	Pollock, dried..... Cwt.	59,507	148,767	88,781	221,118
19	Trout..... Lbs.	6,926,116	692,189	6,950,986	690,699
20	do..... Brls.	1,040	10,400	2,275	22,750
21	Whitefish..... Lbs.	14,249,399	767,307	13,374,000	773,345
22	Smelts..... "	9,022,157	451,108	9,970,805	498,539
23	Halibut..... "	3,977,350	270,901	3,672,625	253,435
24	Shad..... Brls.	9,639	98,181	8,586	87,370
25	Eels..... Lbs.	909,270	54,556	1,037,535	62,252
26	do..... Brls.	9,984	96,880	7,333	70,690
27	Alewives..... "	48,108	192,432	52,616	209,194
28	Sardines..... "	188,089	377,292	86,981	176,414
29	do preserved..... Cans.	924,000	46,200	576,700	28,835
30	Bass..... Lbs.	1,159,870	85,567	1,294,595	94,442
31	Pickrel..... "	7,678,411	303,296	6,897,810	274,931
32	Pike..... "	3,592,975	103,325	3,594,790	99,008
33	Maskinonge..... "	455,535	27,332	807,950	48,477
34	Sturgeon..... "	1,749,520	155,176	2,403,801	152,757
35	Squid..... Brls.	15,055	60,220	24,500	98,000
36	Flounders..... Lbs.	252,432	12,622	189,159	9,613
37	Winninish..... "	100,000	6,000	90,000	5,400
38	Oysters..... Brls.	47,673	192,292	48,574	194,206
39	Clams..... "	20,022	69,027	19,791	70,960
40	Perch..... Lbs.	1,010,580	29,729	1,333,550	38,840
41	Toni-cod or frost fish..... "	2,910,510	138,525	2,657,465	137,832
42	Oulachons..... "	594,200	30,625	581,500	29,550
43	Coarse and mixed fish..... Brls.	80,850	206,789	104,832	284,639
44	Home consumption not included above..... Lbs.	1,938,230	269,282	1,894,856	287,896
45	Fur seal skins (British Columbia)..... No.	71,359	713,590	55,677	501,003
46	Hair do..... "	16,469	18,753	16,808	19,157
47	Sea otter skins..... "	16	2,000	23	4,025
48	Beluga (white whale) skins..... "	205	820	222	5,328
49	Fish oils..... Galls.	620,613	248,246	557,140	224,633
50	do used as bait..... Brls.	234,696	352,047	256,146	384,219
51	do do manure..... "	105,209	52,605	127,658	63,830
52	do guano..... Tons.	3,615	51,155	3,416	49,540
	Total.....		20,199,338		20,407,424
	Total increase.....				208,086

METHODS OF FISHING.

At least a dozen methods of taking fish for the markets merit, on account of their importance, a passing notice. The two chief methods are the pound-nets or fish-traps, and the gill-nets or drift-nets. The latter (gill-nets) hang like a wall in the water, with weights, suspended by lines and buoys or floats, and the fish, in their endeavours to pass through, become meshed by the head and strangled. The former (pound-nets or weirs) consists of a "leader" which obstructs the fish and leads them into a staked inclosure, out of which on account of the arrangement of partitions they do not readily escape. Pounds of wickerwork or brush are used in New Brunswick and Nova Scotia for taking sardines, herring and mackerel. Swing nets and other forms of stake-nets are used for salmon, &c., and instead of impounding they gill the fish, but the hoop-nets (or verveux) are perhaps the most widely used for taking the inferior kinds of fish, catfish, suckers (cyprinoids), perch and the like. The hoop-net has the form of a funnel held open by a series of erect wooden hoops and set in creeks and inshore waters. A special form of trap or weir is used for taking eels.

The seine is a most effective net, but on account of its destructive nature, its use has been discouraged. To the extensive use of seines in former years may be attributed the serious decline in some localities of once prolific fisheries. Scoop-nets and bag-nets are used for taking smelts, striped bass and shad. They are successfully used through the ice, in winter, taking immense quantities of fish, carried in with the tide, as the smelt, or when lying torpid like the striped bass, in the winter months.

SALMON AND LOBSTER CANNING.

The vast salmon and lobster canning industries of Canada (salmon on the Pacific coast, and lobsters on the Atlantic coast) are in some respects the most remarkable fishery enterprises in the world. Probably nine to ten millions of salmon are annually used in British Columbia, while every year from eighty to one hundred millions of lobsters are packed in the six or seven hundred lobster factories on the coast of New Brunswick, Prince Edward Island, Quebec and Nova Scotia.

OYSTER FISHERIES.

Finally, the oyster, which differs from the European species in being dioecious and in its hundred-fold more prolific character, is distributed over vast areas along the Atlantic coast, constituting these areas most extensive and valuable oyster grounds. The annual yield, 50,000 to 70,000 barrels, represents but a tithe of the possible yield, were systematic culture and judicious fishing methods adopted. The Department of Marine and Fisheries has for six years carried on operations, with the aid of a qualified expert, in order to restore and render more prolific certain important oyster beds.

NOTES ON SOME MARKETABLE AND GAME FISH.

It is necessary to add a few succinct notes upon certain species of fish of prime importance, commercially, or for sport, which are either peculiar to the waters of this continent or closely allied to European species. The cod, haddock, halibut, mackerel, herring, salmon, pike-perch or doré (also called pickerel), the pike, smelt, eel, and other kinds, call for no special reference, but others like the whitefish, striped bass, &c., demand a brief notice.

Whitefish. *Coregonus clupeiformis* (Mitchill). This fresh water salmonoid is allied to the European Gwyniad and Pollan. It varies in weight from 2 pounds to 16 pounds, and is deep in the body, the shoulder abruptly descending to the head which is very small, the jaws are toothless, the snout blunt, and the gape contracted. The large silvery scales upon its sides, or as some think, the whiteness of the flesh have gained for it its distinctive name. No fish is more justly esteemed for table purposes,

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and to explorers and Indians it is invaluable because a continuous diet of white-fish, unlike salmon, never palls upon the taste. There are several species which abound in almost all the lakes from the Atlantic to the Pacific, and their capture constitutes one of the most valuable of the fresh-water fisheries, the annual yield being not less than 9,000 or 10,000 tons, or about one-fifth of the yearly take of cod-fish. The lesser whitefish, called cisco and lake herring, have become valuable in recent years, as the larger species have been considerably depleted. They feed upon insects and small crustaceans, and like the salmonidæ generally, they resort in the fall to their accustomed spawning grounds, traversing, in many cases, great distances to do so.

The speckled trout or brook trout of Canada (*Salvelinus fontinalis*, Mitchill), is more allied to the charrs than to the common river trout (*Salmo fario*, L.), of Europe. Instead of the silvery sides with comparatively large scales, showing minute red and black spots, the Canadian speckled trout has small scales, dusky green back and dorsal fin vividly diversified with yellow vermiform markings, the sides being spotted with red, white and black. The reddish paired fins show a cream-white anterior margin. It is more important for sport than commercially, but its game qualities are inferior to those of the English trout.

The maskinonge (*Esox nobilior*, Le Sueur) bears a general resemblance to the pike (*Esox lucius*, L.), but is in many respects superior. Its edible and game qualities are remarkable, and it often attains a weight of 70 pounds. Whereas the pike is blotched with white on its greenish brown or dusky sides, the maskinonge exhibits brown blotches on a pale ground colour. The branchiostegal rays are 17 to 19 in number, but in the pike 14 to 16. Most of the still waters of Quebec and Ontario contain this fine game fish, but it has greatly decreased in numbers, though splendid fishing is still to be had in lakes Scugog, Rice, Simcoe, and other Ontario waters.

Black Bass (*Micropterus*, Lacep): The two species of black bass rank high in the estimation of the angler. They range from 2 lbs. to 8 lbs., and are bold, strong and gamey. The flesh is firm, white, and of great excellence. The nest-building habits and strong parental instincts of these fish are well known. Striped bass (*Roccus lineatus*, Bloch) occur in the tidal waters along the Atlantic coast. They reach a great size (15 lbs. to 40 lbs.) and afford splendid sport. They are, with the exception of the salmon, the choicest of food fishes, but their destruction when dormant in the rivers in winter, and the taking of the immature young in smelt nets, has seriously depleted them.

Catfishes or Siluroids (*Ameiurus*). A great variety of species occur in the rivers and lakes, and all are characterized by the long feelers which project from the upper and lower jaws. In size they range from 2 or 3 inches, to 4 or 5 feet, and as there is a good demand for them in the United States markets, considerable catfish fisheries have grown up in some localities.

The two Ganoids *Lepidosteus*, (gar-pike) and *Amia*, (Bow-fin or Lake Dog-fish), are fairly plentiful in the lakes and slow streams, especially in Ontario. These fish are interesting as representing the extinct armoured fishes which were abundant in the Devonian and Carboniferous ages. The fossil species were numerous; and their living representatives few. Of the two groups of Ganoids the osseous and the cartilaginous the sturgeon belongs to the latter, and is now of great market value. Most of the sturgeons descend to the sea, but one of them (*Acipenser rubicundus*, Le Sueur) is strictly a fresh water form and ranges from 40 lbs. to 120 lbs. in weight while the giant B. C. sturgeon ranges from 500 to 1,200 lbs weight.

Of the shad and the remarkable salmonoids of the Pacific waters, it is not necessary to add any remarks in this necessarily brief sketch.

Ever since the discovery of this vast western continent the richness and value of the Canadian fisheries have been acknowledged, and though the fishing fleets of Norway, Portugal, Spain, France and England, have for centuries prosecuted commercial fishing in the waters of the Dominion, and the old colonial provinces, the United States and the British provinces have taken from them incalculable quantities of fish food for the markets of the old and new world, they still remain the greatest and most varied fisheries in existence.

II.

ON THE TREATMENT AND PLANTING OF SALMONOID FRY.

BY PROFESSOR E. E. PRINCE, DOMINION COMMISSIONER OF FISHERIES, OTTAWA.

In the report of this department for 1895, I published some notes on the culture of trout. My remarks had reference mainly to the procuring of eggs, the process of fertilization, and the management of the ova during incubation. These notes appear to have aroused widespread interest, and in consequence of their publication a large number of attempts have been made by private parties to commence fish-culture, especially the culture of speckled trout or brook trout. From the number of communications which have reached the Department of Marine and Fisheries upon the hatching and rearing of trout, the hope which I ventured to express has been fully realized when I said "there is evidence of a growing desire in various provinces on the part of enthusiastic individuals to pursue private fish-culture, and to second and to support the efforts of the Department of Marine and Fisheries in recuperating various waters in the Dominion."

It is true that in some concluding paragraphs in the report alluded to, I pointed out some of the conditions necessary, not only for the successful incubation of the eggs of the trout, but also for the rearing of the newly hatched fry. I added some details, indeed, respecting the building of ponds, and the steps desirable to guard against enemies of hurtful influences, in short, I pointed out the precautions required in order to ensure the best results.

The four main considerations for success in planting fry are:

(1) The best age at which fry could be planted in order to ensure the largest results.

(2) The season and climatic conditions best for transport.

(3) The places to be selected for planting.

(4) The precautions necessary to be observed when the fry are in transit.

When the hatching of eggs is carried on upon an extensive scale it is very necessary to commence the work of distribution with as little delay as possible. The advent of warm weather brings many dangers which are avoided by planting in the early and colder days.

Newly hatched fish carry on their under side a large bag of food-yolk upon which they feed by a process of absorption. There is danger in handling fry when the sac is large as the delicate envelope or skin outside is very tender, easily abrades and ruptures, causing the death of the fish. It is wise therefore to allow them to remain in the hatching troughs for 10 or 20 days, by which time the yolk-ball has much diminished and the fish are more hardy and robust. There is of course danger from various causes of losing a large proportion of the fry of whitefish, salmon, and trout if they are retained long after the absorption of the yolk-sac. Fungus, which may also attack eggs during incubation, is one of the most pernicious. What is called "dropsy" in the yolk-sac is not common, inflammation or clogging of the gills is frequent, but fungus is an epidemic that often carries off entire batches of eggs and fry.

The commonest remedy is common salt, of which a saturated solution is made, practically strong brine, and this is poured into the tanks containing the infected fish. It is a good plan to turn off the supply tap so as to leave 2 or 3 inches of water in the tank, and it is easy then to convert the contained water into a fluid not quite the strength of sea-water. It must be thoroughly mixed and the fry left in for about half an hour. Usually the bath has no ill effect; but if the fry appear to be becoming weak or discomforted, the fresh water should be turned on again. A bath of this kind has been found beneficial, though it requires care, as young salmon

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immersed in sea-water too long die from hardening of the yolk-sac, which becomes dense like india-rubber. Recently another remedy has been advocated, viz., permanganate of potash, which sweetens the water and destroys organic germs. The *Revue Scientifique* notes that at the Geneva Exhibition, 1896, permanganate of potash was used to clean the aquarium, and it is claimed that it prevented the specimens of the salmonidæ from being attacked by *Saprolegnia*. It is a matter, however, of experiment as yet, and further trials are necessary to establish its success.

One recent experimenter tried a new method and with a small painter's brush or the thumb and finger, removed the fungus, and then with a solution of 18 grs. of bichloride of mercury diluted in a 6 oz. bottle, he applied with a camel-hair brush this solution over the parts affected, holding the fish a few seconds before returning them to the water, which was changed daily. The result, he states, is that after one application his fish entirely recovered, with but a few exceptions, which however, were cured by a second application.

There has been much controversy respecting the merits of planting small and helpless fry and planting yearlings or fingerlings, which have been kept in ponds and fed on artificial food. It is admitted that great loss results when fry are thus impounded, and the trouble and expense are serious if a great quantity of fry are being reared. Some of the best pisciculturists (like Mr. F. Francis) have advocated turning the fish out at once *i. e.*, just before or at the time they begin to feed. The strongest argument in favour of this course, apart from the loss by death and the saving of time, money and labour, is that derived from the contention that fry if kept in artificial inclosures and fed become semi-domesticated after a few months and, when liberated amongst their wild companions already in their streams and lakes, fall victims either to starvation (from inexperience in foraging for food), or to predaceous enemies (from which they have been from the hatching stage carefully guarded). Very young salmon and trout attack their weaker brethren and artificially reared "yearlings" certainly do not commence free life on equal terms, with those reared by nature. There is much therefore to be said in favour of using all haste in planting these fry in suitable places after hatching and before the yolk is entirely absorbed. "They do not want any food" said Frank Buckland "for they are supported by the contents of the umbilical vesicle and at this time above all others require protection. You may at this time increase the flow of water, for I have discovered from painful experience, that water which is sufficient for a given number of eggs is not sufficient for the same number of young fish, when they come out of the eggs." It is, however, a fact that young fry frequently take food, and swallow small particles before the yolk sac has been entirely absorbed. As a rule the yolk has gone before the 35th or 40th day after hatching. If the yolk sac is half-absorbed, say on the 20th day, the fry may be safely planted. They have sufficient food to last them until they are thoroughly accustomed to their natural surroundings, and are able to shift for themselves.

The cool and favourable weather of April, May or early June, unless the season be later than usual, is adapted for distribution, and the risks of loss at that time from long or tedious journeys is reduced. Such long and perilous trips are as far as possible to be avoided; but they are often necessary in order to reach the shallow upper waters which are most suitable for planting the young fry.

The question has often been discussed whether fry whose incubation has been protracted are stronger than those which have been hatched earlier under a higher temperature. Certainly the mortality in broods of English trout hatched in water below 40° F. is far less than when the water is of a higher temperature. The same has been found to be true of the Canadian speckled trout and the Rainbow trout.

In a series of ova which had reached an advanced stage in water of 48° F., and were then placed in trays supplied with water 10° lower, the hatching out did not take place until the 120th day, though they are known to hatch in 50 or 60 days under a higher temperature. The resulting fry are more robust, and fewer die during the early stages after liberation from the egg than in those hatched at a tem-

perature of 48° to 60°. Actual tests on spawning beds have shown that for long periods the water may not rise above 34° or 35° until April, and the period of hatching is therefore prolonged to 150 or 160 days, with the result that the fry are stronger and more healthy.

In accordance with the conditions which obtain in nature, the fry, after exclusion from the egg, should not be subjected to very low temperatures, but water ranging from 45° to 55° is most suitable. The carrying of fry to the localities where they are to be deposited is an important matter. Railway journeys, if not too protracted, do little harm to fry, unless the cans or tanks holding them are kept too near a stove or hot coils. Excessive heat often proves fatal in railway cars, but as a rule, journeys by rail are less perilous than by team over rough roads, when the shocks and collisions seriously disarrange the delicate organization of the young fry, and damage it is believed the sensitive otocysts of the little fish. Team-drives over rough trails through forests are not conducive to the well-being of fry, and when possible, cans should be carried, in the manner described later, over very rocky or uneven tracts. Conveyance by boat or canoe is by far the best mode. Cans specially contrived for the purpose are best, and should be made of heavy galvanized iron* or stout iron well tinned, and holding 10 to 12 gallons of water. They may be 24 or 26 inches high, and say 18 inches in diameter, but may be of the form of a truncated cone, with a narrow neck in the centre for the purpose of preventing the splashing and loss of water as far as possible. Into the neck (say 6 inches in diameter), a cylindrical can fits, the bottom of which is made of fine metal gauze. The gauze not only allows of aeration, but when necessary serves as a receptacle for pieces of ice, which, melting, trickles into the water below in which the fish are swimming about. The ice is often broken up into fine pieces or crushed, if it does not melt and cool the water properly. It should always be remembered that the young of fishes, above all salmonoid fishes, cannot endure heat, nor are they able to withstand frost with impunity. Indeed, ice placed in the lid of the can or tank has proved harmful when on warm days the fry have been surrounded for some hours by water of 50° or 60°. Hence the advisability of transporting young fish either in the early spring months or during the night, and at early morning when the season is warmer and more advanced. At such times they can be most safely shipped.

It is well known that newly hatched fish are far less hardy than eggs. But even eggs during the first few weeks are very sensitive, and within three weeks after fertilization they should be subjected as little as possible to concussions and rough usage. Salmon eggs 22 days old died in 8 or 9 days after being roughly handled during some experiments by the late Dr. Francis Day, the well known British salmon authority, but after the 47th day only very hurtful causes, such as chemical impurities, &c., will do them any harm, and "eyed" eggs are hardy in the extreme. No doubt vast numbers of ova are lost every year at the head waters of salmon rivers by being frozen. Certainly in 1881 this loss was very severe on many Scottish rivers. The famous physiologist, Dr. Davy, brother of Sir Humphrey Davy, imbedded salmon eggs in ice, and found that they survived; but his experiments provided conditions probably more gradual than the severe and trying circumstances of freezing near the source of a river.

In order to keep the cans suitably cool an outside jacket of iron is often provided, separated by an empty space from the inside can containing the fry. Such double cans are very effective, and being much cooler than ordinary cans the fry are shipped in them with much greater safety and success. Whitefish fry which are very small and delicate will to the number of 15,000 to 25,000, travel in one of these cans without loss if the journey be not long and trying; but half that quantity of brook trout and salmon would as a rule suffice. Some authorities favour the wise principle of putting a minimum quantity of fry in each can and regard 3,000 to 5,000 as ample, but with newly hatched fry before the gills are properly developed,

* While galvanized iron is the best material, it must be remembered that the spirits of salt, used in soldering is very hurtful, and new cans, should stand full of water (often renewed) for eight or nine weeks.

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and before they have acquired their full larval activity and vigour a greater number can be safely shipped in each can. Ten cans is a full shipment for one team, and fewer cans are in most cases advisable. At the famous Howietoun fish-ponds in Scotland, the lamented Sir James Gibson Maitland, whose recent death all interested in fish-culture must deplore, used a conical form of can 24 inches in diameter across the bottom, and 4½ inches in diameter at the top. The height of this can is 32 inches and the weight, when filled, about 170 pounds, so that two men could easily lift it about by means of two strong handles fixed at points a little above the centre of gravity (about 14 inches from the bottom). When it is necessary to convey the cans along forest paths or across rocky hills, two poles are horizontally attached to the handles, and the can is then easily carried—one man walking in front and the other behind. Many Scottish lakes situated on the highest altitudes have been successfully stocked by this method.

All fry should be planted immediately after arrival. If the hour of arrival at the planting ground be midnight or during the small hours of the morning so much the better, the atmosphere is then cool. In any case no time should be lost as every moment is of importance, and the sooner the fry are disporting themselves in the clear waters of the stream or creek the greater is the assurance of success. Under no plea whatever should fry be kept in the cans over the night. Great risk is run by a few hours' delay. If through the impossibility of obtaining a team or other cause it is absolutely impracticable to at once plant them they should be constantly watched and fresh water splashed in, or the water aerated by a bellows or other means. Aeration is most easily and effectively done by lifting up water in a dipper from the can and letting it fall again with a splash: but on no account should the device be adopted by blowing down a tube into the can with a view to aerating the water. Such an absurd plan has been actually adopted by some manipulators: but in blowing down poisonous air from the lungs, the water in the can already vitiated with carbonic acid gas, becomes more vitiated and poisonous. The surest way of killing and asphyxiating fish suffering from lack of oxygen is to blow air from the mouth into their midst.

Again, fry should not be unduly knocked about or the cans roughly handled. "Fry will not stand much knocking about," wrote the late Sir Gibson Maitlandthe bottom of a tank (or can) used for transporting fry should be stiffened by cross pieces soldered underneath, as, if it sags at all, the fry soon get fatigued, possibly because the least spring from the bottom frightens them and they exhaust their strength by frequent and aimless sallies through the water." The same author also wrote, "With care fry can be carried for twenty-four hours: but the result is not satisfactory if the journey be longer.

Of course small quantities of fry can be sent further and more easily than large. The re-aeration of the water is a difficulty. It cannot be done automatically, as is the case with yearlings, because the motion the water acquires tires out the fry. In fact, the object of filling the tank well in to the cone of zinc is to check the motion."

It usually suffices in a long journey to change the water at appropriate intervals. The fact is well known that little salmon and trout, only 2 or 3 weeks old, actively wave their pectoral fins to and fro and thus create a current of water which aids in oxygenation, and facilitates the breathing operations of the fish.

The actual planting of the fry is a most important matter, and a good deal of very inappropriate advice has been published upon this matter.

It is clear that fry should not be suddenly transferred from a warm can to a can of water that is several degrees higher in temperature than the lake or stream.

The temperature should be somewhat equalized by mingling the two waters before the fish are emptied out. The temperature of the water into which the fry are to be transferred should not be more than 6° higher or lower than the water in which they have been carried from the hatchery.

It is hardly necessary to say that if fry are being sent some distance to be planted, it is an advantage to have all arrangements for their reception made before hand, so that teams may be waiting the arrival of the cans and an immediate start be made. Before placing the cans on the team it is advisable to remove the ice from

the covers of the cans unless the outside atmosphere be very warm. Cans of fish should never stand in the hot rays of the sun: but a cover or sheet should be so placed as to shield them. Cans should also be thoroughly rinsed and cooled with water before fry are placed in them. Fish frequently become sick before leaving the hatchery because this rule has not been observed and the fry placed in cans which have been warmed by the sun or nearness to a stove.

It is a good principle to find out where the fish naturally spawn in the waters to be planted, or if no fish of the same species occur, to ascertain where the best natural conditions exist. Thus whitefish should always be planted on clean gravelly ground in fairly shallow water, or where reefs of honeycomb rock extend. Brook trout and salmon should be placed near the head of streams or as far up tributaries of large rivers as possible, avoiding, however, those which dry up in summer.

Lake trout do best if distributed over rocky shoals such as are selected by the parent fish. In such places as those specified there is abundance of shelter, and the small fish, as a rule, make at once for niches in the rocks, or the protection of pebbles and stones. As pike, pickerel and other predacious fish are in the spring occupied in spawning, there is less danger from these fish than is commonly supposed, especially as the first-named are then in weedy, marshy localities engaged in depositing their eggs. If sunfish, shiners, small suckers and pike appear to abound, it is best to select some other areas which are free from these destructive pests, or if that is not possible drive these fish away by disturbing the water, sweeping a net over the ground or some such method.

It is often the case that neither time or circumstances will admit of reaching the best and most appropriate localities, and the planting must be done where it is apparent the young fry would not have been under natural conditions found. After much experience with young fry, I am bound to confess that planting fry upon what may not appear the most suitable grounds results in better success than might have been anticipated. The charge often made against officials of merely dumping in the fry at the most convenient rather than the most suitable places is less grave than might be imagined by the inexperienced. A man standing on shore with one foot, encased in a fisherman's boot, in the water, can pour the fry gently into a deep part near the edge, and the fry will immediately seek shelter. A better plan is to gently empty the fry from a boat and the fry disperse before they reach the bottom. For a few minutes the mass of young fish appear to crowd together and then spread themselves and disappear from sight. That they survive and do well admits of no doubt as the remark, already made, applies in this case, viz., that the chief enemies of the young fish are in swampy shallows engaged in depositing their spawn. In thus favouring the planting of fry in deep water where it is a matter of difficulty to plant them in small batches in shallow water, I have the support of the late Sir Gibson Maitland who wrote: "At first we used to place the fry in the shallowest water near the inlet of the ponds; but they were so frightened that they used to be huddled together in masses.....when poured into deep water they instantly disperse, and in a few minutes have spread all over the pond in a lively and inquisitive spirit."

III.

THE PROPAGATION OF BLACK BASS

By PROFESSOR E. E. PRINCE, DOMINION COMMISSIONER OF FISHERIES, OTTAWA.

That there are numberless sheets of water in various parts of the Dominion, which are suitable for black bass, but at present inhabited only by inferior fish or destitute of fish life altogether, admits of no doubt. The combination, in both species of black bass (the small mouth and the large mouth species), of the qualities of a fine game fish and an excellent food fish, renders them especially valuable, and their artificial culture and distribution, is a matter of importance. Their dauntless and hardy nature fits them for planting in new and untried waters, and unlike the timid and defenceless whitefish, they are bold and strong enough to hold their own against perch and pickerel (*doré*), or even the pike, and the more predacious kinds.

In the Government hatcheries, carried on under this department, black bass have not been hatched, nor are they suitable for the usual methods of artificial incubation in trays or in glass jars. In last year's Departmental Report (Appendix No. 1), in a somewhat exhaustive though condensed account of fishes' eggs, I referred to the ova of the black bass as not very favourable for artificial culture as they belong to that class of eggs provided with a soft mucilaginous coat, by means of which they are held together in tenacious masses. I referred to the fact (p. 24 of the same article) that they "are generally placed in a nest of more or less perfect construction. They become attached by this viscid envelope of jelly to pebbles, twigs and weeds, of which a kind of nest is usually constructed by the parent fish."

Eggs of this type, as I pointed out in the account referred to, are most unsatisfactory for treatment by the methods of artificial incubation. Only a small proportion of such eggs can be reared by the exercise of considerable care and trouble, and the results are altogether inferior to those secured when non-adhesive individually separate eggs, like those of the trout or whitefish are selected. The reason of this serious failure is complex and arises from several causes, such as the difficulty of obtaining ripe spawn, the peculiar nature of the eggs, which prevents perfect aeration, the evil of foul decaying matter, which finds lodgment in the egg-masses, and the contagion of adjacent dead eggs. Such eggs offer great facility for the germination of parasites and deadly fungi. The difficulties, referred to, were pointed out ten years ago by the late Professor J. A. Ryder, and in speaking of adhesive eggs, such as those of the black bass, he said "it is difficult to prevent the lodgment and rapidly fatal germination of the spores of *Saprolegnia* or *Achyta*, i.e., aquatic fungi or moulds, found in all fresh waters upon dead as well as living eggs. So rapidly do these fungi grow that in a very short time their ravages will extend over an entire tray of adhesive eggs. The eggs are destroyed by the fungus sending filaments into their substance, while the mesh of the mycelium also affords lodgment for dirt, so that the two together effectually shut off the possibility of oxygenating the ova, so that they are smothered."

In my earliest experience with the methods of fish culture, the fact was forcibly impressed upon me that the eggs which adhered in masses, like the eggs of the marine herring (*Clupea harengus*), the lumpfish (*Cyclopterus lumpus*), and other species, a considerable percentage failed to survive the necessary period of incubation, and as the dead eggs could not be torn out from the mass without injury to the attached healthy eggs, the adjacent eggs became fatally affected, and putrefaction spread through the whole mass.

By Professor Reighard's ingenious starch method the kinds represented by the adhesive pickerel's (or dore's) egg can be successfully handled and a larger percentage incubated than by any other method: but such eggs as those of the black bass are specially difficult to treat by any of these methods. The female bass even when in a ripe condition is able to retain her eggs by strong muscular effort, so that they do not flow freely when the hand of the fish culturist is gently pressed along the

underside of the body. In many fishes it is impossible for the female to retain the eggs, when they are fully ripe, especially if pressure be applied: but in the case of the female black bass the case is entirely different. The male, too, presents a similar difficulty, and whereas a male salmon, or trout or whitefish, when ripe, is easily handled, and a supply of sperms or milt readily obtained, the male black bass is very obstinate in this respect.

Indeed some authorities state that the only reliable method is to secure the parent fish of both sexes, at the spawning time, and after killing them to remove the ripe eggs and milt from each. It is often found that specimens of male and female bass when obtained are not ripe at the same time, and disturbing them often prevents the process of spawning, so that the ripe reproductive elements are not discharged. No doubt great losses occur in some waters, especially in shallow creeks, which become partially or wholly dry in the months of June and July and later. These are precisely the months which are the most important in regard to the supply of black bass, for the eggs are then undergoing incubation and the fry are hatching out.

A plan was adopted some years ago by the State of Wisconsin for saving these imperilled ova and young fish, and in the report of the Fish Commissioners for the year 1893-4, they give the following details of the steps which they took:—

“The commissioners became satisfied in the summer of 1893 that great benefit would result to the state by the saving of the bass fry in the sloughs of the Mississippi River. That river overflows its banks in times of floods, forming shallow lakes and sloughs along the banks and on the islands. Into this shallow water the bass go to deposit their eggs. On the subsidence of the waters the parent fish return to the channel waters. The eggs hatch by the millions and the young fish are left to perish, either by the sloughs drying up in summer or freezing in winter. Mr. Nevin made careful examination, and after correspondence with Hon. Marshall McDonald, the United States commissioner, the work of rescuing these young fish, depositing the common varieties in the nearest channel waters and saving the bass and pike for distribution to other portions of the state, was begun in the month of September, 1893. The work was new to Mr. Nevin and his assistants when commenced, and experiments in methods were necessary. But it is believed that excellent results will follow this work. Superintendent Nevin, in his report, says: “I regard the rescuing and distribution of fish from these low places along the river, where they would otherwise inevitably perish, as one of the most economical and practical methods of re-stocking our inland lakes. All the fish so planted are adapted to any of the waters of the state; and the cost of taking and planting them is very small compared with the cost of the artificial propagation of the same species, since we now have a fish car for transporting the live fish.” Hon. Marshall McDonald, the United States commissioner of fisheries, writes that “in no other way can so valuable results be accomplished from so small an expenditure.”

The removal of adult black bass requires special care at the breeding time, as it may happen that the fish have already prepared their nests and placed their eggs therein, or even hatched their young. These young fry if left without parental protection, as a rule, fall a prey to predacious enemies. The Vermont commissioners, in their Fisheries Report for 1888, quote the experience of Mr. C. F. Holt with a batch of these forsaken black bass, who says: “When I went out in the morning the mother fish was gone. I thought I would secure the young fish (they were just hatched), and take them to the house and ‘bring them up by hand.’ So, putting on my wading boots, I walked out to the bed, and there I found, not the young fry, but three or four crayfish and some minnows, which had evidently devoured every fish on the bed. At another time, under similar circumstances, except that the eggs were not hatched, the crayfish had destroyed all the eggs. I took up every pebble without finding a single one.” Although the eggs appear to hatch in about a week or ten days, the transparent and delicate fry are guarded for many weeks. This period of protection lasts from one to two months.

The experiment has been tried of removing the eggs from the nest and artificially rearing the fry, but the difficulty of aeration, as already pointed out, is great, and many eggs are lost from fungus and non-aeration.

Marine and Fisheries—Fisheries Branch.

The only really feasible modes of black bass propagation by artificial means are the simple methods of (1) transferring adult parent fish, (2) half-grown fish, or (3) small fry after the period of parental protection is over.

Of the transportation and planting of full-grown fish, it is not necessary to say much. Success has attended the transplantation where it has been tried, and the well-known experiments of the Marquis of Exeter, Mr. Alexander Begg, of Victoria, B.C., of Mr. Max von dem Berne, of Berneuchen, and others, have shown that good results can be ensured by such attempts. In Mr. von dem Berne's experiments only three fish survived out of a considerable number, but they produced eggs which yielded, after the male had fertilized them, broods of young, no less than 1,300 in total number. The number of eggs yielded by a single female varies from 2,000 to 10,000.

I quote, from the narrative of Mr. Silk, the details of the Marquis of Exeter's shipment of black bass across the Atlantic:—

"All of the black bass that I brought in 1878 from the United States of America were taken from the Delaware River. I placed them in boxes floating in the stream ready to be taken away. On the day preceding the sailing of the steamer for England they were placed in the tanks I had prepared for them by the river side. We got them to the train without any loss, and on arriving in New York had them placed on the main deck of the steamer; it was then 11 p.m., we having left the Delaware River at 3 p.m. Up to this time I had no loss; my greatest trouble was the high temperature it stood at—78 deg. all night. I kept the water as cool as possible with ice. I stayed by the tanks all night pumping air every few minutes, and keeping people from meddling with them. When daylight came I examined the tanks and found five dead fish, which I removed at once. It was now 5 a.m., and the ship was to sail at 6 a.m. I got some men to assist me in changing the water in the tanks. I had one spare tank, which I filled first, then reduced the temperature from 75 deg. as it came out of the hydrant to 58 deg., then placed the bass in it, and so on until I had given them all fresh water. We sailed at 6 a.m. sharp. When we got out to sea a few miles, I made arrangements with two of the steerage passengers to assist me on the voyage. It was then 9 a.m. I gave them both instructions what to do. After this I arranged with my men to keep watch two hours each, and to relieve each other at meal times. I always took four hours' watch in the night. I then roused one of the men and gave over the fish in good order. If there were any dead I always took them out at once. I made it a point never to go to my cabin at night. We got on very well the first day, as it was cooler, but after this we got into the Gulf Stream; both the air and sea were very hot, the atmosphere 85 deg., and the water in the sea 78 deg. It was during these five days we lost the most fish. We cleared the water every day by straining it through flannel, all thick and dirty water we threw away and added some fresh water made by melting ice. The sixth day out we got into cooler weather, and the fish commenced to do better. The temperature of the atmosphere dropped to 57 deg. We used very little ice unless to make fresh water with. We kept on like this until we reached Liverpool, after ten days' passage. I now got fresh water and changed all the tanks. The fish did not object in the least, but were quite lively. It did not hurt them changing the water from American to British. I got them conveyed to the railway station and placed on a truck. We arrived in Stamford in due course, and on counting the fish I found we had 153. I left the Delaware with 250, so that I had lost 97 fish in twelve days.

In 1879 I went again, and started from America with 1,200 black bass, and on arriving home I had 812, having done better than I did on the previous occasion. All of the black bass were for the Marquis of Exeter, he having borne all the expense of the experiment. Most of the fish were placed in a lake belonging to his lordship called Whitewater, near Stamford. Not any of them have been caught yet. From what I could learn they would be about half-a-pound each in weight, so that they had done very well. The first lot that were put in will be three years old in April, when they are expected to commence breeding."

For merely shipping from one lake or river to another where the distance is

comparatively short it is not necessary to adopt more than the usual precautions observed in shipping any other live fish. It is very advisable that as few as possible adult fish be placed in one tank or barrel, as bass are provided with sharp spines, and are apt to seriously wound each other if too closely confined. Twice as much room should be allowed for bass as for species whose fins are soft-rayed. To transplant bass all that is necessary is to procure the adult parent fish from fishermen or otherwise and transport them alive to the waters to be stocked.

This plan can be readily carried out by arranging with fishermen who are in the habit of netting these fish, telling them to be careful in taking them from their nets without injuring them and placing them in cribs sunk in the water near by until found convenient to transport them to their intended destination; this can be done quite safely if the distance is not too great by putting say 10 or more bass in the ordinary sized water barrels, say 30 or 40 gallons three parts filled with water. If they are to be carried short distances, spring wagons or sleighs may be used, for longer distances shipment by railway.

Numbers of bass have been transported in this way from Belleville on the Bay of Quinté up to the Newcastle Government hatchery, where all of them except those which had been severely injured by the nets arrived safely and large numbers of fry were hatched and reared in the natural way in their circumscribed inclosures or ponds.

With ordinary care and attention given to the netting, cribbing, transporting, and planting of black bass in new waters success is ensured. Little need be said of the transporting and planting of black bass fry. They should be collected soon after the period of parental guardianship and may be netted in schools by means of a fine meshed dip-net, or a seine. Black bass 2 to 4 inches long are very suitable for the purpose, and they attain that size in the fall of their first year. Black bass 5 to 6 inches long are about a year old, but when first hatched they are barely $\frac{3}{4}$ in. in length. In a 15 gallon cask 1000 yearling bass have been shipped a distance of 500 or 600 miles: but the fewer that are placed in each can or cask the more likely is success to be secured. In the late autumn bass can be carried most safely, but many successful cases of transplantation have occurred which took place in July and August. The Department of Marine and Fisheries in 1896 sent a small consignment of black bass to British Columbia from Western Ontario, and a proportion of them arrived on the Pacific coast in good condition, as stated in last year's report. Through an accident and detention in the Rocky Mountains, many of the fish, however, died on the way. Small black bass are very cannibalistic, and those of fairly uniform size only should be placed in the same pond.

On the whole the transference of adult fish is the most practical and successful plan, and 40 or 50 such fish placed in a pond of moderate dimensions will in the course of a few months in summer rear many thousands, 50,000 to 100,000, young fry and thoroughly establish themselves.

Marine and Fisheries—Fisheries Branch.

APPENDIX No. I.

EXPENDITURE AND REVENUE.

The total expenditure for all Fisheries Services, except Civil Government, for the fiscal year ending 30th June, 1897, amounted to \$443,586.78, being within the appropriation by \$34,025.87.

The total fisheries revenue, during the same period, from rents, license fees, fines and sales, including the *modus vivendi* licenses to United States vessels amounted to \$106,469.55.

Service.	Expenditure		Vote.	
	\$	cts.	\$	cts.
Fisheries.....	99,731	64	100,000	00
Fish-breeding.....	27,330	73	40,000	00
Fisheries protection service.....	99,357	41	100,000	00
Fishing bounty.....	154,389	77	160,000	00
Miscellaneous expenditure.....	62,777	30	77,612	65
Total.....	443,586	78	477,612	65.

The details will be found in the Auditor General's report under the proper headings.

In addition to the above, the following summary shows the salaries and disbursements of fishery officers in the several provinces, together with the expenses for maintenance of the different fish-breeding establishments throughout the Dominion:

Service.	Expenditure		Vote.	
	\$	cts.	\$	cts.
Fisheries, Ontario.....	21,592	40		
do Quebec.....	12,910	80		
do New Brunswick.....	21,671	92		
do Nova Scotia.....	23,682	33		
do Prince Edward Island.....	3,744	36		
do Manitoba.....	1,908	14		
do North-west Territories.....	3,181	58		
do British Columbia.....	8,841	64		
General account.....	2,198	47		
Total.....	99,731	64	100,000	00

SALARIES and Disbursements of Fisheries Officers—Continued.

Service.	Expenditure		Vote.	
	\$	cts.	\$	cts.
Fish-breeding, Ottawa hatchery	1,107	43		
do Newcastle do	2,812	02		
do Sandwich do	4,854	74		
do Tadoussac do	2,459	27		
do Gaspé do	1,623	30		
do Magog do	451	11		
do Restigouche do	2,525	77		
do Bedford do	1,200	13		
do Bay View do	2,146	85		
do Sydney do	730	09		
do Miramichi do	1,941	01		
do St. John Riv. do	1,781	00		
do Fraser Riv. do	2,840	62		
do Selkirk do	24	79		
General account	832	60		
Total	27,330	73	40,000	00

This expenditure by provinces is subdivided as follows:—

EXPENDITURE.

	\$	cts.	\$	cts.
<i>Ontario.</i>				
Salaries of officers	14,397	80		
Disbursements of officers	6,707	99		
Miscellaneous	486	61		
Total			21,592	40
<i>Quebec.</i>				
Salaries of officers	8,015	57		
Disbursements of officers	4,693	68		
Miscellaneous	201	55		
Total			12,910	80
<i>New Brunswick.</i>				
Salaries of officers	13,653	13		
Disbursements of officers	7,879	70		
Miscellaneous	139	09		
Total			21,671	92
<i>Nova Scotia.</i>				
Salaries of officers	14,574	93		
Disbursements of officers	8,921	00		
Miscellaneous	186	40		
Total			23,682	33
<i>Prince Edward Island.</i>				
Salaries of officers	2,481	26		
Disbursements of officers	1,157	40		
Miscellaneous	105	70		
Total			3,744	36

Marine and Fisheries—Fisheries Branch.

EXPENDITURE—Continued.

	\$ cts.	\$ cts.
<i>Manitoba.</i>		
Salaries of officers	1,323 95	
Disbursements of officers	581 89	
Miscellaneous	2 30	
Total		1,908 14
<i>North-west Territories.</i>		
Salaries of officers	1,785 69	
Disbursements of officers	1,350 64	
Miscellaneous	45 25	
Total		3,181 58
<i>British Columbia.</i>		
Salaries of officers	4,921 47	
Disbursements of officers	1,163 12	
Miscellaneous	2,757 05	
Total		8,841 64
General account		2,198 47
Grand total		99,731 64

FISH-BREEDING.

	\$ cts.	\$ cts.
<i>Newcastle Hatchery.</i>		
Salaries	450 00	
Miscellaneous expenditure	2,362 02	
Total		2,812 02
<i>Sandwich Hatchery.</i>		
Salaries	900 00	
Miscellaneous expenditure	3,954 74	
Total		4,854 74
<i>Ottawa Hatchery.</i>		
Salaries	700 00	
Miscellaneous expenditure	407 43	
Total		1,107 43
<i>Tadoussac Hatchery.</i>		
Salaries	650 00	
Miscellaneous expenditure	1,809 27	
Total		2,459 27
<i>Gaspé Hatchery.</i>		
Salaries	400 00	
Miscellaneous expenditure	1,223 30	
Total		1,623 30

FISH-BREEDING—Continued.

	\$ cts.	\$ cts.
<i>Magog Hatchery.</i>		
Salaries	253 98	
Miscellaneous expenditure.....	197 13	
Total		451 11
<i>Restigouche Hatchery.</i>		
Salaries	700 00	
Miscellaneous expenditure.....	1,825 77	
Total		2,525 77
<i>Bedford Hatchery.</i>		
Salaries	450 00	
Miscellaneous expenditure.....	750 13	
Total		1,200 13
<i>Bay View Hatchery.</i>		
Salaries	450 00	
Miscellaneous expenditure.....	1,696 85	
Total		2,146 85
<i>Sydney Hatchery.</i>		
Salaries	360 00	
Miscellaneous expenditure.....	370 09	
Total		730 09
<i>Miramichi Hatchery.</i>		
Salaries	1,000 00	
Miscellaneous expenditure.....	941 01	
Total		1,941 01
<i>St. John River Hatchery.</i>		
Salaries	600 00	
Miscellaneous expenditure.....	1,181 00	
Total		1,781 00
<i>Selkirk Hatchery.</i>		
Miscellaneous expenditure.....		24 79
<i>Fraser River Hatchery.</i>		
Salaries	500 00	
Miscellaneous expenditure.....	2,340 62	
Total		2,840 62
<i>General Account.</i>		
Miscellaneous expenditure.....		832 60
Total, Fish-breeding.....		27,330 73
Total salaries and disbursements of fishery officers		99,731 64

Marine and Fisheries—Fisheries Branch.

MISCELLANEOUS.

MISCELLANEOUS.	\$ cts.	\$ cts.
Building fish-ways	176 46	
Legal and incidental expenses.....	3,910 51	
Canadian fisheries exhibits and Ottawa hatchery.....	829 29	
Expenditure in connection with the distribution of fishing bounties.....	4,997 93	
Surveys of oyster beds	4,359 49	
Str. "Coquitlam".....	1,046 02	
International Fisheries Commission.....	1,355 82	
Issuing licenses to United States fishing vessels.....	479 32	
Behring Sea award.....	3,388 86	
do commission.....	30,207 26	
Vessel to replace "Vigilant".....	9,991 97	
Newfoundland bait license fees.....	267 31	
Fisheries and Yacht Exhibition.....	389 99	
Investigation charges against government officers.....	1,243 74	
F. C. Gilchrist.....	133 33	
Total.....		62,777 30

FISHERIES PROTECTION SERVICE—1896-97.

<i>Steamer "Acadia."</i>	\$ cts.	\$ cts.
Wages of officers and men.....	8,588 09	
Provisions.....	3,276 79	
Fuel.....	2,505 95	
Repairs.....	2,209 82	
Miscellaneous.....	6,398 09	
Total.....		23,078 64
 <i>Steamer "La Canadienne."</i> 		
Wages of officers and men.....	5,999 50	
Provisions.....	1,137 02	
Fuel.....	1,095 59	
Repairs.....	1,539 87	
Miscellaneous expenditure.....	2,285 63	
Total.....		12,059 54
 <i>Steamer "Stanley."</i> 		
Wages of officers and men.....	2,768 63	
Provisions.....	1,429 47	
Fuel.....	1,651 63	
Miscellaneous expenditure.....	1,079 43	
Total.....		6,929 16
 <i>Steamer "Curlew."</i> 		
Wages of officers and men.....	5,347 57	
Provisions.....	1,879 89	
Fuel.....	2,345 82	
Repairs.....	602 71	
Miscellaneous expenditure.....	2,806 50	
Total.....		12,982 49
 <i>Steamer "Petrel."</i> 		
Wages of officers and men.....	6,808 97	
Provisions.....	1,865 36	
Fuel.....	1,402 96	
Miscellaneous expenditure.....	1,668 27	
Repairs.....	160 02	
Total.....		11,905 58

Marine and Fisheries—Fisheries Branch.

**STATEMENT of Fisheries Revenue paid to the credit of the Receiver General of Canada,
for the Fiscal Year ended 30th June, 1897.**

	\$ cts.
Ontario, rents, license fees, fines, &c.	32,814 66
Quebec do do	7,876 12
Nova Scotia do do	5,239 55
New Brunswick do do	10,110 77
P. E. Island do do	2,032 25
Manitoba do do	1,719 00
N. W. Territories do do	344 13
British Columbia do do	39,888 82
LESS—Refunds	100,025 30
	1,140 90
Licenses to U. S. fishing vessels	98,884 40
	7,585 15
Total ..	106,469 55

Marine and Fisheries—Fisheries Branch.

Fisheries Department, from 1st July, 1885, to 30th June, 1897.

1887-88.		1888-89.		1889-90.		1890-91.	
Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.
\$ cts.	\$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
19,860 52	18,251 25	19,264 98	24,266 06	14,539 87	23,666 96	15,540 30	26,517 70
13,463 37	5,394 99	12,991 63	3,390 79	9,670 94	5,409 81	10,666 98	3,642 14
20,533 20	7,625 64	20,298 00	8,282 88	14,914 95	8,834 35	16,082 77	7,193 69
18,308 02	3,905 44	20,201 09	2,744 23	17,395 24	5,424 95	17,844 19	5,582 65
3,402 51	.....	3,746 69	140 00	3,113 21	302 88	3,242 25	667 00
2,816 64	819 25	2,848 16	848 00	3,604 70	794 00	3,609 03	1,234 00
3,661 83	6,934 55	4,333 63	6,416 00	3,634 41	11,367 50	4,320 53	12,859 02
41,082 04	.....	41,315 12	852 50	39,126 91	.....	39,496 45	1,286 50
77,102 98	.....	69,693 82	.....	64,431 66	1,176 38	83,050 16	1,934 49
13,498 56	.....	10,912 18	.....	9,313 92	.....	13,382 28	.....
213,729 67	42,931 12	205,605 30	46,440 46	178,748 81	56,976 83	207,234 94	60,917 19
163,757 92	.....	149,990 63	.....	149,999 85	.....	165,967 22	.....
1893-94.		1894-95.		1895-96.		1896-97.	
22,634 37	28,632 82	21,938 56	33,211 60	24,917 48	35,681 68	2,198 47	.....
11,692 82	7,211 82	12,459 34	8,836 18	11,870 43	8,160 98	21,592 40	32,814 66
18,522 94	8,333 24	21,370 94	11,170 36	20,526 56	10,696 88	12,910 80	7,876 12
20,420 81	5,296 27	23,555 38	7,075 07	23,049 41	6,180 93	21,671 92	10,110 77
3,078 55	980 15	3,796 58	3,312 30	3,555 87	2,161 85	23,682 33	5,239 55
5,331 29	926 99	6,178 71	2,458 80	6,915 20	2,256 69	3,744 36	2,032 25
5,283 21	25,337 90	6,218 74	23,517 25	6,226 77	26,410 75	1,908 14	1,719 00
45,024 67	.....	39,730 93	.....	38,050 41	.....	2,181 58	344 13
115,147 59	.....	100,207 29	.....	102,021 72	.....	8,841 64	39,888 82
34,892 19	.....	24,619 86	.....	20,203 25	.....	27,330 73	.....
282,028 44	76,719 19	260,076 33	89,581 56	257,237 10	91,549 76	99,357 41	100,025 30
158,794 54	.....	160,089 42	.....	163,567 99	.....	62,777 30	.....
.....	.....	420,165 75	.....	420,805 09	.....	289,197 01	.....
.....	.....	.....	.....	.....	.....	154,389 77	.....

APPENDIX No. 2.

FISHING BOUNTIES.

The payments made for this service are under the authority of Act 54-55 Vic., cap. 42, intituled: "An Act to encourage the development of the sea fisheries and the building of fishing vessels," which provides for the payment of the sum of \$160,000 annually, under regulations to be made from time to time by the Governor General in Council.

REGULATIONS.

The regulations governing the payment of the bounty established by Order in Council, on the 24th of August, 1894, are as follows:—

Order in Council.

AT THE GOVERNMENT HOUSE AT OTTAWA,
FRIDAY, the 24th day of August, 1894.

Present :

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

His Excellency, in virtue of the provisions of "The Bounty Act, 1891," 54-55 Victoria, chapter 42, and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that the Regulations governing the payment of fishing bounties established by Order in Council of the 2nd November, 1893, and the amendment of the 27th November, 1893, shall be and the same are hereby rescinded and the following substituted therefor:

1. Fishermen who have been engaged in deep-sea fishing for fish other than shell-fish, salmon and shad, or fish taken in rivers or mouths of rivers, for at least three months, and have caught not less than 2,500 pounds of sea fish, shall be entitled to a bounty; provided always that no bounty shall be paid to men fishing in boats measuring less than 13 feet keel, and not more than three men (the owner included) will be allowed as claimants in boats under 20 feet.

2. No bounty shall be paid upon fish caught in trap-nets, pound-nets and weirs, nor upon the fish caught in gill-nets fished by persons who are pursuing other occupations than fishing, and who devote merely an hour or two daily to fishing these nets and are not, as fishermen, steadily engaged in fishing.

3. Only one claim will be allowed in each season, even though the claimant may have fished in two vessels, or in a vessel and a boat or in two boats.

4. The owners of boats measuring not less than 13 feet keel which have been engaged during a period of not less than three months in deep-sea fishing for fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty on each such boat.

5. Canadian registered vessels of 10 tons and upwards (up to 80 tons) which have been exclusively engaged during a period of not less than three months in the catch of sea-fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty to be calculated on the registered tonnage, one-half of which bounty shall be payable to the owner or owners and the other half to the crew, except in cases where one or more of the crew shall have failed to comply with the regulations, then such share or shares shall not be paid.

6. The three months during which a vessel must have been engaged in fishing, to be entitled to bounty, shall commence on the day the vessel sails from port on her fishing voyage and end the day she returns to port from said voyage.

Marine and Fisheries—Fisheries Branch.

7. Owners or masters of vessels intending to fish and claim bounty on their vessels must, before proceeding on a fishing voyage, procure a license from the nearest Collector of Customs or Fishery Overseer, said license to be attached to the claim when sent in for payment.

8. Dates and localities of fishing must be stated in the claim, as well as the quantity and kinds of sea-fish caught.

9. Ages of men must be given. Boys under 14 years of age are not eligible as claimants.

10. Claims must be sworn to as true and correct in all their particulars.

11. Claims must be filed on or before the 30th November in each year.

12. Officers authorized to receive claims will supply the requisite blanks free of charge, and after certifying the same will transmit them to the Department of Marine and Fisheries.

13. No claim in which an error has been made by the claimant or claimants shall be amended, after it has been signed and sworn to as correct.

14. Any person or persons detected making returns that are false or fraudulent in any particular will be debarred from any further participation in the bounty and be prosecuted according to the utmost rigour of the law.

15. The amount of the bounty to be paid to fishermen and owners of boats and vessels will be fixed from time to time by the Governor in Council.

16. From and after 1st January, 1895, all vessels fishing under bounty license are required to carry a distinguishing flag, which must be shown at all times during the fishing voyage at the main topmast head. The flag must be four feet square, in equal parts of red and white, joined diagonally from corner to corner. Any case of neglect to carry out this regulation reported to the Department of Marine and Fisheries, will entail the loss of the bounty, unless satisfactory reasons are given for its non-compliance.

JOHN J. MCGEE,
Clerk of the Privy Council.

There were received for the year 1896, 15,211 claims, an increase of 484 over 1895.

The number of claims paid during the year was 14,975, being an increase of 195 as compared with the previous year.

There was \$57,014.77 in bounties paid to vessels and their crews, and \$97,385 to boats and boat fishermen, making the total bounty paid during the year 1896-7, \$154,389.77.

The number of vessels which received bounty during the year was 862, the total tonnage being 28,551 tons, showing a decrease of 45 vessels and 1,605 tons, as compared with the previous year.

Bounty was paid on 14,106 boats, and to 23,821 boat fishermen during the year, being an increase of 233 boats, and a decrease of 737 fishermen, as compared with 1895-6.

The bounty was first paid in 1882.

The following table shows the number of claims and fishermen, and the amount of bounty paid each year since 1882.

Year.	No. of claims.	No. of fishermen.	Amount paid.	
			\$	cts.
1882.....	11,972	29,932	172,285	47
1883.....	13,086	33,399	130,344	85
1884.....	12,468	31,297	155,718	98
1885.....	14,124	33,564	161,539	39
1886.....	14,900	33,523	160,903	59
1887.....	15,416	34,387	163,757	92
1888.....	15,599	34,887	150,185	53
1889.....	17,078	38,343	158,526	54
1890.....	17,959	39,050	158,241	01
1891.....	18,506	38,859	156,891	85
1892.....	14,442	29,064	159,752	14
1893.....	13,635	28,013	158,234	10
1894.....	14,350	29,222	160,066	80
1895.....	14,780	30,808	163,567	99
1896.....	14,975	29,486	154,389	77
Totals.....	223,290	493,834	2,364,405	93

The bounty was paid each year on the following basis:—

1882, vessels \$2 per ton, one-half to the owner and the other half to the crew. BOATS at the rate of \$5 per annum, one-fifth to the owner and four-fifths to the men. 1883, vessels \$2 per ton, and BOATS \$2.50 per man, distributed as in 1882. 1884, vessels \$2 per ton, as in 1882 and 1883.

Boats from 14 to 18 feet keel..... \$1 00
do 18 to 25 do .. 1 50
do 25 feet keel upwards..... .. 2 00
And boat fishermen \$3 each.

1885, 1886 and 1887, vessels, \$2 per ton as in previous years. Boats measuring 13 feet keel having been admitted in 1885, the rates were:—Boats from 13 to 18 feet keel, \$1.00; from 18 to 25 feet keel, \$1.50; from 25 feet keel upwards, \$2.00, and fishermen \$3 each.

1888, vessels \$1.50 per ton, one-half each to owner and crew. Boats, the same as in 1885, 1886 and 1887.

1889, 1890 and 1891, vessels, \$1.50 per ton as in 1888. Boats \$1 each. Boat fishermen \$3.

1892, vessels \$3 per ton, one-half each to owner and crew. Boats \$1 each. Boat fishermen \$3.

1893, vessels \$2.90 per ton, paid as formerly. Boats \$1 each. Boat fishermen \$3.

1894, vessels, \$2.70 per ton, distributed as in previous years. Boats \$1 each. Boat fishermen \$3.

1895, vessels \$2.60 per ton, half each to owner and crew. Boats \$1 each. Boat fishermen \$3.

1896, vessels \$1 per ton, which was paid to the owners, and vessel fishermen \$5 each, clause 5 of the regulations having been amended accordingly. Boats \$1 each, and boat fishermen \$2.50 per man.

Since 1882, 12,280 vessels, totalling a tonnage of 452,016 tons have received the bounty. The total number of vessel fishermen which received bounty is 93,732, being an average of 8 men per vessel.

The total number of boats to which bounty was paid since 1882 is 210,878, and the number of fishermen 400,102. Average number of men per boat, 2.

The highest bounty paid per head to vessel fishermen was \$21.75 in 1893; the lowest 83 cents, while the highest to boat fishermen was \$4, the lowest \$2.

The general average paid per head is \$4.79.

Marine and Fisheries—Fisheries Branch.

GENERAL STATEMENT of Fishing Bounty Claims received and paid for the year 1896.

Province.	County.	Number of Claims received.	Number of Claims rejected.	Number of Claims paid.
Nova Scotia	Annapolis	158		158
	Antigonish	134	1	133
	Cape Breton	442	3	*440
	Colchester			
	Cumberland	5		5
	Digby	373	1	372
	Guysborough	1,371	5	1,366
	Halifax	1,457	9	1,448
	Inverness	606	1	605
	King's	44		*45
	Lunenburg	1,162	2	1,160
	Pictou	38		38
	Queen's	225	6	219
	Richmond	1,055	5	1,050
	Shelburne	845	6	839
Victoria	466		*467	
Yarmouth	216		*217	
	Totals.....	8,597	39	8,562
New Brunswick	Charlotte	473	1	472
	Gloucester	514	38	476
	Kent	108	20	88
	Northumberland	5		5
	Restigouche	1		1
	St. John	22		22
	Westmoreland	14	14	
	Totals.....	1,137	73	1,064
Prince Edward Island	King's	581		581
	Prince	433	4	*441
	Queen's	97		*98
	Totals.....	1,111	4	1,120
Quebec	Bonaventure	965	74	891
	Gaspé	2,454	67	*2,391
	Rimouski	32	1	31
	Saguenay	915	3	*916
	Totals.....	4,366	145	4,229

RECAPITULATION.

Nova Scotia	8,597	39	8,562
New Brunswick	1,137	73	1,064
Prince Edward Island	1,111	4	1,120
Quebec	4,366	145	4,229
Grand Totals.....	15,211	261	14,975

* NOTE.—The number of claims paid includes several applications for previous years which explains the difference between claims paid and claims received after deducting those rejected.

DETAILED STATEMENT of Fishing Bounties paid to Vessels in each County for the Year 1896.

Province.	County.	Number of Vessels.	Tonnage.	Average Tonnage.	Number of Men.	Amount paid.
						\$ cts.
Nova Scotia	Annapolis	6	210	35	35	385 00
	Antigonish	3	38	12 66	7	73 00
	Cape Breton	11	188	17 09	47	423 00
	Cumberland	3	43	14 33	6	73 00
	Digby	46	1,341	29 15	346	3,071 00
	Guysborough	25	622	24 88	109	1,167 00
	Halifax	65	1,504	23 13	328	3,144 00
	Inverness	25	454	18 16	122	1,064 00
	King's	5	75	15	10	125 00
	Lunenburg	164	11,908	72 61	2,032	22,073 00
	Pictou	2	38	19	5	63 00
	Queen's	15	661	44 06	103	1,191 00
	Richmond	71	2,268	31 94	480	4,668 00
	Shelburne	75	2,172	28 96	533	4,837 00
	Victoria	1	17	17	1	22 00
	Yarmouth	36	1,876	52 11	440	4,077 95
	Totals	553	23,415	42 34	4,607	46,456 95
New Brunswick	Charlotte	51	946	18 55	175	1,821 00
	Gloucester	188	2,228	11 85	589	5,189 88
	Kent					
	Northumberland	2	24	12	7	59 00
	Restigouche	1	26	26	5	51 00
	St. John	8	113	14 12	24	233 00
		Totals	250	3,337	13 34	800	7,353 88
Prince Edward Island...	King's	12	350	29 16	59	645 00
	Prince	6	173	28 83	36	353 00
	Queen's	5	133	26 60	19	228 00
		Totals	23	656	28 52	114	1,226 00
Quebec	Gaspé	2	58	29	13	123 00
	Rimouski	1	23	23	3	38 00
	Saguenay	33	1,062	32 18	128	1,816 94
		Totals	36	1,143	31 75	144	1,977 94

RECAPITULATION.

Nova Scotia	553	23,415	42 34	4,607	46,456 95
New Brunswick	250	3,337	13 34	800	7,353 88
Prince Edward Island	23	656	28 52	114	1,226 00
Quebec	36	1,143	31 75	144	1,977 94
Grand Totals	862	28,551	33 12	5,665	57,014 77

Marine and Fisheries—Fisheries Branch.

DETAILED STATEMENT of Fishing Bounties paid to Boats in each County for the Year 1896.

Province.	County.	Number of Boats.	Number of Men.	Amount paid.	Total Bounty paid to Vessels and Boats in 1896.
				\$ cts	\$ cts.
Nova Scotia	Annapolis	152	233	967 50	1,352 50
	Antigonish	130	185	777 50	850 50
	Cape Breton	429	832	3,338 50	3,761 50
	Cumberland	2	4	16 00	89 00
	Digby	326	596	2,412 00	5,483 00
	Guysborough	1,340	2,164	8,914 00	10,081 00
	Halifax	1,383	1,919	8,100 50	11,244 50
	Inverness	580	1,272	5,032 00	6,096 00
	King's	40	57	239 00	364 00
	Lunenburg	996	1,138	4,977 00	27,050 00
	Pictou	36	48	204 00	267 00
	Queen's	204	316	1,310 00	2,501 00
	Richmond	979	1,418	5,942 00	10,610 00
	Shelburne	764	1,246	5,125 00	9,962 00
Victoria	466	763	3,135 50	3,157 50	
Yarmouth	181	263	1,101 50	5,179 45	
	Totals	8,008	12,454	51,592 00	98,048 95
New Brunswick	Charlotte	421	645	2,678 50	4,499 50
	Gloucester	288	719	2,804 00	7,993 88
	Kent	88	158	641 00	641 00
	Northumberland	3	9	34 50	93 50
	Restigouche				51 00
	St. John	14	22	91 00	224 00
	Westmoreland				
	Totals	814	1,553	6,249 00	13,602 88
Prince Edward Island	King's	567	923	3,797 50	4,442 50
	Prince	435	956	3,766 00	4,119 00
	Queen's	93	247	956 00	1,184 00
	Totals	1,095	2,126	8,519 50	10,141 50
Quebec	Bonaventure	891	1,511	6,179 50	6,179 50
	Gaspé	2,389	4,667	18,719 00	18,842 00
	Rimouski	30	43	180 50	218 50
	Saguenay	879	1,467	5,935 50	7,752 44
	Totals	4,189	7,688	31,014 50	32,992 44

RECAPITULATION.

Nova Scotia	8,008	12,454	51,592 00	98,048 95
New Brunswick	814	1,553	6,249 00	13,602 88
Prince Edward Island	1,095	2,126	8,519 50	10,141 50
Quebec	4,189	7,688	31,015 50	32,992 44
Grand Totals	14,106	23,821	97,375 00	154,389 77

COMPARATIVE STATEMENT by Provinces for the Years 1882 to 1896, inclusive, showing:—
(1) Total number of Fishing Bounty Claims received and paid by the Department of Marine and Fisheries.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		PRINCE EDWARD ISLAND.		QUEBEC.		TOTAL.	
	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.
1882.....	6,730	6,613	1,257	1,142	1,169	1,100	3,162	3,117	12,318	11,972
1883.....	7,171	7,076	1,693	1,579	1,138	1,106	3,602	3,325	13,604	13,086
1884.....	7,007	6,930	1,252	1,224	923	885	3,470	3,429	12,652	12,468
1885.....	7,646	7,599	1,609	1,588	1,117	1,025	3,943	3,912	14,315	14,124
1886.....	7,639	7,702	1,767	1,763	1,131	1,080	4,275	4,355	14,812	14,900
1887.....	8,262	8,227	1,975	1,958	1,201	1,126	4,138	4,105	15,576	15,416
1888.....	8,481	8,429	2,065	2,026	1,153	834	4,328	4,310	16,027	15,590
1889.....	8,816	8,523	2,428	2,392	1,211	1,511	4,064	4,652	17,119	17,078
1890.....	9,337	9,429	2,522	2,469	1,352	1,257	4,860	4,804	18,071	17,969
1891.....	10,242	10,063	2,831	2,084	1,482	1,446	5,108	4,913	19,663	18,506
1892.....	8,272	8,186	1,067	1,001	1,065	1,051	4,425	4,204	14,829	14,442
1893.....	7,926	7,844	967	881	1,027	1,012	4,059	3,898	13,979	13,635
1894.....	8,640	8,600	925	911	983	963	3,948	3,876	14,496	14,350
1895.....	8,835	8,825	979	975	1,009	1,025	3,904	3,955	14,727	14,780
1896.....	8,597	8,562	1,137	1,064	1,111	1,120	4,366	4,229	15,211	14,975
Totals.....	123,601	122,608	24,474	23,057	17,072	16,541	62,252	61,084	227,399	223,290

Marine and Fisheries—Fisheries Branch.

(2) NUMBER of vessels, tonnage and number of men which received Bounty in each year.

YEAR.	NOVA SCOTIA.			NEW BRUNSWICK.			PRINCE EDWARD ISLAND.			QUEBEC.			TOTAL.		
	No. of Vessels.	Ton- nage.	No. of Men.	No. of Vessels.	Ton- nage.	No. of Men.	No. of Vessels.	Ton- nage.	No. of Men.	No. of Vessels.	Ton- nage.	No. of Men.	No. of Vessels.	Ton- nage.	No. of Men.
1882.	588	22,841	5,343	120	2,171	531	15	389	74	63	2,210	538	786	27,611	6,486
1883.	700	29,788	6,288	126	2,102	496	16	450	66	62	2,236	443	904	34,576	7,243
1884.	700	29,828	6,327	130	2,289	560	16	582	92	56	1,965	382	911	34,664	7,361
1885.	629	27,700	5,897	128	2,120	496	19	597	113	55	1,791	317	831	32,217	6,823
1886.	562	25,375	5,022	145	2,628	520	32	1,071	215	52	1,730	320	791	30,804	6,077
1887.	566	24,520	4,900	154	2,889	563	38	1,677	338	54	1,883	384	812	30,969	6,135
1888.	589	26,006	5,450	150	2,545	544	37	1,245	249	51	1,842	388	827	31,640	6,631
1889.	597	27,123	5,684	153	2,590	565	35	1,274	239	48	1,729	330	833	32,716	6,818
1890.	540	23,955	4,935	133	2,129	447	32	1,002	203	34	1,182	220	739	28,268	5,805
1891.	527	22,780	4,618	124	2,051	411	27	778	155	27	924	168	705	26,533	5,352
1892.	507	22,279	4,611	108	1,683	343	30	983	139	23	803	159	668	25,748	5,252
1893.	536	23,195	4,780	210	2,922	634	27	910	151	32	952	179	805	27,979	5,744
1894.	602	24,735	5,077	238	3,189	721	21	594	114	38	1,066	178	899	29,584	6,090
1895.	603	25,018	5,184	238	3,107	764	27	769	129	39	1,262	173	907	30,156	6,250
1896.	553	23,415	4,607	250	3,337	800	23	656	114	36	1,143	144	862	28,551	5,665
Totals.	8,799	378,569	78,673	2,416	37,752	8,395	395	12,377	2,391	670	22,718	4,273	12,280	452,016	93,732

(3) NUMBER of Boats and boat fishermen which received Bounty in each year.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P. E. ISLAND.		QUEBEC.		TOTAL.	
	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.
1882	6,043	12,130	1,024	2,530	1,087	3,070	3,071	5,716	11,225	23,446
1883	6,458	13,553	1,453	3,309	1,098	3,106	3,266	6,188	12,275	26,156
1884	6,257	12,669	1,086	2,505	869	2,346	3,344	6,416	11,556	23,936
1885	6,970	13,396	1,460	3,254	1,006	2,606	3,857	7,485	13,293	26,741
1886	7,140	13,351	1,618	3,567	1,048	2,547	4,303	7,981	14,109	27,446
1887	7,662	13,997	1,804	3,994	1,088	2,711	4,051	7,550	14,605	28,252
1888	7,840	14,115	1,876	4,148	797	2,141	4,259	7,852	14,772	28,256
1889	7,926	14,118	2,237	5,032	1,475	3,568	4,602	8,807	16,240	31,525
1890	8,886	15,738	2,324	5,242	1,192	3,024	4,766	9,241	17,168	33,245
1891	9,525	16,552	1,928	4,126	1,383	3,427	4,865	9,402	17,701	33,507
1892	7,679	12,307	893	1,765	1,021	2,047	4,181	7,693	13,774	23,812
1893	7,308	11,748	671	1,314	985	1,962	3,866	7,245	12,830	22,269
1894	7,956	12,899	661	1,281	913	1,813	3,821	7,139	13,351	23,132
1895	8,222	13,106	737	1,434	998	2,141	3,916	7,877	13,873	24,558
1896	8,008	12,454	814	1,553	1,095	2,126	4,189	7,688	14,106	23,821
Totals	113,880	202,133	20,586	45,054	16,055	38,635	60,357	114,280	210,878	400,102

(4) TOTAL Number of men receiving Bounty in each year.

YEAR.	NOVA SCOTIA.	NEW BRUNSWICK	P. E. ISLAND.	QUEBEC.	TOTAL.
	No. of Men.	No. of Men.	No. of Men.	No. of Men.	
1882	17,473	3,061	3,144	6,254	29,932
1883	19,791	3,805	3,172	6,631	33,399
1884	18,996	3,065	2,438	6,798	31,297
1885	19,293	3,750	2,719	7,802	33,564
1886	18,373	4,087	2,762	8,301	33,523
1887	18,897	4,557	3,049	7,884	34,387
1888	19,565	4,692	2,390	8,240	34,887
1889	19,802	5,597	3,807	9,137	38,343
1890	20,673	5,689	3,227	9,461	39,050
1891	21,170	4,537	3,582	9,570	38,859
1892	16,918	2,108	2,186	7,852	29,064
1893	16,528	1,948	2,113	7,424	28,013
1894	17,976	2,002	1,927	7,317	29,222
1895	18,290	2,198	2,270	8,050	30,808
1896	17,061	2,353	2,240	7,832	29,486
Totals	280,806	53,449	41,026	118,553	493,834

Marine and Fisheries—Fisheries Branch.

(5) TOTAL annual payments of Fishing Bounty.

Year.	Nova Scotia.	New Brunswick.	P. E. Island.	Quebec.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1882.....	106,098 72	16,997 00	16,137 00	33,052 75	172,285 47
1883.....	89,432 50	12,395 20	8,577 14	19,940 01	130,344 85
1884.....	104,934 09	13,576 00	9,203 96	28,004 93	155,718 98
1885.....	103,999 73	15,908 25	10,166 65	31,464 76	161,539 39
1886.....	98,789 54	17,894 57	10,935 87	33,283 61	160,903 59
1887.....	99,622 03	19,699 65	12,528 51	31,907 73	163,757 92
1888.....	89,778 90	18,454 92	9,092 96	32,858 75	150,185 53
1889.....	90,142 51	21,026 79	13,994 53	33,362 71	158,526 54
1890.....	91,235 64	21,108 33	11,686 32	34,210 72	158,241 01
1891.....	92,377 42	17,235 96	12,771 30	34,507 17	156,891 85
1892.....	109,410 39	10,864 61	9,782 79	29,694 35	159,752 14
1893.....	108,060 67	12,524 09	9,328 62	28,320 72	158,234 10
1894.....	111,460 03	12,690 80	7,875 79	28,040 18	160,066 80
1895.....	110,765 27	12,919 32	9,285 13	30,598 27	163,567 99
1896.....	98,048 95	13,602 88	10,741 50	32,992 44	154,389 77
Totals.....	1,504,156 39	36 898 37	161,508 07	462,239 10	2,364,405 93

LIST of Vessels which received Fishing Bounty for the Year 1896.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
72978	Annie Coggins.....	Digby	21	David Hayden.....	Thorne's Cove ..	6	51 00
94700	Franklin S Schenck	do	44	Fred. W. Thorn.....	do	5	69 00
94706	George J. Tarr.....	do	61	John S. Hayden.....	Victoria Beach..	14	131 00
94693	John H. Kennedy....	do	54	John W. Snow.....	Thornville	3	69 00
94732	Only Son	Windsor	13	John Gordon	Margaretsville..	2	23 00
83253	Rescue	Annapolis	17	Josiah Burrell	Clementsport....	3	42 00

ANTIGONISH COUNTY.

96787	Benecia Boy.....	Halifax	11	Lawrence Hylan	Harbour au Bou- che	2	21 00
103542	Emma Brow.....	do	17	Wm. Brow.....	do	3	32 00
90642	Komaroff	Yarmouth	10	John Brow.....	do	2	20 00

CUMBERLAND COUNTY.

83261	Economist.....	Digby	14	James E. Ogilvie.....	Parrsboro'.....	2	24 00
75614	Fawn	do	17	do	do	3	32 00
103022	May	Parrsboro'.....	12	Robert Spicer.....	Spencer's Island.	1	17 00

CAPE BRETON COUNTY.

100389	Annie F.....	Sydney	13	Jno. Farrell	Main-à-Dieu.....	4	33 00
100372	Betsy Jane	do	11	Samuel Moore	Little Bras d'Or.	3	26 00
85381	Champion.....	do	19	Wm. Williams	Louisburg	6	49 00
75571	Fanny	Liverpool	16	Stephen Colvez	Little Bras d'Or.	6	46 00
100383	Florence L.....	Sydney	10	Peter Leblanc	do	3	25 00
74039	James Henry	do	18	Vital Arsenaault.....	do	4	38 00
80974	Mary Ann	do	13	Thomas Hart	Main-à-Dieu.....	2	29 00
100380	Mary D.....	do	27	Simon Devoe	Little Bras d'Or.	7	62 00
92600	Merit	do	13	Alexander Leblanc.....	do	4	33 00
88431	Mayflower	Halifax	21	Michael Mullins.....	Bateston.....	5	46 00
96792	Success	do	21	James O'Neil	do	3	36 00

DIGBY COUNTY.

94696	Annie M. Sproul....	Digby	70	Jno. W. Sproul	Digby	15	145 00
94708	Ann Eliza	do	62	D. & O. Sproul	do	8	102 00
88598	Alph. B. Parker....	St. John, N.B..	39	Holland Outhouse.....	Tiverton.....	12	99 00
83258	Alfred.....	Digby	29	Edwin Haines	Freeport.....	9	74 00
83431	Acadian.....	Weymouth	32	Geo. H. Stevens	do	10	82 00
90660	Alice May	Yarmouth	18	Edgar McDormand	Westport.....	8	58 00
94704	Charles Haskell	Digby	67	Howard Anderson	Digby	15	142 00
94698	Carrie H.....	do	20	Augustus Haycock	Westport.....	7	55 00
74331	Condor.....	Yarmouth	11	Howard Titus	do	3	26 00
75711	Dove	do	20	Joseph Ossinger.....	Tiverton.....	7	55 00
90662	Edward A. Horton.	Digby	67	Joseph E. Snow.....	Digby	9	112 00
94707	Ernest F. Norwood.	do	79	do	do	12	139 00
85683	Edith L.....	do	16	R. W. Ford	Westport.....	4	36 00
77740	Elmer	do	15	James Gower	do	6	45 00
75737	Etta.....	Yarmouth	17	Clarence Webber.....	do	6	47 00

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*

DIGBY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of crew paid.	Amount of Bounty paid.
							\$ cts.
100535	Fairplay	Digby	11	Casimir R. Comeau	Meteghan River	1	16 00
74329	Fairy Queen	Yarmouth	13	Wallace Coggins	Westport	4	33 00
80798	Freddie G.	Digby	18	George Gower	do	7	53 00
77963	Freeman Colgate	St. Andrews, N.B.	26	Frank Morrell	do	10	76 00
83260	Gazelle	Digby	20	D. & O. Sproul	Digby	2	30 00
100537	Gertie H.	do	32	John Outhouse	Tiverton	7	67 00
90436	Genesta	Barrington	32	George Denton	Westport	11	87 00
100544	Helen Maud	Digby	26	Charles McDormand	do	8	66 00
100064	Isma	St. John, N. B.	31	Charles Hicks	do	9	76 00
83461	Josie L. Day	Digby	16	D. & O. Sproul	Digby	2	26 00
90604	Jennie C.	do	16	Charles Hicks	Westport	6	46 00
59388	Letitia	St. Andrews, N.B.	10	Peter H. Belliveau	Belliveau's Cove	4	30 00
80881	Lena May	do	18	Freeman Small	Tiverton	8	58 00
85690	Lora T.	Digby	14	Joseph Thurber	Freeport	7	49 00
85687	Mabel	do	38	Wm. M. Denton	Westport	10	88 00
100487	Mabel B.	do	57	Chas. E. Finigan	Freeport	12	117 00
85682	Malapert	do	23	E. C. Bowers	Westport	9	68 00
80794	Minnie C.	do	18	Charles Bailey	do	7	53 00
100895	New Home	Weymouth	31	Moses Thibodeau	Church Point	9	76 00
94825	On Time	do	19	Henry Glaven	Westport	9	64 00
100639	Rowena	Digby	10	Warren Snow	Smith's Cove	3	25 00
83132	Restless	do	25	Charles Shaw	Centreville	8	65 00
85558	S. A. Crowell	Yarmouth	23	Wallace Gower	Westport	8	63 00
100609	Swan	Shelburne	56	Milton Haines	Freeport	12	116 00
38036	Twilight	Digby	14	Benjamin Taylor	Smith's Cove	3	29 00
75726	Thrush	Yarmouth	13	Frank S. Lent	Freeport	6	43 00
94694	Utah and Eunice	Digby	33	Edwin Haines	do	9	78 00
100543	W. Parnell O'Hara	do	79	Edgar Post	Digby	15	154 00
75595	West Wind	do	25	Syda & Cousins	do	*	25 00
88260	William C. Allan	Yarmouth	12	Thos. P. Saulnier	Meteghan	3	27 00
88264	Walter J. Clarke	Digby	20	Arthur Porter	Westport	6	50 00

GUYSBOROUGH COUNTY.

41771	Atalia	Guysborough	34	Wm. J. England	Middle Melford	4	54 00
103453	Anna Maud	Arichat	10	Thos. Munroe	White Head	3	25 00
103332	Bonny Briar Bush	Pt. Hawkesbury	38	Jno. O'Neil	Auld's Cove	4	58 00
103321	Christie Campbell	do	55	Thos H. Peeples	Pirate Harbour	7	90 00
100445	Carrie	Canso	12	Samuel Crant	White Head	3	27 00
38418	Dolphin	Arichat	36	Wm. S. Peart	Guysborough	6	66 00
83180	Friend	Halifax	17	Luke Mannett	Larry's River	5	42 00
88227	Fleetwing	do	32	Hubert Boudrot	Port Felix	5	57 00
85382	G. H. Marryatt	do	23	Daniel Fraser	Port Mulgrave	4	43 00
80999	Guardian Angel	Guysborough	21	Joseph Fougère, jr.	Larry's River	5	46 00
94963	Golden Seal	Halifax	32	Edwd. B. Pelrine	do	8	72 00
53577	Ilda	Pt. Hawkesbury	27	Thomas England	Middle Melford	3	42 00
57175	John Lawrence	Halifax	23	Chas. Hansen	Cook's Cove	4	43 00
83303	James Ryan	Port Medway	48	Wm. Harris	Halifax	2	58 00
69064	Lizzie A.	Pt. Hawkesbury	20	Jno. F. Reeves	Mulgrave Stn.	4	40 00
83403	M. A. Franklin	Halifax	22	Wm. Doiron	Charlo's Cove	5	47 00
88466	Minnie J.	Arichat	10	Perry Munroe	White Head	3	25 00
100446	Minnie May	Canso	12	Wm. L. Dort	Sandy Cove	3	27 00
75577	Mary Ann Bell	Lunenburg	33	Jos. O'Neil	Auld's Cove	5	58 00
80970	Orion	Halifax	24	Hubert Richard	Charlo's Cove	6	54 00
100231	Peal	do	17	Martin Meagher	Canso	3	32 00
75892	Peter Mitchell	Pt. Hawkesbury	26	Wm. P. Power	Port Mulgrave	4	46 00
41649	Ranger	Pictou	24	Jno. Consins	Canso	5	49 00
92575	Robinetta	Halifax	14	Reuben H. Munroe	White Head	3	29 00
100444	Stella May	Canso	12	James Meagher	Canso	5	37

* Crew not entitled to bounty.

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—Con.

HALIFAX COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
100221	Baleka	Halifax.	31	Andrew Gray, jr.	Sambro	7	66 00
103537	Bon Accord	do	12	James W. Smith	do	3	27 00
94662	Bessie Florence	do	12	Chas. W. Twohig	Pennant	3	27 00
90496	Black Prince	do	18	J. W. Slaunwhite	Terence Bay	4	38 00
73969	Bertha E	do	21	A. E. Boutilier	Ingram River	*	21 00
103535	Corra Lee	do	49	Robt. M. Freehill	Halifax	*	49 00
85663	Daring	do	18	Chas. Slaunwhite, sr.	Terence Bay	2	28 00
100220	E. J. Smith	do	11	W. McC. Boak	Halifax	4	31 00
96785	Eva M. B	do	45	George Bonang <i>et al.</i>	W. Chezzetcook	10	95 00
92564	Evangeline	do	23	Henry Young	East Petpiswick	*	23 00
90726	Ellen Maud	do	16	Wm. Fleming, 1st.	Ketch Harbour	4	36 00
90481	Ella D	do	32	Archibald Darrach, sr.	Herring Cove	8	72 00
85738	Emma F	Lunenburg	13	Amos Graves	East Dover	3	28 00
97046	Fredona	Liverpool	12	Edward Sturmy	Spry Bay	2	22 00
100259	Florence G	Halifax	15	Caleb Gray	Sambro	2	25 00
100247	Fairy Queen	do	11	Geo. H. Nickerson	do	2	21 00
85644	Flora	do	42	Patrick Scallion	Herring Cove	10	92 00
80996	Gertie Belle	Guysborough	15	James Yorke	Eastern Passage	3	30 00
100228	Golden Dawn	Halifax	46	Edw. Conrod	E. Chezzetcook	14	116 00
90489	Green Leaf	do	44	M. J. Julien <i>et al.</i>	W. Chezzetcook	14	114 00
103544	Grace D	do	10	J. Marraytt	Pennant	3	25 00
88220	Grande	do	14	Jno. P. Slaunwhite	Terence Bay	3	29 00
96782	Glide	do	10	Sydney H. Garrison	Peggy's Cove	1	15 00
83306	I.O.N.A.	do	26	Andrew Sullivan	Herring Cove	8	66 00
100216	Katie M	do	11	Thomas Brophy	Lower Prospect	3	26 00
94661	L. C. Tough	do	12	Jno. E. Tough	Pennant	3	27 00
96789	Lydia A. Mason	do	39	Ernest Mason <i>et al.</i>	Tangier	7	74 00
94665	Louis Luby	do	41	Wm. J. Lapierre <i>et al.</i>	W. Chezzetcook	13	106 00
75605	Little Annie	do	27	Mathew Lynch, jr	Ferguson Cove	6	57 00
69105	Lady of the Lake	do	20	Richard Christian	Prospect	5	45 00
100249	Minnie M.	do	10	Jno. P. Martin	Ship Harbour	4	30 00
103547	Morning Glory	do	11	Wm. E. Murphy	Murphy's Cove	*	11 00
96805	Maggie May	do	62	Jeremiah Fillis <i>et al.</i>	W. Chezzetcook	17	147 00
100580	Maggie E. C.	Lunenburg	20	Geo. S. Covey	Hackett's Cove	7	55 00
46498	Mariner	Halifax	56	J. H. Henley	Spry Bay	9	101 00
100238	Mary Bell	do	10	Jno. A. McDonald	Harrigan Cove	2	20 00
85664	Mary E	do	14	Andrew Twohig	Pennant	3	29 00
100227	May	do	10	Wm. S. Henneberry	Sambro	2	20 00
100254	Myrtle M. Gray	do	19	James Gray	Pennant	4	39 00
80841	Nina	do	13	Wm. Murphy	Owls Head	2	23 00
85665	Nellie D	do	12	John Fink	Sambro	3	27 00
103539	Neva	do	11	Eph. Marraytt	Pennant	2	21 00
100245	Oracle	do	18	W. McC. Boak	Halifax	4	38 00
92571	Primrose	do	14	Angus Gray	Pennant	3	29 00
100241	Pansy	do	32	Geo. Snare	do	5	57 00
100474	R. Beatrice	Lunenburg	19	Isaac Corney	West Dover	3	34 00
75575	Rising Dawn	do	18	Fredk. Boutilier	Indian Harbour	3	33 00
96806	Rising Sun	Halifax	28	Geo. Julien	W. Chezzetcook	5	53 00
100566	Rob S	do	21	Geo. H. Marraytt	Pennant	5	46 00
77787	Rescue	do	20	Wm. Connors	East Dover	3	35 00
74087	Sea Gem	do	30	Mark Harpell	West Jeddore	6	60 00
100255	Seaflee	do	12	James Stevens	Porter's Passage	4	32 00
37519	Safe Guide	do	36	Geo. Connor	Spry Bay	7	71 00
64869	Sarah L. Oxner	do	34	Edward Hayes	Herring Cove	10	84 00
100218	Sarah M. W	do	14	Hezekiah Wambolt	Indian Harbour	5	39 00
77836	T. W. Smith	do	35	Charles Beaver	Spry Bay	4	55 00
90494	Two Brothers	do	21	James Smith <i>et al.</i>	E. Petpiswick	4	41 00
103531	True Love	do	10	Jno. C. Arnold	Terence Bay	3	25 00

* Crew not entitled to bounty.

Marine and Fisheries—Fisheries Branch.

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—Con.

HALIFAX COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	Nc. of Crew paid.	Amount of Bounty paid.
							\$ cts.
90485	Violet West..	Halifax.....	36	T. A. Gaetz, et al.....	Seaforth.....	11	91 00
100260	Violet.....	do.....	12	J. H. Smith.....	Sambro.....	3	27 00
96781	Venture.....	do.....	43	E. V. Dempsey.....	Herring Cove.....	10	93 00
100226	Willie H. Crosby..	do.....	65	James Julien, et al.....	W. Chezzetcook..	18	155 00
92578	Willetta.....	do.....	12	Joseph Gray.....	Sambro.....	3	27 00
61904	Water Lily.....	do.....	14	Isaac Morash.....	West Dover.....	2	24 00
85378	Zephyr.....	do.....	16	Robt. Shaunwhite.....	Terence Bay.....	5	41 00

INVERNESS COUNTY.

71302	Alice.....	Charlotte town, P.E.I.....	10	Patrick Cormier.....	Cheticamp Point	5	35 00
103313	Catherine.....	Pt. Hawkesbury..	10	Severin Chiasson ..	Eastern Harbour	4	30 00
96778	Campania.....	do.....	11	C. Robin, Collas & Co. Ltd.	do.....	4	31 00
83244	Claribel.....	Charlotte town, P.E.I.....	19	Chas. Doucet.....	do.....	5	44 00
85392	Colibri.....	Pt. Hawkesbury..	18	James Britt.....	Margaree Harbr	6	48 00
96767	Dove.....	do.....	49	P. Paint & Sons.....	Pt. Hawkesbury..	9	94 00
96768	Elizabeth Ann.....	do.....	11	Magloire Poirier ..	Cheticamp Point	4	31 00
103317	Flying Star.....	do.....	11	S. Belfontaine & P. Des-veaux.....	Eastern Harbour	4	31 00
96774	Florence.....	do.....	11	Thomas Poirier.....	do.....	4	31 00
103311	Henry L. Philips..	do.....	78	J. C. Skinner.....	Port Hastings...	8	118 00
103312	Laura.....	do.....	13	Jos. Aucoin.....	Eastern Harbour	5	38 00
103316	Laura.....	do.....	10	Ubalde Bourgeois..	do.....	4	30 00
96775	Louise.....	do.....	11	Placide Boudrot.....	do.....	4	31 00
103318	Little Heir.....	do.....	19	Eusebez Chiasson..	do.....	5	44 00
103315	Lillie.....	do.....	12	Fidèle Chiasson.....	do.....	4	32 00
103314	Mary.....	do.....	10	Polite Aucoin.....	do.....	4	30 00
96769	Mary Lambert.....	do.....	11	Luc Chiasson.....	do.....	4	31 00
69125	May Flower.....	Halifax.....	20	Hyacinthe Chiasson..	do.....	6	50 00
96779	Majestic.....	Pt. Hawkesbury..	12	C. Robin, Collas & Co., Ltd.	do.....	4	32 00
96771	Marie.....	do.....	10	Xavier Roach.....	do.....	4	30 00
96777	Marie Joseph.....	do.....	11	Victor Roach.....	do.....	4	31 00
96770	O. L. B.....	do.....	12	Gabriel Boudrot.....	do.....	4	32 00
74332	Proditor.....	Halifax.....	54	Placide Leblanc.....	Cheticamp.....	9	99 00
96773	Virgin.....	Pt. Hawkesbury..	10	Michael Ramard.....	Eastern Harbour	4	30 00
96776	Willie B.....	do.....	11	John Roach.....	Cheticamp Point	4	31 00

KING'S COUNTY.

80093	Anna K.....	St. John, N.B..	14	A. E. Spicer.....	Harbourville....	*	14 00
77732	Heather Bell.....	Digby.....	12	Joseph Parker.....	Hall's Harbour..	*	12 00
103023	Minnie H.....	Parrsboro'.....	12	Wm. E. Hayes.....	Canada Creek....	2	22 00
100744	Sea Queen.....	Windsor.....	18	Lorenzo Curry.....	Harbourville....	4	38 00
94756	Sarah E. Ells.....	St. John, N.B..	19	Leonard Houghton ..	Hall's Harbour..	4	39 00

* Crew not entitled to bounty.

LUNENBURG COUNTY.

103741	A. J. McKean.....	Lunenburg.....	80	Albert McKean.....	Pleasantville....	10	130 00
103507	Annie.....	do.....	16	C. U. Mader.....	Mahone Bay.....	5	41 00
100846	Albatros.....	do.....	26	J. F. Zwicker.....	do.....	3	41 00
103745	Avis.....	do.....	80	A. V. Conrad.....	Park's Creek.....	14	150 00
103495	Athlon.....	do.....	80	J. Norman Rafuse.....	Conquerall Bank	14	150 00
94790	Abana.....	do.....	80	James Romkey.....	Lower LaHave....	14	150 00
94783	Alaska.....	do.....	80	Solomon Smith.....	do.....	14	150 00
100170	Atlanta.....	do.....	80	Freeman Anderson ..	Lunenburg.....	14	150 00
100472	Arcana.....	do.....	80	Alex. Knickle.....	do.....	14	150 00
100489	Algoma.....	do.....	56	Jeffrey Publicover ..	Dublin Shore....	9	101 00

List of Vessels which received Fishing Bounty,—Nova Scotia—*Con.*LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							¢ cts.
94778	Argosy	Lunenburg	80	Charles Smith	Lunenburg	13	145 00
100839	Acalia	do	34	Nathan Silver	do	4	54 00
103503	B. G. Anderson	do	80	Thomas Hamm.	do	14	150 00
100838	Blanche A. Colp	do	80	C. U. Mader	Mahone Bay	14	150 00
103430	Beluga	do	80	A. V. Conrad	Park's Creek	14	150 00
94647	Bonus	do	80	George Creasor	Ritcey's Cove	12	140 00
94651	Bessie A	do	80	Murdoch McGregor	do	14	150 00
100163	Beauty	do	65	J. Norman Rafuse	Conquerall Bank	9	110 00
103501	Barcelona	do	80	James Romkey	Lower La Have	14	150 00
100848	Britannia	do	59	Lambert Lohnes	Middle La Have	11	114 00
100571	Britannia	do	80	Charles Smith	Lunenburg	14	150 00
96823	Burnham H	do	80	Benjamin Morash	do	14	150 00
94782	Bona Fides	do	80	J. Joseph Rudolph	do	14	150 00
103421	Blenheim	do	80	Charles Smith	do	14	150 00
96828	Bonanza	do	80	Charles Silver	do	14	150 00
94645	C. A. Chisholm	do	80	Abraham Ernest	Mahone Bay	12	140 00
94658	C. A. Ernst	do	57	do	do	10	107 00
100159	C. U. Mader	do	80	C. U. Mader	do	14	150 00
103427	Cymbrian	do	60	Dean Fralick	Pleasantville	11	115 00
90824	Ceto	do	80	A. V. Conrad	Park's Creek	14	150 00
103502	Carlraine	do	80	Alvin Himmelman	Ritcey's Cove	14	150 00
100579	Citizen	do	80	Murdoch McGregor	do	14	150 00
97081	Carrie	do	80	Jno. M. Ritcey	do	14	150 00
97084	Calla Lily	do	62	Edmund Nirtle	La Have	11	117 00
100834	Comrade	do	80	W. N. Reinhardt	do	14	150 00
100823	Carrie	do	60	Adnah Burns	Dayspring	12	120 00
90975	Capio	do	72	G. N. C. Hawkins	Lunenburg	11	127 00
103415	Clarence Smith	do	80	G. Abram Smith	do	14	150 00
90869	Clara E. Mason	do	80	David Smith	do	12	140 00
103419	Cordova	do	80	Charles Smith	do	12	140 00
88355	D. A. Mader	do	80	C. U. Mader	Mahone Bay	12	140 00
90834	Diego	Port Medway	28	Harris Conrad	Cherry Hill	7	63 00
100841	Dora	Lunenburg	80	Wm. Acker	Lunenburg	12	140 00
97089	Dictator	do	80	S. Watson Oxner	do	14	150 00
88356	Energy	do	80	C. U. Mader	Mahone Bay	12	140 00
103424	Elva M.	do	80	do	do	17	165 00
94659	Enterprise	do	80	Wm. Cleversey	Pleasantville	13	145 00
100827	Elnora	do	52	Josiah Gerhardt	Middle South	8	92 00
94940	Eureka	do	80	Reuben Smith	Ritcey's Cove	14	150 00
96821	Edgar T. Richard	do	55	Elias Richard	Getson's Cove	12	115 00
103506	Ebro	do	75	J. Wm. Young	Lunenburg	10	125 00
100151	Erminie	do	80	Wm. Young	do	14	150 00
103198	F. B. Wade	do	80	L. B. Currie	Dublin Shore	14	150 00
100481	Florence	do	29	Herbert Young	Indian Point	7	64 00
103743	Flo. F. Mader	do	80	C. U. Mader	Mahone Bay	14	150 00
103429	Fern	do	70	Edmen Walters	La Have	12	130 00
92638	Florence M.	do	80	J. Alex. Silver	Lunenburg	13	145 00
90582	G. A. Smith	do	80	Jno. M. Ritcey	Ritcey's Cove	12	140 00
103411	Genevieve	do	80	Abraham Ernest	Mahone Bay	14	150 00
103505	Gladys May	do	80	Adam Selig	Vogler's Cove	16	160 00
97088	Glendale	do	38	Charles Bell	Dublin Shore	5	63 00
100488	Gurnet	do	56	Alvin Creasor	Ritcey's Cove	10	106 00
90862	Grenada	do	80	Reuber Romkey	Lower La Have	14	150 00
100825	Georgina	do	34	James Bell	Getson's Cove	6	64 00
100850	Grace	do	80	Daniel Getson	do	14	150 00
100480	Gallant	do	57	Elias Richard	do	12	117 00
97083	Garland	do	51	Jno. D. Sperry	Petite Riviere	7	86 00
100478	Gladioia	do	52	Kenneth Silver	Dayspring	10	102 00
96836	Gleaner	do	80	Wm. C. Acker	Lunenburg	11	135 00
94773	Galatea	do	80	Jno. B. Young	do	14	150 00
100576	Glad Tidings	do	80	J. Wm. Young	do	14	150 00
90825	Henry N. Batchelder	Port Medway	80	Sam'l. E. Teel	Vogler's Cove	14	150 00
103744	Harry Smith	Lunenburg	80	J. H. Wilson	Lunenburg	14	150 00
100569	Howard Young	do	80	James Young	do	14	150 00

Marine and Fisheries—Fisheries Branch.

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—Con.

LUNENBURG COUNTY—Continued.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
100490	Irene M. B.	Lunenburg	66	Eli Ernst	Mahone Bay	12	126 00
96837	Irvin G.	do	80	Freeman Spindler	Middle South	14	150 00
96830	J. A. Silver	do	80	Chas. L. Silver	Lunenburg	14	150 00
94785	J. C. Schwartz	do	80	Chas. Hewitt	do	14	150 00
100164	J. H. Ernst	do	80	S. Watson Oxner	do	14	150 00
100837	J. M. Young	do	80	Wm. Young	do	14	150 00
94654	J. W. Celdert	do	80	Jas. W. Geldert	do	14	150 00
103491	Jennie May	do	80	Martin Westhaver	Martin's Brook	14	150 00
94789	Joseph McGill	do	80	Gabriel Himmelman	Middle South	14	150 00
103414	Jessie Myrtle	do	80	Murdoch McGregor	Ritcey's Cove	16	160 00
59475	Jean	do	69	J. Norman Rafuse	Conquerall Bank	9	114 00
103202	L. B. Currie	do	80	Lauchlin B. Currie	West Dublin	14	150 00
96833	L. E. Young	do	80	Benj. Anderson	Lunenburg	16	160 00
94780	Lawrence	do	80	Abraham Ernst	Mahone Bay	13	145 00
94788	Laura C. Zwicker	do	80	do	do	12	140 00
83316	Lottie	Port Medway	80	Sam'l. E. Teel	Vogler's Cove	14	150 00
103496	Loreana Maud	Lunenburg	80	David Ritcey	Ritcey's Cove	14	150 00
96087	Leopold	LaHave	80	Sam'l. Ritcey, Jr.	do	14	150 00
100830	Lorraine C.	Lunenburg	64	Amiel Corkum	LaHave	11	119 00
103418	Leader	do	80	Alex. Kinckle	Lunenburg	14	150 00
96832	Laura M. Knock	do	80	Allan R. Morash	do	12	140 00
90854	Latona	do	80	S. Watson Oxner	do	13	145 00
103420	Luetta	do	80	David Smith	do	14	150 00
103510	M. J. Crosby	do	76	Charles Rafuse	LaHave	12	136 00
103413	Martello	do	65	Abraham Ernst	Mahone Bay	10	115 00
97052	Minnie Maud	Liverpool	80	J. S. Wolfe	West Dublin	15	155 00
100844	Mystic Tie	Lunenburg	64	J. N. Rafuse	Conquerall	11	119 00
83173	Maggie Smith	do	80	Jno. M. Ritcey	Ritcey's Cove	12	140 00
103425	Majestic	do	80	Reuben Ritcey	do	14	150 00
103426	Melbourne	do	61	Eber Gerhardt	LaHave	12	121 00
100849	Merl M. Parks	do	80	James Wamback	do	14	150 00
90823	Miletus	Port Medway	80	Jno. Shankle	E. Mid. LaHave	12	140 00
96840	May Flower	Lunenburg	60	Robt. Dawson	Bridgewater	8	100 00
103422	Mischief	do	80	T. A. Wilson	do	14	150 00
100840	Maritime	do	59	Francis Himmelman	Getson's Cove	9	104 00
10162	Magic	do	45	Jno. D. Sperry	Petite Riviere	8	85 00
103509	Maggie E. Z.	do	70	Em. Sellers	Felzen South	13	135 00
94772	Molega	do	80	Benj. Anderson	Lunenburg	14	150 00
94775	Malabar	do	80	R. H. Griffiths	do	14	150 00
92632	Monarch	do	80	Allan R. Morash	do	12	140 00
109574	Melrose	do	71	do	do	11	126 00
103416	Minnie J. Smith	do	80	Wm. C. Smith	do	16	160 00
97100	Maggie M. W.	do	80	J. H. Wilson	do	14	150 00
94777	Maurice C. Geldert	do	80	Jno. B. Young	do	14	150 00
100153	Milo	do	80	J. Wm. Young	do	14	150 00
92640	Minerva	do	80	Wm. C. Acker	do	12	140 00
94966	Nicanor	do	79	McKinnon Westhaver	Martin's Brook	12	139 00
100485	Nightingale	do	52	Wallace Haughn	LaHave	10	102 00
90827	Nyanza	do	80	Elias Walters	Lunenburg	16	160 00
92636	Nonpareil	do	80	Jno. Zinck	do	14	150 00
88342	Nova Zembla	do	79	C. U. Mader	Mahone Bay	12	139 00
94779	O. P. Silver	do	80	Chas. L. Silver	Lunenburg	14	150 00
103499	Olivette	do	80	James Creaser, Jr.	Ritcey's Cove	14	150 00
94641	Ovanda	do	80	Jeffrey Publicover	Getson's Cove	12	140 00
85562	Oresa	do	14	Alex. Kinckle	Lunenburg	4	34 00
94786	Ontario	do	80	Benj. C. Smith	do	14	150 00
100157	Orinoco	do	56	Wm. Westhaver	do	12	116 00
100486	Pandora	do	53	Abraham Cook	Corkum's Island	12	113 00
94774	Puritan	do	80	Theophilus Creaser	Ritcey's Cove	14	150 00
100483	Puma	do	58	Simon Pentz	Getson's Cove	13	123 00
100836	Panama	do	80	Henry Adams	Lunenburg	14	150 00
85647	Pembina	do	80	S. W. Oxner	do	10	130 00

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—Con.

LUNENBURG COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
53551	Roving Bird	Halifax	24	Joseph Langille	do	4	44 00
100473	Rapture	Lunenburg	57	Alvin Moser	Middle South	12	117 00
100572	Rowena	do	51	Wm. Schmeisser	La Have	12	111 00
96834	Robert F. Mason	do	80	Martin Mason	Lunenburg	14	150 00
100165	Snow Queen	do	67	Leander Meisner	Martin's Point	12	127 00
88349	Senovar	do	80	Nathan Hiltz	Martin's River	12	140 00
94962	Stella A.	do	80	Reuben Ritcey	Ritcey's Cove	13	145 00
94787	Samoa	do	80	James Geldert	Lunenburg	14	150 00
90868	Sadie	do	79	G. N. C. Hawkins	do	13	144 00
100471	Secret	do	80	Jno. B. Young	do	14	150 00
103500	St. Helena	do	80	Howard Wynacht	do	14	150 00
94657	T. W. Langille	do	71	Frank Conrad	do	13	136 00
92623	Torridon	do	80	Murdock McGregor	Ritcey's Cove	14	150 00
100575	Tyler	do	54	W. A. Zwicker	Lunenburg	9	99 00
103742	Unique	do	80	Abraham Ernst	Mahone Bay	14	150 00
103417	Uruguay	do	80	Daniel Lohnes	Ritcey's Cove	14	150 00
97098	Urania	do	80	David Heisler	Lunenburg	14	150 00
69200	Vesta	do	64	Martin Evans	Chester	*	64 00
100821	Venus	do	76	Jacob Hiltz	Indian Point	12	136 00
94776	Volunteer	do	80	Murdock McGregor	Ritcey's Cove	13	145 00
103504	Viking	do	80	Amiel Corkum	La Have	14	150 00
94956	Venezuela	do	80	Isaac Corkum	Middle La Have	12	140 00
83164	Valiant	do	80	A. H. Zwicker	Lunenburg	12	140 00
94967	White Cloud	do	80	C. U. Mader	Mahone Bay	15	155 00
96829	Westeria	do	80	Freeman Anderson	Lunenburg	14	150 00
100152	Werra	do	80	David Smith	do	14	150 00
100842	W. H. Walters	do	80	Thomas Walters	do	13	145 00
100833	Yucatan	do	80	J. Joseph Rudolph	do	14	150 00

PICTOU COUNTY.

83134	Infant	Lunenburg	15	Johnston Rhynard	Pictou	2	25 00
38510	Lily	Pictou	23	Geo. Rivers	do	3	38 00

QUEEN'S COUNTY.

103205	Aroostook	Liverpool	67	Andrew McNutt	Liverpool	*	67 00
90844	Armada	Guysborough	25	L. B. Cohoon	Port Medway	6	55 00
85564	Bessie Williams	Barrington	77	Abram W. Hendry	Liverpool	3	92 00
85478	Glenora	Liverpool	76	James C. Inness	do	16	156 00
103191	Jennie B	do	13	Wm. Vogler	Port Jolly	4	33 00
83310	Myosotis	Port Medway	80	Edwin Morine	Port Medway	14	150 00
94833	News Boy	St. Andrews, NB	16	Alex. Shankle	Port Matoon	5	41 00
103194	Oressa	Liverpool	10	Winot Arnold	do	4	30 00
61916	Only Son	do	16	Wm. A. Conrad	Liverpool	3	31 00
90832	Ronald H. C	Port Medway	55	L. B. Cohoon	Port Medway	14	125 00
103193	Startle	Liverpool	11	Albert Wagner	Port Matoon	4	31 00
103199	Trilby	do	12	Wm. Wigelsworth	Liverpool	2	22 00
83495	Utopia	do	80	James C. Inness	do	9	125 00
97041	W. H. Smith	do	43	Willard Godfrey	Brooklyn	7	78 00
94953	W. D. Richard	Lunenburg	80	Abram W. Hendry	Liverpool	15	155 00

*Crew not entitled to bounty.

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*

RICHMOND COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
69143	Arequipa	Arichat.	36	Philip Gruchy	D'Escousse	7	71 00
77544	Alpha	do	42	Wm. J. Le Vesconte	River Bourgeois	4	97 00
88456	Alice May	do	39	do	do	10	89 00
36474	Alexander Fraser	Lunenburg	32	A. Sampson	do	10	82 00
38501	R. Weir & Co.	Arichat	25	J. Shannon and M. J. White	Basin River Inhabitants	4	45 00
35996	Blue Bell	do	25	Thos. Duyon	Martinique	3	40 00
94680	Bonnie Glen	Halifax	17	Xavier Marchaud	Petit de Grat	4	37 00
75561	Boreas	Lunenburg	41	John Colford	Port Richmond	7	76 00
54156	British Lady	Arichat	19	Albert Joyce	Riv. Inhabitants	2	29 00
72061	C. P. M.	do	22	Alex. Burke	River Bourgeois	6	52 00
88459	Caroline	do	12	Jno. B. Girroir	West Arichat	3	27 00
74100	Candid	do	23	Désiré Burke	River Bourgeois	7	58 00
103452	Charlotte	do	73	David Walker	Basin River Inhabitants	6	103 00
72052	Dayspring	do	52	Charles Leblanc	Port Royal	4	72 00
72058	Daisy	do	34	Placide Richard	Arichat	3	49 00
75569	Empress	Lunenburg	47	Célestin Poirier	L'w'r D'Escousse	12	107 00
77822	Eliza Smith	Arichat	44	Alex. Poirier	Goulet	11	99 00
53811	Electric Flash	Halifax	53	Dominique Fougère	Poulamond	13	118 00
103454	Ethel B.	Arichat	10	Edward Leblanc	do	4	30 00
80994	Esperance	Guysborough	16	Joseph Petitpas	Arichat	3	25 00
38477	Elizabeth	Arichat	18	Placide Burke	River Bourgeois	3	33 00
83395	Elerie	Halifax	29	Lewis Murray	Port Richmond	3	44 00
83083	Emma Proctor	Port Hawkesby	41	Edward Procton	Riv'r Inhabitants	9	86 00
88462	Fannie S.	Arichat	28	Docité Fougère	River Bourgeois	8	68 00
74116	Fama	Halifax	44	Wm. Levesconte	do	10	94 00
38481	G. H. B.	Arichat	36	Placide Forgeron	West Arichat	3	51 00
88599	Guide	Halifax	38	Edward Poirier	L. D'Escousse	12	98 00
100161	Hilda Maud.	Port Hawkesby	46	Jno. G. Murray	Port Richmond	4	66 00
38468	Hector	Arichat	35	Edward J. Walker	Basin River Inhabitants	7	70 00
88468	Irene	do	12	D. M. Gruchy	Petit de Grat	3	27 00
96764	Ida C. Spoffard	Port Hawkesby	54	Robt. Murray	Port Richmond	7	89 00
83135	J. B. M.	Halifax	20	Samuel Burke	St. Peters	6	50 00
88454	Jubilee	Arichat	34	David Gruchy	D'Escousse	9	79 00
85560	Jacques	Yarmouth	58	Fredk. Poirier	do	14	128 00
80972	John Vincin	Sydney	17	Simon Delorey	Janvrin Island	3	32 00
38486	Julia	Arichat	20	Louis Burke	River Bourgeois	7	55 00
88467	Katie	do	11	Frank Sampson	Poulamond	4	31 00
72070	Lennox	do	46	David Gruchy	D'Escousse	12	106 00
37551	Leading Star	Halifax	39	Remie Joyce	do	10	89 00
88455	Laura Victoria	Arichat	39	Henry McDonald	do	10	89 00
38516	Lady of the Lake	do	26	Peter Landry	St. Peters	8	66 00
96763	Lelia Linwood	do	67	Wm. J. Levesconte	River Bourgeois	15	142 00
72071	Lumen Diei	do	20	Urbain Sampson	do	5	45 00
74054	Laura E. Douglass	Barrington	39	Joseph Steele	Port Richmond	6	69 00
38417	Messenger	Arichat	30	Cléophas Boudrot	Poulamond	6	60 00
72063	May Flower	do	12	John Burke	River Bourgeois	5	37 00
88463	Maria	do	14	Andrew Boudrot	Petit de Grat	4	34 00
38522	Mary	do	23	Isaiah Boudrot	River Bourgeois	7	58 00
88464	Mary E.	do	10	Charles Wolfe	Arichat	3	25 00
85388	Mary Alice	Halifax	20	Wm. Malcolm & Sons	Port Malcolm	3	35 00
74365	Nova Stella	Arichat	53	Leon Poirier	D'Escousse	15	128 00
72048	Neptune	do	26	Wm. Levesconte	River Bourgeois	5	51 00
54139	Ocean Belle	Halifax	20	Isidore Fougère	Poulamond	8	60 00
61630	Olive J.	do	57	Jno. Malcolm	Port Malcolm	8	97 00
72067	Philomene D.	Arichat	22	Jno. Pelham	Madame Island	3	37 00
46485	Quickstep	Port Hawkesby	52	Jno. G. Murray, et al.	Port Richmond	6	82 00
88439	Ripple	Halifax	20	Isidore Boudrot	Petit de Grat	4	40 00
64033	Ripple	Port Hawkesby	34	Geo. A. Cruickshank	Port Richmond	7	69 00
75763	Ripple	Arichat	17	Daniel McDonald	Basin River Inhabitants	2	27 00

List of Vessels which received Fishing Bounty, &c.—Nova Scotia—Con.

RICHMOND COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							¢ cts.
73119	Royal	Halifax	12	Isaac Dugas	West Arichat	2	22 00
88452	R. Ferguson	Arichat	24	Maurice Burk	St. Peters	7	59 00
51781	S. E. Cove	Halifax	54	Remi Fougere	Poulamond	12	114 00
85645	Sissie Belle	do	40	Firmin Fougere	do	11	95 00
88465	Stella	Arichat	46	F. A. Burke	River Bourgeois	12	106 00
92599	Thistle	Sydney	11	R. Manbourquette	L'Ardoise	4	31 00
61990	Union	Halifax	20	Arthur Leblanc	Arichat	2	30 00
61946	Union	do	23	Laurence Lavache	West Arichat	2	33 00
71034	Vanguard	Arichat	51	Dom. Boudrot	Petit de Grat.	7	86 00
38523	Victoria	do	24	Henry Burke	St. Peters	7	59 00
57662	Village Bride	Halifax	24	Peter Malcolm	Port Malcolm	6	54 00
94666	Winged Arrow	do	56	Thomas Boudrot	Poulamond	14	126 00

SHELburne COUNTY.

97034	A. D'E.	Yarmouth	15	David Blades	Upper Wood's Harbour	4	35 00
94632	A. C. Greenwood	Shelburne	15	Hugh M. Perry	Black Point	5	40 00
90655	Annina	Yarmouth	12	Benjamin Penney	South Side	6	42 00
100612	Ardella	Shelburne	10	Adam J. Firth	Sand Point	4	30 00
100617	Altona	do	28	Austin Swansburg	Little Harbour	8	68 00
100620	Alina	do	80	Churchill Lake	Lockeport	18	170 00
103701	Black Prince	Yarmouth	15	Thos. W. Crowell	Baccaro	4	33 00
88551	Blanche M. Thorbourne	Shelburne	80	Jno. H. Thorbourne	Jordan Bay	19	175 00
103186	Britannia	do	11	Ross Enslow	Green Harbour	4	31 00
103187	Ben Bolt	do	80	Clifford Locke	Lockeport	19	175 00
100604	Bella H. McKinnon	do	35	do	do	9	80 00
97028	Bertha	Yarmouth	10	Edwin William	Green Harbour	4	30 00
103181	Curlew	Shelburne	63	Arthur Hood	Shelburne	14	133 00
96970	Charlie Richardson	do	26	John B. Harding	Rockland	8	66 00
100605	Dawn	Barrington	49	Angus N. Smith	Barrington	11	104 00
100613	Dove	Shelburne	80	Jno. M. Harding	Osbourne	8	120 00
83492	Dessie	Liverpool	11	E. A. Capstick	Lockeport	4	31 00
90644	Eva Mc	Yarmouth	19	James E. Smith	Lower Shag Harbour	3	34 00
85731	Eva L. H.	Shelburne	62	B. P. Thorbourn	Sandy Point	13	127 00
96976	Edith	do	40	Enos Churchill	Lockeport	8	80 00
90645	Fly	Yarmouth	16	Chas. M. Wickens	Shag Harbour	4	36 00
85476	Fleetwing	Shelburne	11	Wilson Sperry	Green Harbour	5	36 00
103065	Garnet	Yarmouth	27	Wm. P. Snow	Port La Tour	5	52 00
100818	Geneva Ethel	Barrington	29	Charles Kenny	Clarke's Harbour	8	69 00
80831	Glide	Lunenburg	16	Charles Anderson	Sable River	5	41 00
80799	Hattie T.	Digby	16	Isaac Nickerson	Shag Harbour	2	26 00
100815	Happy Home	Barrington	16	Harvey Slate	Cape Negro	4	30 00
90647	Hattie Emeline	Yarmouth	11	Chas. A. Reynolds	Upper Pt La Tour	3	26 00
97057	Horace B.	Liverpool	14	Geo. Hiltz	Lockeport	5	39 00
100607	Icelanda	Shelburne	19	Clifford Locke	do	5	44 00
103174	Iona	do	15	Wm. L. Page	do	5	40 00
85566	J. Lyons	Barrington	15	Wm. H. Nickerson	Cape Negro	7	50 00
85689	James Beckwith	do	31	Benjamin Newell	Clarke's Harbour	3	46 00
94941	John Purney	Shelburne	80	Geo. H. King	Sandy Point	21	185 00
84132	John Franklin	Halifax	18	Robert Firth	Jordan River	6	48 00
88554	Jersey Lily	Shelburne	80	Enos Churchill	Lockeport	14	150 00
73967	Katie	Liverpool	14	Churchill Locke	do	5	39 00
90438	Lark	Barrington	13	Saml. Atwood	Oak Park	2	23 00
100817	Little Dorrit	do	64	Angus N. Smith	Barrington	14	134 00
80624	Lima	Yarmouth	12	Wm. Halliday	Bear Point	2	22 00
88261	Little Joe	do	18	Walter Chetwynd	Upper Wood's Harbour	3	33 00

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*

SHELBURNE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
100320	Lena	Barrington	13	Nehemiah Smith	Clarke's Harbour	3	28 00
103185	Latona	Shelburne	80	Jno. A. Mc Gowan	Shelburne	21	185 00
100606	Myra Louise	Barrington	17	James Lowe	Clarke's Harbour	6	47 00
100816	Mattie Morrissey	do	24	D. G. Morrissey	do	9	69 00
92568	Mary Kate	Shelburne	13	Samuel D. Rudolph	Church Over	5	38 00
97024	Mary Amanda	Yarmouth	42	E. P. Greenwood	N. E. Harbour	9	87 00
83434	Mary May	Barrington	20	Peter M. Crowe	Sandy Point	6	50 00
103181	Mayflower	Shelburne	26	Mark A. Vernon	do	5	51 00
100614	May Flower	do	11	Uriah Williams	W. Green Harbr	4	31 00
103177	Mayflower	do	12	Alfred Swim	Lockeport	3	27 00
103173	Mabel	do	21	Jno. Mathews	Rockland	7	56 00
103175	Myrtle	do	10	Geo. L. Decker, sr	Little Harbour	4	30 00
83493	Myrtle C	Liverpool	80	Wm. McMillan	Lockeport	19	175 00
103182	Meta	Shelburne	18	Clifford Locke	do	5	43 00
90439	Oscar F	Barrington	18	Henry Purney	South Side	7	53 00
96977	Oriole	Shelburne	43	Clifford Locke	Lockeport	10	93 00
100820	Ranger	Barrington	11	Thos. K. Nickerson	Doctor's Cove	4	31 00
100319	Rob Roy	Yarmouth	12	Jethro Swim	Clarke's Harbour	4	32 00
92320	Rialto	Shelburne	46	A. E. Thorbourn	Sandy Point	8	86 00
77956	Speed	Yarmouth	13	Robert Nickerson	Upper Wood's Harbour	2	23 00
90433	Ste. Anne	Barrington	11	Jno. W. Kenny	Clarke's Harbour	4	31 00
85390	Susan C	do	20	James F. Ross	Stoney Island	8	60 00
100616	Sea Slipper	Shelburne	11	James Enslow	Green Harbour	4	31 00
90894	Theresa	Yarmouth	18	Stanford Kenney	Clarke's Harbour	2	23 00
96961	Tivoli	Shelburne	24	Wm. J. Doane	Red Head	6	54 00
103179	Trilby	do	31	Wm. McMillan	Lockeport	10	81 00
100811	Vesta Pearl	Barrington	40	N. J. Smith <i>et al.</i>	Cape Island	10	90 00
100608	Vesper	Shelburne	14	Geo. S. Decker, jr.	Little Harbour	5	39 00
100611	Water Sprite	do	50	Colin C. Nickerson	Lower Wood's Harbour	4	70 00
90430	Will Carleton	Barrington	80	Joseph A. Smith	Port La Tour	16	160 00
100812	Wyvern	do	25	Charles L. Swim	Clarke's Harbour	5	50 00
103183	Wren	Shelburne	18	Wm. McCarthy	Shelburne	5	43 00
77744	Whip-poor-will	do	17	James Cook	Black Point	5	42 00
75722	Yuba	Yarmouth	15	Charles E. Crowell	Port La Tour	7	50 00

VICTORIA COUNTY.

69133	Susan	Halifax	17	J. D. McNeil	Ingonish	1	22 00
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YARMOUTH COUNTY.

94980	Aurore	Yarmouth	80	Leon D'Eon	West Pubnico	18	170 00
80647	Annie M. Bell	do	64	Zacharie D'Eon	do	17	149 00
103051	+Carrie May	do	25	Henry T. D'Entremont	L. E. Pubnico	4	46 95
94977	Civilian	do	80	Charles D'Entremont	West Pubnico	18	170 00
85536	Circassian	do	80	A. F. Stoneman & Co.	Yarmouth	23	195 00
90871	Dora	do	63	do	do	17	148 00
103053	Eddie C	do	11	James F. Harding	Argyle	1	16 00
103066	Eddie J	do	23	Webster Hamilton	Lower Argyle	1	28 00
97036	Eva	do	10	Gabriel Bourke	Bourke's Cove	2	20 00
85531	Ethel	do	80	J. H. Porter & Co	Tusket Wedge	18	170 00
90654	Flora	do	64	David D'Entremont	West Pubnico	18	154 00
94972	Florence	do	11	Joshua Boudreau	Tusket Wedge	4	31 00
90885	Georgiana	do	80	Henry Lewis	Yarmouth	20	180 00

†For 1895.

LIST of Vessels which received Fishing Bounty, &c.—Nova Scotia—*Con.*YARMOUTH COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
85554	Hazel Glen.....	Yarmouth.....	80	Arthur D'Entremont..	West Pubnico ..	22	190 00
80643	Hazel Dell.....	do	80	Parker, Eakins & Co..	Yarmouth.....	16	160 00
100327	Hattie.....	do	10	Robert Ellenwood....	do	3	25 00
88581	King Fisher.....	do	47	A. F. Stoneman & Co..	do	6	77 00
90887	L'Etoile.....	do	48	J. H. Porter & Co... .	Tusket Wedge..	13	113 00
80614	Louise.....	do	80	do	do	16	160 00
80632	Lumen.....	do	30	do	do	6	60 00
103059	Lady Bourque.....	do	11	Mandé Bourque.....	Sluice Point... .	3	26 00
88596	M. A. Louis.....	do	64	Charles D. D'Eon.....	West Pubnico ..	15	139 00
85539	Maggie Jane.....	do	12	Wm. Robbins.....	Port Maitland..	2	22 00
88583	Mary O'Dell.....	do	14	Levi Robicheau.....	Yarmouth.....	3	29 00
90659	N. A. Laura.....	do	59	Julien D'Entremont..	West Pubnico ..	17	144 00
90892	Nellie.....	do	59	J. H. Porter & Co... .	Tusket Wedge..	10	109 00
85553	Onyx.....	do	80	Parker, Eakins & Co..	Yarmouth.....	18	170 00
100313	Souvenir.....	do	71	Nicholas D'Entremont	West Pubnico... .	21	176 00
100323	Senora.....	do	80	Marc A. Surette.....	do	21	185 00
75724	Sea Foam.....	do	75	J. H. Porter & Co... .	Tusket Wedge..	14	145 00
96962	Sunrise.....	do	18	James E. Crosby.....	Yarmouth.....	3	33 00
88589	Sanford.....	do	20	Wm. A. Killam.....	do	*	20 00
88597	Uncle Sam.....	do	80	James Amiro.....	West Pubnico... .	20	180 00
90897	Wrasse.....	do	56	A. F. Stoneman & Co..	Yarmouth.....	16	136 00
90882	Will o' the Wisp...	do	51	do	do	16	131 00
90896	Wapiti.....	do	80	do	do	18	170 00

* Crew not entitled to bounty.

Marine and Fisheries—Fisheries Branch.

LIST of Fishing Vessels which received Fishing Bounty, &c.—Continued.

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							¢ cts.
103124	Addie B.	St. Andrew's	13	Arthur Ramsdell	White Head	1	18 00
94727	Aurelia	St. John	22	James Scovil	Grand Manan	3	37 00
83469	Austin P.	St. Andrew's	12	Eben Greenlaw	Deer Island	4	32 00
100111	Bess	Parsboro', N.S.	24	Frank Cassidy	Lepreaux	3	39 00
64011	Bee	St. Andrew's	18	B. T. Fletcher	Wilson's Beach	3	33 00
88409	Carrie	Digby, N.S.	12	Thos. A. Cook	La Tête	3	27 00
88290	Crusoe	St. Andrew's	13	James Starkey	St. Andrew's	3	28 00
59375	Cadet	do	19	Ethelbert Savage	Campobello	5	44 00
35338	Caroline	do	18	Henry Stuart	Deer Island	5	43 00
92503	Defiance	do	17	Frank Calder	Campobello	3	32 00
103118	Della F. Tarr	do	34	C. H. Greenwood	Wilson's Beach	7	69 00
74326	Dreadnaught	Yarmouth, N.S.	19	Alfred Stanley, sr.	Grand Manan	3	34 00
88280	E. B. Lane	St. Andrew's	13	Fred. Tewsbury	do	2	25 00
80803	Exenia	Windsor, N.S.	18	Wm. F. Parker	Beaver Harbour	4	58 00
80882	Ella Mabel	St. Andrew's	14	Walter Calder, jr.	Campobello	3	29 00
83202	Enchantress	do	10	Peter Dixon	Grand Manan	1	15 00
94834	Flora Wooster	do	22	Andrew McGee	Back Bay	3	37 00
88276	Falcon	do	12	Jno. F. Cronk	Grand Manan	3	27 00
92511	Fleet Wing	do	11	Alden McFarland	do	2	21 00
97150	Gleaner	do	13	Andrew McGee	Back Bay	1	18 00
94835	Georgie Linwood	do	25	Robert Barry	Beaver Harbour	5	50 00
59379	Gazelle	do	47	William Watt	Grand Manan	8	87 00
59396	Gurtie Westbrook	do	16	James Cline	Deer Island	1	21 00
94839	Harrie	do	14	Wm. Tucker	La Tête	3	29 00
83463	Havelock	do	33	Wm. James	Wilson's Beach	5	58 00
103123	Indicator	do	11	Frank Ingersoll	Grand Manan	2	21 00
103121	Island Girl	do	17	do	do	2	27 00
51965	John E. Dennis	do	18	Alfred Stanley	do	4	38 00
83426	Louisa	St. John	16	Wm. Shaw	Lepreaux	3	31 00
59342	Lizzie S. McGee	St. Andrew's	14	Andrew McGee	Back Bay	4	34 00
88273	Lillian E.	do	13	do	do	2	23 00
77965	Lybia B.	do	18	W. & J. M. Calder	Campobello	3	33 00
77766	Laonic	Shelburne, N.S.	15	John Dixon	Grand Manan	3	30 00
88407	Linnet	Digby, N.S.	15	James Scovil	do	*	15 00
103117	Magaret	St. Andrew's	49	Milton Eldridge	Beaver Harbour	12	109 00
88277	Maggie Jane	St. John	18	Thomas Bright	Seely's Cove	2	28 00
85442	Mystery	St. Andrew's	14	Chas. Dixon	Grand Manan	2	24 00
88402	Mizpah	Digby, N.S.	53	Eben Gaskill	do	8	93 00
92514	Maggie Jane	St. Andrew's	10	John Thomas	do	3	25 00
94837	Olga	do	11	Thos. Richardson	Deer Island	2	21 00
92518	Peril	do	18	Martin Eldridge	Beaver Harbour	3	33 00
75864	Roving Lizzie	Weymouth, N.S.	11	Eben Calder	Campobello	3	26 00
75591	Rise and Go.	St. Andrew's	16	Wm. Sirls	Wilson's Beach	3	31 00
88272	Sim-on H. Bell	St. Andrew's	14	Charles Dixon	Grand Manan	3	29 00
88414	Trumpet	St. John	20	Geo. U. Wright	Beaver Harbour	3	35 00
59387	Telephone	St. Andrew's	19	James Brown	Wilson's Beach	3	34 00
94832	Venus	do	42	Simon Brown	do	9	87 00
88282	Veritas	do	10	Simon Leonard	Deer Island	2	20 00
103111	Volunteer	do	13	A. W. Ingersoll	Grand Manan	3	28 00
77969	Wave Queen	do	11	H. W. Foster	do	4	31 00
92512	Water Witch	do	11	Robert Main	do	3	26 00

* Crew not entitled to bounty.

List of Vessels which received Fishing Bounty, &c.—New Brunswick—Con.

GLOUCESTER COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							¢ cts.
100984	Alice	Chatham	11	Charles De Gruchy	Caraquet	4	31 00
103279	Alice Maud.	do	10	Peter Fiott	do	3	25 00
96739	Angeline	do	14	Octave Gionet	do	3	29 00
103085	Argentina	do	12	V. L. Lanteigne	do	3	27 00
103071	Anglesea	do	12	H. H. LeBoutillier	do	3	27 00
100987	Arabi	do	12	Philip Rive	do	3	27 00
103769	Alma	do	10	Jno. B. Sirois	do	3	25 00
103081	Albatross.	do	13	Thomas Ahier	Shippegan	3	28 00
103763	Alouette.	do	10	do	do	3	25 00
103073	Anna.	do	11	W. S. Loggie	Caraquet	4	31 00
92419	Anna.	do	12	Dosité Chiasson.	Shippegan	3	27 00
100960	Annie M	do	11	W. S. Loggie	Caraquet	3	26 00
103009	Adeline Gladys	do	12	Richard Young	Shippegan	3	22 00
72099	Adeline	do	12	Clément Lanteigne.	Lamèque.	3	27 00
97194	Alika.	do	12	Lange Paulin, sr	do	3	27 00
100983	Bee	do	11	Chas. De Gruchy	Caraquet	3	26 00
61431	Bee	do	11	Paul Noël	Lamèque	3	26 00
103589	Blenheim	do	13	Peter Fiott	Caraquet	3	28 00
100299	Blanchard	do	12	do	do	3	27 00
100780	Britannic	do	12	C. Hubbard	do	3	27 00
100975	Big Bear	do	10	Robt. Young & Son.	do	3	25 00
103072	Ben Hur	do	11	Richard Young	Shippegan	3	26 00
72079	Betsy	do	13	Sébastien Noël.	Lamèque	4	33 00
100909	Blue Nose	do	11	Joseph Sewell.	Caraquet	3	26 00
103271	Celia	do	11	Dom. Gallien	do	3	26 00
100774	Calliope	do	12	P. Rive	do	4	32 00
103585	Cerdric	do	14	do	do	3	29 00
100988	Cesar	do	10	do	do	3	25 00
100971	Cyprian.	do	11	Elie Sivret.	do	3	26 00
100784	Charlotte	do	13	R. Young & Son	do	3	28 00
100789	Chazalie	do	11	do	do	4	31 00
100916	Cygnat	do	12	George Romeril	Paspebiac, P.Q.	3	27 00
101000	Condor	do	10	Thomas Ahier	Shippegan	3	25 00
103083	Corsair	do	10	do	do	3	25 00
100917	Dora	do	11	Geo. Romeril.	Parpebiac, P.Q.	3	26 00
100915	Dawn.	do	12	do	do	3	27 00
100999	Dove	do	11	T. Ahier.	Shippegan	3	26 00
100913	Daffodil	do	10	do	do	3	25 00
103076	Dipper	do	11	W. S. Loggie	Caraquet	4	31 00
92412	Dollie Dutton.	do	13	Richard Young	Shippegan	4	33 00
103590	Eliza	do	13	P. Fiott	Caraquet	3	28 00
100293	Eliza	do	15	Robt. Young & Son.	do	4	35 00
103090	Etna	do	11	P. Rive.	do	3	26 00
100772	Estelle	do	13	do	do	3	28 00
100905	Evangeline	do	10	do	do	3	25 00
100786	Empress	do	12	Robt. Young & Son.	do	3	27 00
100787	Ethel	do	11	do	do	3	26 00
100998	Eagle	do	10	T. Ahier	Shippegan	4	30 00
100911	Emperor	do	10	do	do	3	25 00
96723	Emma.	do	15	Ludger Duguay.	Lamèque	3	30 00
96737	Elmina	do	11	Jacques Noël.	do	4	31 00
61405	Fly.	do	11	Alexr. McLaughlan	Tracadie.	4	31 00
100977	Fly.	do	12	Chas. DeGruchy	Caraquet.	3	27 00
96736	Fly.	do	14	Richard Young	Shippegan	4	34 00
85699	Four Sisters.	do	10	Marcel Caron	Caraquet.	3	25 00
100782	Flying Foam	do	12	Robt. Young & Son.	do	3	27 00
103001	Falcon	do	10	Thos. Ahier	Shippegan	3	25 00
100912	Foam.	do	10	do	do	3	25 00
103077	Fame.	do	10	W. S. Loggie	Caraquet.	3	25 00
83399	Fannie R. C.	Halifax, N. S.	22	J. W. Windsor	Wilson's Point.	4	42 00
100298	Fisher.	Chatham	12	Elie Chiasson	Lamèque	4	32 00
61445	Flavie.	do	13	Theophile Duguay	do	4	33 00

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—*Con.*

GLOUCESTER COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
92418	Grip	Chatham	12	James Davidson	Tracadie	3	27 00
100968	Gem	do	11	Charles DeGruchy	Caraquet	3	26 00
96733	Gem	do	12	Richard Young	Shippegan	3	27 00
100778	Gambetta	do	12	C. Hubbard	Caraquet	3	27 00
100954	Gazelle	do	10	do	do	3	25 00
100919	Gazelle	do	12	Geo. Romeril	Paspebiac, P. Q.	3	27 00
100910	Gleaner	do	13	Luc Lanteigne	Caraquet	3	28 00
100993	Garfield	do	10	P. Rive	do	3	25 00
100964	Gladstone	do	10	do	do	3	25 00
100992	Great Mogul	do	11	do	do	3	26 00
100989	Gladiator	do	11	do	do	3	26 00
100790	Guiding Star	do	11	Robert Young & Son	do	3	26 00
103282	Gilnockie	do	11	do	do	3	26 00
103766	Genesta	do	12	T. Ahier	Shippegan	2	22 00
103086	Gipsev	do	20	W. S. Loggie	Caraquet	4	40 00
100906	Hotspur	do	10	Philip Rive	do	3	25 00
100994	Hercules	do	10	do	do	3	25 00
100903	Hope	do	12	Robert Young & Son	do	3	27 00
61425	Hope	New Carlisle, P. Q.	13	Geo. Romeril	Paspebiac, P. Q.	4	33 00
103765	Hironnelle	Chatham	11	T. Ahier	Shippegan	3	26 00
100956	Harold N.	do	12	W. S. Loggie	Caraquet	3	27 00
100997	Ivanhoe	do	10	T. Ahier	Shippegan	2	20 00
96724	Isabel	do	11	Pierre Noel	Lamèque	4	31 00
100965	Josephine	do	11	P. Rive	Caraquet	3	26 00
100969	John Bull	do	10	Joseph Sewell	do	3	25 00
103281	Japan	do	11	Robert Young & Son	do	3	26 00
103289	Jersey Lily	do	12	T. Ahier	Shippegan	3	27 00
100958	John B.	do	11	W. S. Loggie	Caraquet	4	31 00
100981	Kite	do	11	Charles DeGruchy	do	3	26 00
103288	Kite	do	10	Thos. Ahier	Shippegan	3	25 00
103283	Koh-i-noor	do	13	Philip Rive	Caraquet	4	33 00
100980	Lynx	do	11	Charles DeGruchy	do	3	26 00
103280	Lilly	do	11	P. Fiott	do	3	26 00
100951	Leo	do	13	Hyacinthe Lanteigne	do	3	28 00
103089	Lady Maud	do	11	P. Rive	do	3	26 00
100902	Lord Stanley	do	10	Robert Young & Son	do	3	25 00
100972	Lizzie D.	do	11	do	do	3	26 00
103003	Lark	do	10	T. Ahier	Shippegan	2	20 00
103075	Lilly Belle	do	14	W. S. Loggie	Caraquet	2	24 00
92413	Mary Jane	do	14	Theodore Savoie	Tracadie	3	29 00
88669	Morning Star	do	12	Gustave Gionet	Pokemouche	3	27 00
103278	Marie Celia	do	14	Lange Albert	Blue Cove	3	29 00
92403	Marie†	do	25	Ubalde Landry	Grande Anse	3	56 88
92403	Marie	do	25	do	do	4	45 00
103088	Max	do	10	Maxime Cormier	Caraquet	3	25 00
100300	Mikado	do	13	P. Fiott	do	3	28 00
100955	Majestic	do	10	C. Hubbard	do	3	25 00
100779	Mermaid	do	11	do	do	3	26 00
100781	Mary Louise	do	11	do	do	3	26 00
113768	Mayflower	do	13	H. LeBoutillier	do	3	28 00
103084	Mary Emma	do	11	Onesime Poulin	do	3	26 00
100295	Marie Louise	do	18	Joseph A. Poulin	do	4	38 00
100785	Midnight	do	12	Robert Young & Son	Caraquet	3	27 00
100957	Mary R.	do	12	W. S. Loggie	do	3	27 00
61447	Merida	do	13	André B. Aché	Shippegan	3	28 00
72100	Marie	do	11	Onésime Chiasson	do	4	31 00
100292	Marie Joseph	do	12	Lazare Gauvin	Lamèque	3	27 00
100991	MacMahon	do	11	P. Rive	Caraquet	3	26 00
100970	Nellie	do	11	Dom. Gallien	do	3	26 00
103284	Normandy	do	11	P. Rive	do	3	26 00
103005	Osprey	do	10	T. Ahier	Shippegan	4	30 00

† For 1895.

LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—Con.

GLOUCESTER COUNTY—Continued.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
103004	Oriole	Chatham	11	T. Ahier	Shippegan	3	26 00
96740	Providence	do	13	Prosperé Albert	Caraquet	3	28 00
72076	Providence	do	12	T. Ahier	Shippegan	3	27 00
96732	Providence	do	11	J. L. Robichaud	do	4	31 00
100776	Patrick	do	11	P. Rive	Caraquet	3	26 00
100996	Parisian	do	10	do	do	3	25 00
100904	P. T. S.	do	11	Thomas Sivret	do	3	26 00
103080	Ptarmigan	do	11	T. Ahier	Shippegan	3	26 00
103746	Petrel	do	12	do	do	3	27 00
100297	Palma	do	14	Oliver Duguay	Lamèque	4	34 00
100967	Queen	do	10	Robert Young & Son	Caraquet	3	25 00
97191	Rita	do	12	Chas. DeGruchy	do	3	27 00
100979	Ranger	do	10	do	do	1	15 00
100908	Rosalie	do	10	Edward LeBoutillier	do	3	25 00
100775	Red Gauntlet	do	11	P. Rive	do	3	26 00
100773	Rupert	do	12	do	do	3	27 00
100952	Replevin	do	10	Geo. Romeril	Paspébiac, P.Q.	3	25 00
103287	Raven	do	11	T. Ahier	Shippegan	2	21 00
103587	Romulus	do	19	W. S. Loggie	Caraquet	3	34 00
103586	Remus	do	17	do	do	3	32 00
103078	Reward	do	13	James DeGrace	Shippegan	4	33 00
103272	Red Weasel	do	11	Richard Young	do	2	21 00
103273	Russel	do	10	John M. Ward	Miscou Island	2	25 00
96727	Ryse	do	11	Sinai Aché	Lamèque	3	26 00
61438	Rosane	do	13	Aimé Duguay	do	3	28 00
100982	Snowdrop	do	11	Charles DeGruchy	Caraquet	3	26 00
100978	Speedy	do	11	do	do	3	26 00
103761	Swing	do	11	P. Fiott	do	3	26 00
103767	Stella Maris	do	19	Luc Friolet	do	3	34 00
103010	Sarah B	do	10	J. Lanteigne	do	3	25 00
103087	Stanley	do	10	Théotime Poulin	do	3	25 00
100963	Stanley	do	10	P. Rive	do	3	25 00
103584	Saxon	do	13	do	do	3	28 00
100907	Sarah	do	10	Robert Young & Son	do	3	25 00
100974	Sivret	do	10	do	do	3	25 00
100901	Sea Flower	do	12	do	do	3	27 00
100914	Sea Flower	do	11	Geo. Romeril	Paspébiac, P.Q.	3	26 00
100788	Sir Charles	do	11	Robt. Young & Son	Caraquet	3	26 00
103286	Snipe	do	11	T. Ahier	Shippegan	3	26 00
103762	Swan	do	11	do	do	3	29 00
103006	Swallow	do	14	do	do	4	31 00
100961	Silver Moon	do	14	W. S. Loggie	Caraquet	4	34 00
96731	Sea Star	do	13	Joseph Savoie	Shippegan	3	28 00
100986	Swift	do	11	Fabien G. Chiasson	Little River	3	26 00
92408	Sarah A. W.	do	15	Robt. J. Wilson	Wilson's Point	3	30 00
100959	Sea Bird	do	10	André F. Aché	Lamèque	3	25 00
103008	St. Joseph	do	12	Adolphe Aché	do	4	32 00
74401	Sara	do	11	Nazaire Noël	do	4	31 00
100777	Teutonic	do	11	C. Hubbard	Caraquet	3	26 00
100918	Tickler	do	12	Geo. Romeril	Paspébiac, P.Q.	3	27 00
103082	Thrush	do	10	T. Ahier	Shippegan	3	25 00
96738	Three Brothers	do	12	Richard Young	do	3	27 00
103293	Two Brothers	do	11	Martin G. Wilson	Little Shippegan	3	26 00
100966	Von Moltke	do	11	Philip Rive	Caraquet	3	26 00
100995	Voltaire	do	10	do	do	3	25 00
103285	Valkyrie	do	12	do	do	3	27 00
103588	Vulture	do	13	W. S. Loggie	do	3	28 00
103274	Vesuvius	do	10	Geo. D. Mallet	Shippegan	4	30 00
100985	Wasp	do	12	Chas. DeGruchy	Caraquet	3	27 00
100953	White Wings	do	10	Robert Young & Son	do	3	25 00
100973	World's Fair	do	11	do	do	3	26 00

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—New Brunswick—Con.

GLOUCESTER COUNTY—Concluded.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
103079	Wren.....	Chatham.....	11	T. Ahier.....	Shippegan.....	3	26 00
88663	William Sinclair...	do.....	17	W. S. Loggie.....	Caraquet.....	4	37 00
96735	White Fish.....	do.....	12	Joseph Savoie, jr.....	Lamèque.....	4	32 00
100920	Zephyr.....	do.....	12	Geo. Romeril.....	Paspébiac, P.Q..	3	27 00

NORTHUMBERLAND COUNTY.

83105	Katie Bell.....	Richibucto.....	11	Edward Breaux.....	Neguac.....	4	31 00
92420	Mary Louise.....	Chatham.....	13	Donald Loggie.....	Church Point....	3	28 00

RESTIGOUCHE COUNTY.

94959	Winnie G. S.....	Lunenburg, N.S.	26	Daniel McGregor.....	Dalhousie.....	5	51 00
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ST. JOHN COUNTY.

88253	E. B. Colwell.....	St. John.....	19	Addison Thompson...	Dipper Harbour .	3	34 00
59373	E. M. Oliver.....	St. Andrew's.....	14	Charles Harkins.....	do.....	3	29 00
77793	Lost Heir.....	St. John.....	15	Henry Alston.....	Pisarincos.....	4	35 00
42089	Lily.....	St. Andrew's.....	10	Frank Campbell.....	Dipper Harbour .	2	20 00
52159	Mary E.....	St. John.....	21	Fredk. Buchanan.....	St. John.....	4	41 00
59322	Sea Flower.....	do.....	11	James Thompson.....	Chance Harbour..	3	26 00
80630	Vanity.....	Yarmouth, N.S.	11	Patrick Murray.....	Dipper Harbour .	3	26 00
97149	Winnie.....	St. Andrew's.....	12	Robert McLellan.....	do.....	2	22 00

LIST of Vessels which received Fishing Bounty, &c.—Continued.

PROVINCE OF PRINCE EDWARD ISLAND.

KING'S COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
69132	Belle of the Bay...	Guysboro', N.S.	20	David H. Gosbee	Murray River...	4	40 00
92675	Can't Help It	Pictou, N.S.	40	John Herring	Murray Har. S.	6	70 00
38335	Elizabeth	Arichat, N.S.	17	Daniel Hemphill	Georgetown...	4	37 00
83196	Ethel Blanche	Pictou, N.S.	17	Wm. Reynolds	Murray Har. S.	4	37 00
100691	Frances E. Willard.	do	23	Benj. H. Herring	do	6	53 00
69109	Marcella Butler	Halifax, N.S.	38	John Hemphill	Georgetown...	4	58 00
100696	Marion Emerson	Pictou, N.S.	30	Reuben Cahoon	Murray Har. S.	5	55 00
90639	Morell	Charlottetown ..	16	Edward Delorey	Brudenell	2	26 00
94667	Nettie M. G.	Halifax, N.S.	32	John Cahoon	Murray Har. S.	5	57 00
88350	Orion	Charlottetown ..	78	Daniel Walker	Georgetown...	12	138 00
74160	Seabird	do	20	Joseph White	Cape Bear	4	40 00
90488	Wave	do	19	James Delorey	Brudenell	3	34 00

PRINCE COUNTY.

71310	Black Watch	Charlottetown ..	23	Benjamin Perry	Alberton	4	43 00
80928	L. H. Davies	do	33	Gallant & Pineo	Bloomfield	7	68 00
75891	May Queen	Chatham, N.B.	22	James L. Richards	Alberton	4	42 00
83096	St. Patrick	do	16	John White	Fortune Cove	5	41 00
94992	Sarah P. Ayer	Charlottetown ..	64	John Champion	Alberton	12	124 00
96926	Sea Foam	do	15	Edward Crossman	Lot 14	4	35 00

QUEEN'S COUNTY.

90476	Fanny	Charlottetown ..	26	Joseph Gallant	Rustico	5	51 00
92466	G. H. Gardiner	do	17	Ebenezer Marshall	North Rustico	4	37 00
96936	Katie and Ella	do	20	Jacob Van Buskirk	Charlottetown	5	45 00
61967	Onward	do	52	Alfred McLeod	French River	*	52 00
103592	Rosamond	do	18	Frank A. Churchill	Rustico	5	43 00

* Crew not entitled to bounty.

Marine and Fisheries—Fisheries Branch.

LIST of Vessels which received Fishing Bounty, &c.—*Concluded.*

PROVINCE OF QUEBEC.

GASPÉ COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner. or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							\$ cts.
96766	Golden Rule.....	Pt. Hawkesbury, N.S.....	42	J. P. Savage.....	Amherst, M.I....	8	82 00
94675	Success.....	Halifax, N.S.....	16	R. J. Leslie.....	Halifax, N.S....	5	41 00

RIMOUSKI COUNTY.

69584	Marie Louise	Quebec.....	23	Louis Castonguay....	Sandy Bay.	3	38 00
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SAGUENAY COUNTY.

74270	Amarilda.....	Quebec.....	24	Cléophas Vézina....	St. Michel.....	2	34 00
85756	Aristile.....	do.....	19	Phléas Vézina.....	do.....	2	29 00
100857	Alix.....	do.....	13	Alfred Tremblay....	St. Thomas de Montmagny... ..	2	23 00
42436	Amelia.....	Gaspé.....	50	Paul Cormier.....	Pt. Esquimaux... ..	8	90 00
100463	B. C.....	Quebec.....	15	François Métivier... ..	Montmagny.....	2	25 00
61966	D. Cronan.....	Halifax, N.S....	40	Peter LeMarquand... ..	Pt. Esquimaux... ..	5	65 00
59909	Elizabeth.....	Quebec.....	27	Elisée Caron.....	Sandy Bay.....	3	42 00
80754	Eugénie.....	do.....	48	André Vigneau....	Pt. Esquimaux... ..	6	78 00
85754	Florida.....	do.....	26	Charles Gasse.....	Rimouski.....	*	26 00
88469	George Clarke, jr.	Arichat, N.S....	64	Luc Cormier.....	Pt. Esquimaux... ..	6	94 00
85750	H. B.....	Quebec.....	57	Hypolite Boudreau... ..	do.....	10	107 00
100860	Hovington.....	do.....	17	Thomas Riverin....	Murray Bay....	3	32 00
66259	Katie E. Stuart...	Halifax, N.S....	54	James P. Buckle....	Bonne Espérance	4	74 00
103355	La Clerina.....	Quebec.....	20	Narcisse Levesque...	Notre-Dame Ile Verte.....	2	30 00
55863	Maria Adelmina...	do.....	13	C. Levesque.....	do.....	2	23 00
69380	Marie Anne.....	Gaspé.....	36	Charles Landry....	Pt. Esquimaux... ..	8	76 00
103136	Marie Claude.....	Quebec.....	21	Ulric Couillard....	Sandy Bay.....	2	31 00
100464	Marie Oliva.....	do.....	12	Horace Demeule....	Ile aux Coudres..	3	27 00
100469	Marie Victoire....	do.....	20	Alphonse Pedneaud... ..	do.....	4	40 00
69382	Marie du Sacré Cœur	Gaspé.....	46	Paul Landry.....	Pt. Esquimaux... ..	6	76 00
100462	Mary.....	Quebec.....	19	Joseph Gagné.....	Malbaie.....	2	29 00
103358	Romeo.....	do.....	22	Louis Pineault....	Bic.....	2	32 00
73026	Ste. Anne.....	do.....	20	Lazare Michaud....	Trois Pistoles... ..	*	20 00
92334	Ste. Marie.....	do.....	53	Pierre Ouellette....	Quebec.....	4	73 00
69591	Ste. Marie.....	do.....	37	Alex. Scherrer.....	Pt. Esquimaux... ..	5	62 00
100362	St. Louis.....	do.....	23	Alphée Bergeron....	Ile aux Coudres..	4	43 00
80753	Stella Maria.....	do.....	51	Louis Cummings, sr.	Pt. Esquimaux... ..	8	91 00
75680	Sea Star.....	do.....	52	Dominique Cormier... ..	do.....	8	92 00
64873	Willie.....	do.....	36	Louis Gagnon.....	Pentecost.....	*	36 00
66727	Willow.....	Halifax, N.S....	15	Auguste Boulet....	St. Thomas de Montmagny... ..	3	33 00
100860	†Hovington.....	Quebec.....	17	Thomas Riverin....	Murray Bay....	2	36 84
103362	†Le Marcel.....	do.....	13	Benjamin Bergeron... ..	Les Eboulements	3	33 80
60600	†P. Fortin.....	do.....	79	Israël Cormier....	Pt. Esquimaux... ..	7	213 90

†For 1895. ‡For 1894. *Crew not entitled to bounty.

APPENDIX No. 3.

NOVA SCOTIA.

District No. 1.—Comprising the four counties of the Island of Cape Breton.
Inspector A. C. Bertram, North Sydney, C.B.

District No. 2.—Comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants.
Inspector Robert Hockin, Pictou.

District No. 3.—Comprising the counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.
Inspector L. S. Ford, Milton.

DISTRICT No. 1.

ANNUAL REPORT ON THE FISHERIES OF CAPE BRETON ISLAND,
COMPRISING THE COUNTIES OF CAPE BRETON, INVERNESS,
RICHMOND AND VICTORIA.

NORTH SYDNEY, C.B., 2nd January, 1897.

Hon. L. H. DAVIES,
Minister of Marine and Fisheries.

SIR,—I have the honour to transmit herewith the statistics of the fisheries of the Island of Cape Breton for the year 1896, together with synopses of the reports of the several local officers, and a detailed statement of materials used in the fishing industry.

Besides the usual comparative tables, there will be found embodied in this report statement showing at a glance the increase and decrease in the fisheries by counties compared with 1895; the average earnings by counties per fisherman for the present year; a comparison of yield of seven of the leading branches with the two previous years, and a table giving the number of lobster canneries in operation in each of the four counties for the present year, the number of persons employed and the total value of the season's pack.

In gathering these statistics, I have always impressed upon the several overseers the necessity of exercising the utmost care in obtaining their information from only reliable dealers and fishermen, so that the actual yield of the fishing industry be given to the country in these annual returns.

Marine and Fisheries—Fisheries Branch.

It will be observed by the following comparative table that there has been a decrease in the total yield :—

County.	Value, 1895.	Value. 1896.	Increase.	Decrease.
	\$	\$	\$	\$
Cape Breton.....	191,953 77	197,214 63	5,260 86	
Inverness.....	315,846 78	301,966 70		13,880 08
Richmond.....	379,193 23	343,721 75		35,471 48
Victoria.....	180,782 33	200,644 39	19,862 06	
	1,067,776 11	1,043,547 47	25,122 92	49,351 56
Decrease				24,228 64

The decrease in the value of the fisheries for 1896 may be attributed to three causes, viz., low market prices for leading articles of fish product; failure of the mackerel fishery and the shortage in the catch of herring. This decrease I predicted in my preliminary report, forwarded in November last, before the statistics were gathered. The following table contains statistics relating to the lobster fishing industry, as carried on in each of the four counties of Cape Breton Island :—

County.	Number of Canneries in Operation.	Number of Persons Employed.	Total value of the Season's Pack.
			\$
Cape Breton.....	14	515	62,728 68
Inverness.....	16	300	33,546 80
Richmond.....	17	503	72,055 20
Victoria.....	17	252	28,576 24
	64	1,570	196,906 92

There was a much larger number of canneries in operation in 1896 than in any previous year, and although there is an increase in the season's pack, the total yield per cannery is below the average of last year. From information already to hand, I learn that there will be a larger number of canneries operated in this district next season than in any previous year. The multiplying of these canneries threaten the extinction of this important fishery at no distant day. It would seem, therefore, that some further restriction is necessary to preserve this fishery than the present regulations afford. There is no illegal fishing carried on in this district after the close season begins. The regulations are, I believe, as well observed here as elsewhere. Still I have reason to believe that there are violations, not at the canneries, but when the fish are being taken from the traps. The average fisherman shows no inclination to preserve the fishery, and when he comes across a spawned lobster in the trap, he is liable to destroy the spawn. This is done by rubbing the berried part of the fish across the gunwale of the boat, thus removing every trace of spawn from the lobster. This is the most iniquitous practice adopted to evade the regulations. If the department would offer a reward in each district for the conviction of fishermen found guilty of this practice, I have no doubt it would restrict it to some extent. Considering the danger to this industry by overfishing, I am of the opinion that a license should not be issued to a new cannery in closer proximity than three miles of one previously in operation.

For instance, up to the end of the present season there was only one cannery operated at Little Bras d'Or Gut. Next season within a radius of two miles, if licenses are granted, there will be three canneries in operation, yet the fishing grounds there can only supply one cannery for an average season's pack. The following is the product of this fishery for the four past years :—

	Lbs. preserved.
1893.....	1,211,970
1894.....	1,055,795
1895.....	1,330,474
1896.....	1,406,478

Besides the above, the following returns show the quantity of fresh lobsters marketed during the same period :—

	Tons.
1893.....	39
1894.....	42
1895.....	3
1896.....	152

CODFISH.

This is the leading branch of our fishing industry, and is prosecuted more or less during the whole season by our shore fishermen. The following are the returns of this fishery for the four past years :—

	Cwts.
1893.....	98,871
1894.....	101,717
1895.....	76,285
1896.....	82,313

These fish were found scarce in the inshore waters up to the middle of September when they became more plentiful, and from that date till the end of December, there was excellent codfishing in all the districts. Why these fish continue to remain in deep water until the autumn season, is inexplicable. Some fishermen say that they are kept outside by the gurry thrown overboard by American fishing vessels. There is, evidently, better natural feed on the outside banks in mid-summer than in the inshore waters. The only way the local fishermen can overcome this is by adopting a larger size fishing craft than the average fisherman now uses.

MACKEREL.

This branch of the fisheries was the the poorest for many years in this district, as the following figures will show :—

	Brls. pickled.	Lbs. preserved.
1893.....	12,509	11,622
1894.....	14,619	10,160
1895.....	11,348	19,900
1896.....	9,706	6,900

The catching of thousands of barrels of these fish by American seining vessels, while the mackerel are on their way in June to the spawning grounds, must, of necessity, bring about the extinction of these fish. In the interests of the fishery, it would be better for Canadian fishermen to allow Americans fishing privileges in our inshore waters for the concession of abandoning the destructive method of purse-seining, at least until after the mackerel spawning season. By the failure of this fishery the past season, our fishermen have had their year's earnings considerably reduced.

Marine and Fisheries—Fisheries Branch.

HERRING.

The following comparative statement exhibits a considerable falling off in the pickled product, compared with the previous year :—

	Brls. pickled.	Lbs. fresh.
1893.....	22,017	227,000
1894.....	26,670	187,000
1895.....	37,349	118,340
1896.....	30,280	126,900

The cause of the decrease in pickled fish is owing to the failure of the mid-summer run of herring during the past season. Every season beginning with the month of July, a run of large, fat herring usually strike in in the bays and harbours in this district. This year these fish did not make their appearance in such large schools as the previous season.

While the fishermen were as fully prepared for this fishery as in former years, only a few barrels were captured in any of the districts.

Local fishermen contend that lobster traps frighten this run of fish from the coast. It does not seem, however, that this opinion of the fishermen is correct, as the spring run of herring, which is much inferior in all respects to the mid-summer run, made their appearance in our bays and harbours this year in great abundance. If traps would affect one run they would do so in the case of the other.

I am more inclined to believe that climatic changes have more to do with directing the course of the mid-summer herring than anything else. These fish are sensitive to such changes. In stormy weather they will leave the shoal waters of bays and harbours and take to the bottom where the water is deep.

The cause for the failure of the July run of these fish is to be found, I think, in the fact that about the time they were approaching the coast a heavy north-east storm diverted them from their usual course, thus depriving our local fishermen of one of the most remunerative branches of our fisheries.

SALMON.

As will be seen by the following figures this branch of the fisheries shows the largest percentage of increase during the past season, and this increase is made up by each of the four counties :—

	Brls. pickled.	Lbs. fresh and preserved.
1893.....	254	124,873
1894.....	336	88,834
1895.....	215	65,071
1896.....	408	120,276

Salmon were more plentiful from the third week in June until the last of October on the coast this year than in any previous season.

Most of the fish were taken by gill-nets in the coastal waters and in the inside tidal waters of harbours and bays. After the close season opened and when the autumn rains began, these fish entered the spawning grounds of upper waters in large numbers.

HALIBUT.

Compared with the past three years the returns this season exhibit more than an average catch in this branch :—

	Lbs.
1893.....	26,880
1894.....	115,693
1895.....	96,664
1896.....	111,312

I have no doubt this branch of the fishery is capable of much greater development. These fish are only sought after for local consumption and for this limited market the fishery is only prosecuted by a few fishermen. Halibut were found more plentiful on the inshore banks this season than the previous one.

ALEWIVES.

With the exception of the quantity of alewives consumed by the fishermen and farmers living adjacent the fishing districts, these fish are used more than any other for bait, particularly lobster bait. The following are the returns for the past four years:—

	Barrels.
1893.....	5,071
1894.....	4,967
1895.....	2,467
1896.....	2,541

It will be observed that there is a considerable decrease in the past two years compared with the two previous years. This branch was prosecuted fully as vigorously as in former years, but the fish did not enter the fresh water streams in as large numbers as they did previous to 1895. The cause of this is inexplicable.

OYSTERS.

In each of the four counties of this Island are to be found oyster beds, but the most extensive beds are situated in the basin of River Dennis in the county of Inverness. I fear that unless something is done to propagate the beds, as a commercial industry in a few years it will cease to exist. There is a decrease in this fishery this season of 318 barrels. This decrease is owing solely to the condition of the beds, oysters being found small and scarce. In a previous report I recommended an examination of these oyster grounds by the expert of the department, and I hope the department will order such an examination next season, with the view of cleaning up the grounds and transplanting.

MINOR FISHERIES.

While the smelt fishery shows an increase over 1895 of 22,672 pounds, the trout statistics exhibit a decrease of 19,115 pounds. About seventy per cent of the smelts caught were forwarded to the American markets, but in the case of trout they are of no commercial value, as none are exported.

All of the latter fish taken are used for home consumption and the method of fishing is solely by angling. Therefore it is most difficult for the officers in gathering statistics to get accurate information respecting the quantity of fish caught during the season. This is not the case with the smelt fishery, as these fish are exported by rail, and it is easy to find out the extent of each season's operations. With regard to both of these branches I think these fish are fully as plentiful to-day in our rivers and streams as they were ten or fifteen years ago.

REGULATIONS.

The fishery regulations were enforced as vigorously as in any previous year. Where violations have come to my notice I took immediate steps to punish the guilty parties. The fishery courts are looked upon with terror by poachers and are the means of preventing many violations.

Marine and Fisheries—Fisheries Branch.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS FOR THE ISLAND OF CAPE BRETON, 1896.

CAPE BRETON COUNTY.

Overseer Francis Quinn, of Sydney, reports an increase of 980 cases of lobsters as a result of the operations of four factories, an increase of two factories over the previous year. The lobster fishery opened well, but owing to storms in June and to the scarcity of fish towards the close of the season, the fishery was not so profitable to those engaged in this particular industry, as in the previous season. In the other branches he reports a large falling off in the catch of mackerel and summer herring, and a slight increase in cod, haddock, salmon and alewives. The fishery regulations were well observed during the season.

Overseer Alexander McDonald, of East Bay, reports an increase in spring mackerel and a total failure in the fall fishery. Also an increase in the catch of cod, haddock and trout, and a decrease in herring, lobsters and alewives. The lobster fishery suffered from severe weather, causing considerable destruction to lobster gear. In the early part of the season cod and haddock were found scarce on the inshore banks, but towards autumn these fish became more plentiful and good hauls were made. A large number of trout came into the various streams in his district this year from the sea, owing to there being more rain and consequently more water in the streams than in previous years. The salmon fishery in the lake waters is not vigorously prosecuted, and on the sea coast the catch was light. Excepting what is used for home consumption, the fish are marketed in Canadian cities, Halifax taking the largest quantity. The regulations were well observed throughout the season.

Overseer William Burke, of Mira Ferry, reports an average catch of cod and haddock, and a decrease in mackerel and herring. This decrease occurred in the leading fishing districts of Little Lorraine, Bauline, Mainadieu and Mira Bay. In all these districts the returns exhibited an increase in salmon. In the lobster fishery there were five more canneries operated than on the previous season, and the increase in catch corresponds to the increase in the number of canneries. This increase he accounts for by the fact that a considerable quantity of lobsters were caught in other adjacent districts and carried to these canneries. In all the other branches the catches are about the same as in the previous year. He is of the opinion that the presence of dog-fish has had a good deal to do with the falling off in the catch of mackerel and herring. Dog-fish were more numerous in the coastal waters of his district than in the previous year. Of all the catches, about 60 per cent of the salmon, 20 per cent of codfish and herring, 5 per cent of the mackerel, all the alewives, trout, eels, smelts, halibut and oysters are used for home consumption, and the balance shipped to Halifax for exportation. He reports that the close seasons were usually well observed.

Overseer Richard Hickey, of North Sydney, reports that with the exception of herring and mackerel, all other branches of the fisheries prosecuted in his district show an increase in catch over that of the previous year. The decrease in the herring fishery is owing to the total failure during the past season of the mid-summer run. Various reasons are advanced by local fishermen for the non-appearance of these fish this year in the coastal waters and bays as in former years, but it is impossible to attribute it to any local or avoidable cause. The shortage in the mackerel catch can be attributed to two causes, viz., scarcity of fish and a less vigorous prosecution of the fishery than in former years. The growing scarcity of those fish from year to year has been so marked that now the local fishermen will not go to the expense of fitting out for this fishery but to a very limited extent. The cause of the scarcity of mackerel is attributed solely to the destructive method of purse-seining by United States fishing vessels. The fish that escape the seining vessels are frightened off the coast, hence very few mackerel now come within the reach of our local fishermen.

The cod and haddock fisheries both show a slight increase in catch over last year, but owing to low market prices, the result of the season's work has not been by any means as profitable to the fishermen as was the preceding year. The oldest fishermen of the district never remember the prices for this staple article of fish product ruling so low as during the past year. This may be attributed chiefly to the fact that large quantities of bounty-fed fish from French St. Pierre were this year disposed of in our provincial markets. This is a new hardship that our fishermen are compelled to face, and it is feared that if the evil continues the codfishing industry in Cape Breton will become so unprofitable that a very large number of those now engaged in this occupation will be obliged to abandon it entirely and take up other pursuits. The lobster factory in his district last season did a very successful business. The weather during the greater part of the season was most favourable for those engaged in the industry and both fishermen and packers enjoyed a successful season. Next year three factories instead of one will be in operation in his district. The lobster fishery is now one of the most important branches of the fisheries prosecuted in his district. The fishermen are paid cash for lobsters delivered at the canneries and this induces quite a number to take up this particular branch, especially as the decline in the market prices of dry and pickled fish of late years has made the cod and herring fishery less remunerative than in former years.

The minor branches of the fisheries were profitably prosecuted in his district last season and all show good returns compared with the several preceding years. The fishery regulations were well observed. No violations were reported, and he is pleased to say that the fishermen of his district are well disposed to be governed by the regulations.

INVERNESS COUNTY.

Overseer D. F. McLean, of Port Hood. in his returns for 1896 gives an increase catch of herring, cod, hake, haddock, salmon, trout, eels, squid, halibut and bass; and decrease in lobsters, alewives, and mackerel. The only cause he can assign for the decrease in the last three named branches was scarcity of fish. In his district the fishery was vigorously prosecuted in each branch during the year, and as a result large catches of herring, cod, hake and haddock were made. He estimates the quantity of fish used for home consumption at about 15 per cent of the whole catch; about 50 per cent sold in Canada, and the remaining 35 per cent exported to Europe and the United States. Five lobster canneries were in operation in his district during the past season—all operating under licenses. The Government labels were affixed to each case packed, and initialled in almost every instance. Dog-fish were on the coast in abundance, particularly during the autumn fishery, and as usual doing considerable damage to the fisheries and fishing gear. The close seasons have been well observed throughout the season. The Saw-dust Act was duly observed so far—a non-compliance with this particular statute would prove injurious. There are no fish-ways in the district under his supervision, nor does he consider it necessary to have any therein. One trap-net under license was set at Port Hood this year; fishing in connection therewith was a total failure. The operations during the season resulting as follows:—

Kind of Fish.	Quantity.	Value.
		§ cts.
Mackerel	2 brls.	24 38
Herring	1½ "	7 20
Cod and Haddock	665 lbs.	4 25
Squid	3,500 "	22 60
Total		\$58 43

Marine and Fisheries—Fisheries Branch.

The cost of the license was \$40.00, so that trap-net fishing was not a paying speculation in his district for the year; while other net fishing, trawl fishing, and hand-line fishing proved quite remunerative to fishermen for the season just closed.

Overseer James Coady, of Margaree Forks, reports an increase in salmon in his district of 16,685 lbs. The increase he attributed to the season being particularly favourable, the water being high in the rivers and salmon were found in abundance in the tidal waters at the mouths of rivers where they were taken by nets. Large numbers ascended to the upper waters of the rivers, particularly at Margaree. He also reports an increase in trout. The mackerel and herring statistics give a decrease of over 50 per cent as compared with the previous year. The cause for this decreased catch was scarcity of fish. There is a slight decrease in lobsters, but to those engaged in this branch the fishery was more remunerative than in the previous year. The cause of the decrease was owing to their being one factory less in operation. In other branches of the fishery the catch was about an average one. The close seasons were fairly well observed; those found violating the law were summoned before the fishery court and convicted. About 15 per cent of the fish taken was used for home consumption, while the balance was marketed at Halifax.

Overseer David Ross, of North East Margaree, reports a decrease in the catch of all the leading branches. In herring there was a decrease of 871 brls., in mackerel of 1,557 brls., a decrease in the catch of cod of 2,088 qtls., in lobsters of 1,744 cases. As the fishery in all its branches was fully as vigorously prosecuted as in former years, he can only account for the decrease by the fact that the fish were scarcer during the season on the coast. The surplus of codfish and herring were marketed in Canada, while the entire catch of lobsters and mackerel were exported to the United States. The violations of the regulations were promptly reported to the Inspector, and the accused convicted in fishery court.

Overseer Lewis McKeen, of Mabou, reports an increased catch of cod and haddock in his district over the previous year. In the Autumn months fish were exceptionally plentiful owing to the abundance of squid. The mackerel fishery was a failure. This fishery has been falling behind year after year, so that during the past two years the local fishermen paid very little attention to its prosecution. Herring, during the spring and mid-summer months was a failure, but towards autumn this fishery improved and good hauls were made. Lobsters appeared on the coast earlier than usual, the first catch being on the 27th of April and up to the 25th of May this fishery was fairly good, but during the month of June and up to the 10th of July, lobster fishermen were unable to prosecute this branch of the industry successfully owing to the scarcity of bait. The returns show, however, an increase over the previous year of 18,432 lb. cans. This increase may be attributed to the fact that two more canneries were operated. In the first part of the season the salmon fishery opened well with these fish unusually plentiful on the coast, but stormy weather in July did much damage to nets and thus interfered with the fishery. Trout, smelts and eels were an average catch and were used for home consumption. Referring to the regulations, Overseer McKeen states that the guardians find it difficult to prevent the Indians from poaching. He thinks that guardians should be provided with dark lanterns to detect poachers at night.

Overseer William Aucoin, of Eastern Harbour, reports a decrease in the cod-fishery, mainly owing to unfavourable weather. In the first part of the season the lobster fishery was not vigorously prosecuted owing to stormy weather, but towards the close of the season this fishery improved. The salmon fishery was an average one. The products of the fisheries which were not used for home consumption were marketed in Canadian and foreign markets. The regulations were well observed.

RICHMOND COUNTY.

Overseer Duncan Cameron, of St. Peters, reports that during the fishing season of 1896 there were 3 vessels and 68 boats, with 103 men more, engaged in the fisheries than in the previous year. Notwithstanding this the increase is only noticeable in the catch of 1,025 brls., of herring, 363 brls. of mackerel, 11,900 lb. cans of lobsters and 700 qtls. of haddock. The regulations were well observed.

Overseer Alfred Lenoir, of Arichat, reports a decrease in the fisheries in his district over the previous year. The lobster fishery opened well and continued good during the months of April and May, but in June and July lobsters became scarce and many taken were found soft shelled. Most of the factories closed in June. The returns exhibit a considerable decrease. The spring mackerel fishery was a total failure and only about fifty barrels were taken in the fall in his district. The mid-summer or July herring fishery was better than last year, but the August and September fishery was light. The cod and haddock fishery was an average catch. This branch of the industry is prosecuted by the fishermen throughout the season. The local fishermen attribute the failure of the mackerel fishery to destructive purse seine fishing. Owing to the decreased catch and low price of fish, the fishermen are not so well provided for a long winter as in previous years.

Overseer Arthur Brymer, of L'Ardoise, reports an increase of the following branches in his district over the previous year, viz.: mackerel, codfish, halibut, pollock, salmon, lobsters, alewives and eels; and a decrease in herring and haddock. He also reports an increase in the yield of fish oil of 379 gallons. He assigns the decrease in herring to the presence of lobster traps during the herring fishing season. Codfish were plentiful, which accounts for the increased catch. The increase in the lobster yield is due to there being two additional factories operated. There are two fish-ways in good order and no saw or grist mills.

VICTORIA COUNTY.

Overseer Chas. L. Campbell, of New Campbellton, reports a fairly good fishing season in his district. There was an increase of 45 brls. pickled salmon, 2,460 lbs. canned salmon, and 1,320 lbs. of fresh salmon, also 275 lbs. herring, 34,558 lbs. cans of lobsters, 38 cwt. of hake, 16 brls. of eels, 1,150 lbs. of trout, 5,790 lbs. of halibut, and 138 brls. of squid; and a decrease of 592 brls. of mackerel, 95 cwt. of codfish, 770 cwt. of haddock, 85 brls. of alewives, and 20 brls. of oysters. Though there was an increase in herring, they were mostly spring herring, and the greater portion of them was used as bait by lobster fishermen. The mid-summer herring seems to have forsaken the shores, very few having been taken this season, and in some places none at all. Many fishermen are of the opinion that they are frightened off by the number of lobster traps that line the shore. He is unable to assign any direct cause for their not appearing as in former years. Salmon were more numerous, especially at Middle Head, where quite a number of small sized fish were caught. This is attributed to the salmon fry which had been placed in the Clyburn River from the Sydney Hatchery. There has been an increase of 88 per cent in the catch of lobsters over last year. This branch of the fishery is steadily increasing and is now one of the most remunerative for the fishermen. There were seven canneries in operation in his district during the past season. Codfish show a slight decrease. In the early part of the season these fish were very scarce on the shore banks, and at one time it was feared that cod fishermen would not be able to procure their supplies for the winter, but the fall fishing was excellent, though prices ruled low. Haddock also show a decrease; the catch being about half as large as last year. Dogfish were again very numerous, much to the detriment of the fishermen, who were in many cases compelled to take their nets ashore to save them. These fish drive off the other kinds of fish from the inside grounds. More salmon and halibut were canned this year than formerly. This branch is steadily increasing. All the herring taken this year were used for home consumption and bait. About 90 per cent of the season's catch of codfish was sold in Canada; chiefly in Halifax and North Sydney. All the catch of lobsters was shipped to Halifax. The close seasons were well observed. There are no mills or fish-ways on any of the rivers or large streams in his district. There were two fish-traps in operation at Black Head, Englishtown, this season. They were not very remunerative to their owners.

Overseer William Hellen, of Cape North, reports an increase of 148 brls. of mackerel over the previous year. These fish were very plentiful in August and first

Marine and Fisheries—Fisheries Branch.

of September in Aspy Bay and Bay St. Lawrence. They were exceptionally large, averaging 130 to 140 to a barrel. He also reports an increase of 8,154 lbs. cans of lobsters. This fishery was more vigorously prosecuted last season than during the past few years. Salmon also were more plentiful and the returns give an increased catch. There was a decrease in the catch of cod of 545 cwts. This branch of the industry was not so vigorously prosecuted in June and July as formerly. The herring fishery in his district was a total failure and the fishermen attribute this failure to the presence of lobster traps in the water. The halibut and haddock returns give a slight increase over the previous year. There were 220 more seals killed in his district by shore fishermen than last season. Dogfish made their appearance on the coast and as usual were destructive to fishermen's gear. Their presence militated particularly against the fall mackerel fishing, as fishermen would not put their nets out while they were on the coast. About 90 per cent of the season's catch of fish was marketed in Canada; the remainder being used for home consumption. The fishery regulations were well observed. The only cases which came to his notice were reported and the offenders summoned to the fishery court. The saw-dust regulations were observed. There are no fish-ways in his district, and none are required.

Overseer Daniel McCharles, of Middle River, reports an increase in the catch of salmon, herring and cod; and a decrease in mackerel. The other kinds of fish were about an average catch. About 75 per cent of the season's catch of fish was exported to Halifax and the balance used for home consumption. There are no fish-ways in his district, and the saw-dust regulations were well observed.

I have the honour to be, sir,

Your obedient servant,

A. C. BERTRAM,
Inspector of Fisheries.

DISTRICT No. 2.

ANNUAL REPORT OF THE FISHERIES OF DISTRICT No. 2, OF NOVA SCOTIA, COMPRISING THE COUNTIES OF ANTIGONISH, COLCHESTER, CUMBERLAND, GUYSBORO', HALIFAX, HANTS AND PICTOU.

PICTOU, 2nd January, 1897.

Hon. L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the fisheries in District No. 2, province of Nova Scotia, together with tabulated returns, showing the quantities and values of each kind of fish caught, as well as comparative tables showing the increase and decrease of the catch of each kind of fish.

The estimated value of the total catch for the past season is \$1,245,463, as compared with the estimated value of the catch for 1895 (\$1,429,782), exhibits a decrease of about 13 per cent.

Glancing at the returns for this district from the year 1876 to the present, I find that in none of the intervening years has the yield ever been so small.

The decrease, compared with 1895, is chiefly in the herring fishery, the increases and decreases in the other fisheries about balancing.

Of the anadromous fishes the fluctuations are as follows :

Salmon, a decrease of.....	9 per cent.
Shad, do	13 do
Smelts, do	8 do
Alewives, an increase of.....	8 do

Of the deep-sea fish, the catch of

Halibut shows a decrease of.....	30 per cent.
Cod do an increase of.....	$\frac{1}{2}$ of 1 do
Hake do a decrease of.....	30 do
Pollock do an increase of... ..	33 do
Haddock do do	75 do

Comparing the catch of the whole cod family with that of last year, there is an increase of about 13 per cent.

SALMON.

On the Atlantic coast, and rivers flowing into the ocean, the returns show an increase of 30 per cent, while in the Bay of Fundy waters of the district there is a decrease of 36 per cent. On the Straits of Northumberland the catch is nearly equal to that of last year.

In the protection of this fishery the following seizures were made: Five nets by the guardians on River Philip, Cumberland; one net by the guardian on Waught River, Colchester; one net by the Guardian of Middle River, Pictou, and two persons convicted of illegal fishing.

One net by the guardian on East River, Pictou; one net seized by the guardian and one person fined for illegal fishing by the guardian on Sutherland River, Pictou.

One large net seized by the inspector in the Straits of Northumberland.

Marine and Fisheries—Fisheries Branch.

It may be well to record the fact that during the months of October and November, owing to heavy rains, the rivers were kept brim full, and the spawning salmon could not easily be molested; it is, therefore, expected that the results will be beneficial to the future of the fishery, particularly if May and June, of the year 1897, have the usual rainfall.

SHAD.

There is a decrease of ten per cent from last year's catch in this fishery—nintenths of all these fish taken in this district are from the Bay of Fundy waters,—the returns since 1889 from that portion being as follows:

1889.....	535
1890.....	750
1891.....	1178
1892.....	1811
1893.....	746
1894.....	981
1895.....	1185
1896.....	1079

Twenty years ago the average catch of shad from the same locality was about seven thousand barrels per annum.

Of the 1,079 barrels returned this season, 41 barrels were caught in the Shubenacadia River during the spawning season of the fish

ALEWIVES.

The returns show an increase over the catch of last year of eight per cent, but that was below the average. The catch of the present year is about an average for the past ten years.

HERRING.

There is a decrease of about forty per cent from the catch of last year.

The catch of 1895 was the largest since the district was set off; the catch of 1896 is the smallest.

MACKEREL.

There was a good catch of spring mackerel, particularly along the Guysboro' coast, but very few were taken in the fall. The result as a whole has been an increase over last year's catch.

LOBSTERS.

There is a decrease of 15 per cent compared with last year, while the number of traps set was about 15 per cent more than was used for 1895.

This is the smallest yield of any year since this district was set off.

The decrease was chiefly on the Atlantic coast fishery; on the Straits of Northumberland the yield was about the same as last year.

There is one factor which requires establishment with regard to this fishery, namely, the extent of the coast waters which is their habitat. I have been credibly informed that they are to be found 40 and 50 miles from the coast, and if such be the case; and there are the same relative quantities as frequent the shores; then the future of the fishery is not so precarious as some suppose, for it is seldom that traps are set at a greater distance than three miles from the coast.

From the reports of the overseers, I believe that the close season has been better observed during the past year than it has since the establishment of canneries.

The following is a synopsis of overseers' reports:—

Overseer John McDonald, of Antigonish, says that owing to heavy storms at the beginning of the fishing season many of the fishermen lost all their traps and before they were replaced the best run was over.

Of the herring fishery he says that had the prices been more remunerative double the quantity would have been taken, but when the fish come on that part of the coast they are not usually fat.

The very few mackerel taken were by large boats well supplied with many good nets which they set five and six miles from land

The catch of cod was small, and thirty per cent of those taken were caught in the month of November.

Some of the fishermen have provided large boats for the prosecution of the hake fishery which enable them to go many miles from land, so that this year the returns from this fishery are larger.

The catch of haddock was equal to that of last year.

Alewives were remarkably plentiful during the season that they ascend the rivers of the county.

He urges the construction of fish-ways upon the dams in the rivers of the county.

Overseer McQuarrie, of Sherbrooke, Guysboro', says that the increase of 50 per cent in the catch of salmon, was owing to the fish being more numerous, for the means of capture and the efforts put forth were the same as usual.

Summer herring did not appear, and the few that were to be taken in the fall were not looked after because they are not so good as those taken in the summer, and the prices do not repay the labour and material.

Codfish seemed as plentiful as usual, but the weather was extremely unfavourable until late in the fall.

The lobster regulations are the most difficult to enforce, but good work was done by the "Vigilant" (cruiser) some times at the risk of the life of the crew.

Quite a number of fish-ways are much needed in his division, and he urges their construction as indispensable—indeed without such fish-ways the other part of the protective service seems out of joint.

He urges the clearing of a brook at Smithfield; this matter was noticed in his report last year. The sum of twenty dollars would be necessary to clear the debris in the river and allow fish access to their spawning grounds.

Overseer Gaston, Halifax County, reports a slight increase in codfish and salmon, but a decrease in herring, mackerel, haddock and pollock.

An average catch of lobsters, not so many canned, but more shipped alive.

Only one case of illegal fishing came to his knowledge, he searched the premises of the party suspected but found nothing to convict. A number of traps were found set and destroyed, but the owner could not be found; he destroyed the traps.

There are two fish-ways in his division in good repair, another requiring repairs.

Overseer George Rowlings, Musquodoboit Harbour, says the catch in his division, was about the same as last year excepting herring, in which there was a considerable shortage. After June, fish were scarce until late in the fall. Cod were unusually plentiful from November 10th to December 10th.

The close seasons were well observed. That of the lobster, having been better observed, than any year in the history of the fishery. The chief difficulty is the live lobster trade, some fishermen have their traps in the water before the season opens in January, and the cruisers are not on the coast. If winter fishing is allowed, there should be cruisers on the coast until the 31st of December.

Overseer J. H. Bartlett, Terrence Bay, says the mackerel fishery in that part of the county has been a failure, chiefly because they did not in the fall "trim the shore," the fishermen in that locality depending chiefly upon drag seines to take this fish. There were evidently large quantities of mackerel, but for this reason very few were taken.

Herring were plentiful in some localities, but poor.

Marine and Fisheries—Fisheries Branch.

Salmon were more plentiful than for a number of years past.

Lobsters are decreasing, and it will not be many years before they are extinct. There is considerable winter fishing upon that part of the coast, so that the season is too long, the fishery being vigorously prosecuted from 1st January to 1st July.

Taking the year as a whole, the fishery business has been deplorable; on parts of the coast it has been the worst in the recollection of the oldest fishermen.

Numbers of families moved to the city to get through the winter.

Dogfish continue along the coast, not only eating up what fish may get into the nets, but destroying the nets also.

About 250 barrels of "whiting" were taken at Terence Bay for lobster bait.

Overseer J. R. Mosher, of Hants County, reports there were more shad caught than last year, but it was owing to a more vigorous prosecution of the fishery. There is a decrease in the shad fishery every year, owing to the spawning shad not being protected in the spring.

Overseer J. W. Davison says: For a number of years he has been forwarding discouraging reports as regards the catch of shad, the principal fishery in that locality, and he regrets that he has no better story to tell for the past season, this year's catch has fallen considerably short of last year.

Salmon were not as plentiful as last year. He believes that the decrease in shad is almost altogether owing to the fact that the gravid fish are caught in the Shubenacadie River at the time they are frequenting those waters for spawning purposes.

There should be a close season for shad at the time the fish are going up the rivers to spawn.

Overseer Pollock, Colchester, says that in the Stewiacke River (a tributary of the Shubenacadie) more shad and salmon were caught than last year, but not so large a catch of alewives. The fish were plentiful, but the demand (for bait) was not as great as other seasons.

Overseer McQueen, Pictou, says herring and cod were an average catch, but that of salmon was less than in 1895. There were several attempts at poaching salmon in the close season on Sutherland River, and he gave it his personal attention; succeeded in identifying and fining one person for fishing with torch and spear. The guardian took a net set in the river for salmon.

Overseer McPhie says there was a decrease in the catch of salmon.

There was some poaching of salmon when in the rivers by persons disguised at night, but they escaped arrest and identification.

Salmon have little chance of getting past the new wing dam, lately constructed on Barneys River.

I have the honour to be, sir,

Your obedient servant,

ROBERT HOCKIN,
Inspector of Fisheries.

DISTRICT No. 3.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 3, OF NOVA SCOTIA, COMPRISING THE COUNTIES OF YARMOUTH, SHELBURNE, QUEEN'S, LUNENBURG, KING'S, ANNAPOLIS, AND DIGBY, FOR THE YEAR 1896, BY INSPECTOR L. S. FORD.

MILTON, 2nd January, 1897.

To Hon. Minister of
Marine and Fisheries.

SIR,—I have the honour to submit the following annual report of the fisheries of District No. 3, province of Nova Scotia, for the year ending 31st December, 1896, together with the usual fishery statistics and reports of the officers under my supervision.

The total value of the catch of fish in my district amounts to \$3,781,884, which, I am pleased to report, shows an increase over that of last year, as follows :

Value of product, 1895	\$3,715,573
do do 1896.....	3,781,884

An increase of..... \$ 66,311

This surplus, though comparatively slight, is encouraging, as it is general, and not ascribed to any unusual improvement in one species of fish.

MACKEREL.

As a rule, this fishery was a failure. For some cause not yet apparent, parts of our coast, where these valuable fish once seemed abundant, are no more frequented by them. The importance of this fishery to our province should give its comparative failure a prominent place in the consideration of your department.

COD.

Speaking generally, the Grand Bank fishermen have done well, but the boat shore fishing has barely held its own.

It cannot longer be ignored that the shore fisheries are falling off year by year. Many more or less plausible reasons are given for this, but the most probable is that our bays and harbours are over-fished. That is, the natural increase of the fish does not meet the annual drain by capture and waste of ova.

SALMON.

The salmon yield was above the average catch, and I have good reasons to state that, with continued proper protection, our rivers and lakes will again teem with that sporting fish.

The mill-owners' claim, "that the lumber interest is of more importance than the salmon and gasperaux fisheries," should not be entertained for a moment. There is no necessity for the destruction of either. Except in a very few rivers where the saw-dust covers the spawning grounds, it, in my opinion, does the fish no injury. Had the mill-owners allowed these fish free passage through their dams, the saw-dust question, as detrimental to fish culture, need not have been raised to-day.

Marine and Fisheries—Fisheries Branch.

GASPERAUX AND SHAD

Have yielded an average catch. The gasperaux labours under the same disadvantage as his aristocratic neighbour the salmon. Both have been debarred from an entrance to the lakes by mill dams, and, consequently, have left some of the rivers altogether. Stringent measures are being used to get them back again, with good effect, in some cases.

HERRING.

The scarcity of herring the present year will, no doubt, tend to increase their price, when more of them will be caught the coming season.

LOBSTERS.

The lobster business, especially the exportation of live fish, has been vigorously prosecuted. The county of Shelburne alone exported over 3,000 tons of live lobsters to the United States. It must be apparent to all engaged, that this important industry is not going to stand such a strain for many years longer.

The catch averages year by year should not deceive us. It takes more traps, more men and more area each year to produce the same amount of fish. Despite all the care taken by the officers, large numbers of short lobsters are destroyed by the fishermen.

Heroic measures will have to be adopted if this important business is to be retained as one of the commercial interests of the province.

I would again call the attention of your department to the necessity of better regulations in regard to the American lobster smacks, that come into our small harbours, and buy everything that comes, regardless of size or sex. In my opinion they should not be allowed a clearance without a certificate from a fishery officer. A small sailing craft, that could be run by a couple of hands, placed at the disposal of the officers, in some convenient harbour, would be of great help to watch those parties.

FISH-WAYS.

Many of our rivers are now fairly filled with passes, but there are several still unprovided; notably, the east branch of Bear River, Salmon River and the Meteghan, all in Digby Co.

Gordon River, Shelburne, is to have one on an entirely new model, built of stone and cement, of which I shall report fully when completed.

On the whole, our fisheries have been fairly remunerative this season, but more stringent regulations are needed in almost every branch if the industry is to be permanent, and not destroyed, as threatened at present.

SYNOPSIS OF OVERSEERS' REPORTS.

LUNENBURG COUNTY.

Overseer David Evans, of Chester, states that the mackerel fishery was almost a total failure. This fish did not enter the bays and harbours of this district, but passed the coast beyond the reach of our fishermen. The catch of herring exceeds the very large catch of last season. The run of salmon was larger than last year, and more were captured. The increase in the catch of cod is largely due to the failure of the mackerel; the disappointed fishermen then turning their attention more to cod-fishery. More lobsters were packed than last year, owing to the large price paid to the fishermen by the packers. The close season was fairly well observed.

Overseer W. M. Solomon, of West La Have, reports the catch of salmon as far exceeding that of previous years, owing no doubt to the manner in which the streams have been protected. Trout, alewives, whitefish and smelts gave an average yield. The catch of deep-sea fish, including cod, haddock, pollock and halibut exceeds that of last year, but that of hake is so slight that it is scarcely worth mentioning. The North Bay fishermen of this district rather better succeeded than last year. Our Labrador fleet did not fare so well, many of them having missed by going too far north. Mackerel and herring have been unusually scarce in this district. Last year the catch was small, but this season it is still worse. The lobster industry has been successful, and the regulations governing the same fairly observed. The rivers under his charge are in a more satisfactory condition than ever before. All the fish-ways are in a fairly good condition, excepting a few which will be looked after during the dry season next summer.

QUEEN'S COUNTY.

Overseer J. N. Freeman, of Liverpool, reports a very unfavourable fishing season. The hook and line fish being particularly below the average. Herring have unusually avoided our harbour; and the appearance of mackerel barely enough to assure our fishermen that this valuable fish has not altogether deserted our waters. Salmon were abundant compared with previous years. Alewives show a reduced yield.

SHELburnE COUNTY.

Overseer W. J. McGill, of Shelburne, states that the catch of codfish is better than that of last year. The bankers did extra well, and the returns will show quite an increase. Mackerel showed no improvement on last year. Herring about half an ordinary supply. Lobsters show an increase over last year, both as to exportation of live fish and the canned article. There is a heavy drain on this fishery, but it appears to hold its own fairly well. Salmon and alewives show rather an improvement over the previous season.

Overseer E. S. Goudey, of Barrington, writes: Only one vessel from this district fished on the banks and secured a fair supply of fish. The shore fishermen did fairly well, but scarcity of bait prevented better returns. Herring were plentiful, and large quantities were caught and sold at remunerative prices. Salmon were quite plentiful and good prices were obtained for them. The trap-net men did a good business in mackerel this year. These fish shipped in ice were in great demand at fair prices. Lobster fishing was very profitable to the fishermen, larger quantities were taken, and the prices averaged more than any previous season. The law was well observed.

Marine and Fisheries—Fisheries Branch.

YARMOUTH COUNTY.

Overseer John A. Hatfield, Argyle, says that nearly all kinds of fishing gave a fair result. More mackerel were caught in traps than last year. Salmon also yielded more. An increased quantity of lobsters at better prices is reported. Law fairly observed where close watching prevailed. River fishing was fair and seems improving.

DIGBY COUNTY.

Overseer T. C. Shreve, of Digby, reports the catch of fish this year better than in previous years. The fishing was vigorously prosecuted, and the fishermen were rewarded with larger returns of their labours. The product of cod and haddock was about equal to that of last year, but that of hake and pollock were largely in excess. The improvement is owing to a better supply of bait and more favourable weather. Sixty per cent of the fish caught are exported to foreign markets, 35 per cent are disposed of in Canada outside of this district, and the remainder used for home consumption. The fish-ways in this division are not as satisfactory as they should be. The inspector has suggested some changes, which he hopes to see carried out next summer. The lobster business was successfully prosecuted both as to the exportation of live fish and the canning industry. It seems to be the wish of all the fishermen throughout this district to raise the standard of legally caught lobsters from 9 to 10½ inches. Strongly recommends on behalf of the fishermen that this change should be made.

ANNAPOLIS COUNTY.

Overseer W. M. Bailey writes: In vessels, boats and men engaged in 1896, there is very little change from last year. Gill-nets, weirs and lobsters about the same. Salmon and herring show improvement. Cod an average yield. Hake, haddock and pollock an increase; other fish nominal. On the whole the fishery of his district has been fairly successful.

KING'S COUNTY.

Overseer James S. Miller, of Canning, reports that while salmon fishing was very good, the shad fishery was a comparative failure. Line fishing for cod, haddock, &c., has been very good all through the season. Herring was plentiful in some places and scarce in others, for some reason their distribution was very unequal. We have no lobster fishermen in this county; but vessels from down the bay come here to engage in that fishery to some extent. In the basin of Minas all kinds of fishing were poor, hardly any shad were caught.

All of which is respectfully submitted.

L. S. FORD,
Inspector of Fisheries.

Marine and Fisheries—Fisheries Branch.

RETURN showing the Number and Value of Vessels and Boats and all Fishing Materials, &c.—*Con.*

Number.	DISTRICTS.	KINDS OF FISH.												FISH PRODUCTS.				TOTAL VALUE.	Number.							
		Cod, dried, cwt.	Cod, tongues & sounds, brls.	Hake, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Hallibut, lbs.	Smelts, lbs.	Bass, lbs.	Alewives, brls.	Oysters, brls.	Clams, brls.	Eels, brls.	Shad, brls.	Squid, brls.	Flounders, lbs.			Tom Cod or Frost fish, lbs.	Course & mixed fish, brl.	Fish Oils, galls.	Fish used as bait, brls.	Fish Guano, tons.	Seal skins, number.	
<i>Cape Breton County.</i>																										
1	From False Bay Beach to Long Beach	1280		180	50	400	31000	2000	110	22	75	25	42							850	320	124		27220	96	1
2	From Long Beach to Glace Bay and Bridgeport	112		10	10	600	4500	2000	110	18	4	20	20							81	40	6	20	2091	90	2
3	From Lingan to South Bar and Sydney River	398		92	2200	600	5000	2500	20	20	15	25	30							170	100	60		10649	61	3
4	Sydney to North-west Arm and Sydney Forks	10			3200	2000		2100	50	50	135	135								375	230			3042	75	4
5	From Grand Narrows Bridge to Christmas Isl'd.	1000	8	250	125	175		600	115	115	20	20								375	230			7108	75	5
6	Boisdale to George's River	375		35	300	200	10000	300	75	35	17	17	300							125	75			2397	00	6
7	Little Bras d'Or and Bonnarderie	2500	10/25	70				500	15	15	10	10	30							70	600		100	28313	50	7
8	Sydney Mines, Big and Little Ponds	300	3	40			2500	750	15	15	15	15	35							125	75			2836	00	8
9	Mira Bay to Ball's Creek	475		116	10	1050	300	400	9	102			80							820	175			18233	99	10
10	North Sydney to Ball's Creek	705		400	18	1500	400	300	3	1			10							270	700		700	4693	75	9
11	Louisbourg and Kennington Cove	1270		400	18	400	1500	400	9	102			80							475	115			17926	00	11
12	Basline	310		96	4	500	150	300	4	4			50							450	150			15386	30	13
13	Main-a-Dieu	960		190	10	1000	800	800	40	8			10	7						600	35			7014	50	14
14	Mira Bay and River	460		15	15	200	2000	500	10	10			20							31100	400			8039	36	15
15	Scattarie Island	750		240	30	200		500	10	4			4							800	15			1521	75	17
16	Gabarus, Grand Mira and Big Lake	2110		190		180			7	45			74							100	130	70		2309	25	18
17	North side East Bay and Fork's Lake	55				60		400	1	1			3							20	5			646	50	19
18	Benacadie, Piper's Cove and Grand Narrows	360																		20	5					
19	South side East Bay	50				60		400												20	5					
	Totals	13460	24	53	2364	134	6390	13500	110	459	53	94	384	11	789	2000	1500	3	6491	3124	190	820		197214	63	

RETURN showing the Number and Value of Vessels and Boats engaged in the Fisheries, Fishing Material, &c.—Nova Scotia—Con.

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.						FISHING MATERIALS.						KINDS OF FISH.						
	Vessels.		Boats.		Gill-Nets.		Smelt Nets.		Trawls.		Salmon, fresh in ice, lbs.	Salmon, preserved in cans, lbs.	Herring, salted, lbs.	Herring, fresh or frozen, lbs.	Mackerel, salted, lbs.	Mackerel, fresh or preserved (in cans) lbs.	Lobsters, preserved (in cans), lbs.	Lobsters, fresh or alive, tons.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.									Value.				
	<i>Inverness County.</i>																						
1	Port Hood				70	1400	150	12000			3800		180	1100		200							
2	Little Mabou				24	240	40	1200			380		25	120		300	10000	40	44376				
3	Seaside.				12	180	24	2000			700		30	150		200	6000	6	17520				
4	Judique and Little Judique.				55	640	115	5500		15	1800		52	250		1040	66000	18	27000				
5	Long Point				30	400	50	2500			700		30	150		440	8000	25	20256				
6	Creignish				20	240	40	2000			600		20	100		520	6000	10					
7	Low Point.				25	300	50	3000			1000		60	300		700	7000	10					
8	Port Hastings				1	78	8	600		40	200		40	200		1060	3000	50					
9	Port Hawkesbury.				2	100	4000	16	10	150	10	5000	30	75	30	150	1500	100					
10	West Bay to Malagawatch.				112	1785	278	10600			4380												
11	Orangedale Boom and River Dennis.				88	1315	200	5600			1830												
12	Seal Cove, Estmere and River Inhabitants.				20	290	46	1560			677												
13	Mabou Harb., Coal Mines and Ram Virrach.				21	420	42	657			280					600	480	70	390				
14	Port Bain and Broad Cove.				10	200	20	350			150					450		9					
15	Whycocomagh.				7	100	14	300			140												
16	Scottsville and East Lake Ainslie.				4	82	8	180			40												
17	West side Margaree Har., Margaree R. and Forks				16	280	32	1340			687					41985		95	48100				
18	Margaree Island				24	480	75	1120			480							140	195				
19	Broad Cove Marsh and Whale Cove.				16	320	46	900			452		3	22		1200		98	88				
20	Grand Etang				10	400	30	1000			500		4	18		250		230	200				
21	Friar's Head				18	650	54	1800			730					250		250	100				
22	Delaney's Cove.				4	120	12	450			220					250		29	31				
23	East side Margaree Harbour.				20	1000	63	2000			600					500		400	20				
24	Eastern Harbour and Cheticamp.				22	302	7500	99	125	2720	430					7000		1587	1047				
25	Pleasant Bay and Cape Rouge.				74	1121	216	625			175		20	200		4800		230	915				
	Totals	25	480	13100	123	845	15383	2090	68242	24353	60	130	501	2855	16	68335	480	9748	111000	2916	6400	230620	139

NOTE.—No. 1, add 1 trap net, \$700; No. 2, add 3 seines, 525 fathoms, \$600; No. 17, add 52 weirs, \$416.

RETURN showing the Number and Value of Vessels and Boats, and all Fishing Materials, &c.—Nova Scotia—Con.

Number.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.						KINDS OF FISH.									
	Vessels.			Boats.			Gill-Nets.		Smelt-Nets.		Weirs.		Trawls.		Salmon, fresh in ice, lbs.	Herring, salted, brls.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh tons.	Number.		
	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.								
<i>County of Richmond.</i>																						
1	8	157	2430	28	170	1750	219	28560	14200	3	50	1	15	118	1025	250	2550	410	73248	5	1	
2					79	950	99	9760	4400					75	475		1500	200	45736		2	
3	4	111	1665	13	104	1040	120	17780	8000					58	375		1830	15	32448		3	
4					42	504	64	9580	4700					11	110		320	70	28320		4	
5	2	895	16000	254	234	2540	148	8800	4400	4	75	4	65	20	210		300	400			5	
6	4	95	1800	22	14	240	20	2750	750								65				6	
7	17	520	7500	136	23	160	26	3000	1000								30	10	36904		7	
8				25	25	510	34	5300	1725								115				8	
9	9	304	3600	43	155	1550	210	46000	11500	40	600						3300	410			9	
10	8	324	2990	62	79	892	100	7310	2175								700	118			10	
11					100	1000	200	4400	1800							8	250					11
12					57	1940	155	7800	1520								260	430	104200			12
13					78	1370	176	15400	2900							1506	315	495	79880			13
14	1	11	200	4	310	8801	368	81250	11400						19	5000	850	1450	76944			14
15					51	1250	105	6400	1580								520	110	36000			15
	74	2417	36095	562	1521	24497	2074	258090	72050	47	725	5	80	282	2195	27	12905	4118	514680			8

RETURN showing the Number and Value of Vessels and Boats engaged in the Fisheries, Fishing Material, &c.—Nova Scotia—Con.

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.						FISHING MATERIAL.				KINDS OF FISH.							
	Vessels.		Boats.		Gill-Nets.	Trawls.		Salmon, salted, brls.	Salmon, fresh, in ice, lbs.	Salmon, preserved in cans, lbs.	Herrings, salted, brls.	Mackerel, salted, brls.	Lobsters, preserved (in cans), lbs.	Lobster, alive or fresh, tons.	Cod, dried, cwt.	Hake, dried, cwt.	Number.					
	Number.	Value.	Men.	Value.		Men.	Number.											Value.	Number.	Value.		
	<i>Victoria County.</i>																					
1	Meat Cove to Bay St. Lawrence Pond	68	1234	135	1622	740	2	20	151200	192	11	306	44160	380	1							
2	Cape North to White Point	106	2056	172	4516	1842	5	50	39	33	481	37148	1175	30	2							
3	New Haven and Neil's Harbour	110	3690	165	5140	2056	5	50	39	96	12	30720	3800	6	3							
4	Green Cove and North Ingonish	93	1808	138	3100	1100	22	220	39	5	36	13066	1900	4	4							
5	New Campbellton, Big Bras d'Or and Bird Island.	50	540	46	2600	730	17	100	1	600	280	35	15196	170	10	5						
6	Englishtown, St. Ann's Bay and Black Head.	1	200	70	5000	1300	33	198	42	570	640	10		135	85	6						
7	Eel Cove, Indian Brook and North River	50	508	95	4890	1800	20	114	9	800	600	10		160	50	7						
8	Breton Cove, Little River and Black Rock	24	370	44	2400	890	17	100	30	60	100	60	13612	300	23	8						
9	French River, Wreck Cove and Pathend	42	680	53	4600	1500	30	180	30	60	100	58	15600	425	30	9						
10	South Bay, Ingonish and Middle Head	3	1290	18	1000	4425	200	1370	74	1500	1440	700	80	34624	2700	10						
11	Kemp Head, Boularderie and Baddeck	54	655	71	1464	379	41	145	8	1250	330	6		1895	11							
12	North and South Side, Little Narrows	43	424	57	1330	924	35	121	2	750	455	3		926	12							
13	Washabuck and Iona	81	745	138	3067	650	69	234	1560	730	4		14	2707	13							
	Total	4	85	1400	21	911	15341	1394	55739	17736	491	2852	259	8220	1828	3984	1091	204116	24	16673	238	

NOTE.—In No. 6, add 2 trap nets, \$1,000, and 1 seine, \$60.

RECAPITULATION

Of the Yield and Value of the Fisheries for the Island of Cape Breton,
for the Year 1896.

Kinds of Fish.	Quantity.	Rate.		Value.	
		\$	cts.	\$	cts.
Salmon, pickled.....Brls.	408	16	00	6,528	00
Salmon, fresh.....Lbs.	115,152		20	23,030	40
Salmon, preserved.....Cans.	5,124		15	768	60
Herring, pickled.....Brls.	30,280	3	75	113,550	00
Herring, fresh or frozen.....Lbs.	126,900		1½	1,586	25
Herring, smoked....."	5,000		2	100	00
Mackerel, pickled.....Brls.	9,706	14	00	135,884	00
Mackerel preserved.....Cans.	6,900		12	828	00
Lobsters, preserved....."	1,406,478		14	196,906	92
Lobsters, fresh.....Tons.	152½	75	00	11,418	75
Cod, dried.....Cwt.	82,313		4	329,252	00
Cod, tongues and sound.....Brls.	87	10	00	870	00
Hake, dried.....Cwt.	4,709		2	9,418	00
Hake, sounds.....Lbs.	1,625		50	812	50
Haddock, dried.....Cwt.	13,380		2	30,105	00
Pollock, dried....."	1,667		2	3,334	00
Trout.....Lbs.	35,775		10	3,577	50
Halibut, fresh....."	111,312		10	11,131	20
Smelt....."	151,707		5	7,585	35
Bass....."	510		10	51	00
Alewives.....Brls.	2,541	3	50	8,893	50
Oysters....."	1,564		4	6,256	00
Clams....."	784		6	4,704	00
Eels....."	1,634		10	16,340	00
Shad....."	26		10	260	00
Squid....."	7,521		4	30,084	00
Flounders.....Lbs.	71,130		5	3,706	50
Tom cod or frost fish....."	27,250		5	1,362	50
Coarse and mixed fish.....Brls.	11,489	3	00	34,467	00
Fish oil.....Gals.	40,980		40	16,392	00
Fish used as bait.....Brls.	13,028	1	50	19,542	00
Fish used as manure....."	60		50	30	00
Fish guano.....Tons.	461	25	00	11,525	00
Seal skins.....No.	1,082	1	25	1,352	50
Dog fish.....Lbs.	189,500		1	1,895	00
Total for 1896.....				1,043,547	47
Total for 1895.....				1,067,776	11
Decrease.....				24,228	64

Marine and Fisheries—Fisheries Branch.

RECAPITULATION

SHOWING the Number and Value of Fishing Vessels, Boats, Nets, etc., in the District
No. 1 of Nova Scotia for the year 1896.

	Value.	Total.
	\$ cts.	\$ cts.
115 vessels, 3181 tons.....	54,495 00	
4048 boats.....	73,463 00	
442,956 fathoms gill nets.....	140,913 00	
6 seines (895 fathoms).....	1,160 00	
4 trap-nets.....	2,000 00	
2111 trawls.....	10,556 00	
57 weirs.....	496 00	
108 smelt-nets.....	865 00	
64 lobster canneries (1570 hands.....)	42,960 00	283,948 00
141,670 lobster traps.....	76,085 00	
32 freezers and ice-houses.....	4,622 00	119,045 00
1183 smoke and fish-houses.....	48 290 00	
247 piers and wharfs.....	52,210 00	
56 tugs, steamers and smacks.....	4,472 00	
Total value.....		109,594 00
		512,587 00

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the the Number of Men employed in the Province of

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.							
		Vessels.			Boats.			Gill-Nets.		Smelt-Nets.		Weirs.		Trawls.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	<i>Antigonish County.</i>		\$		\$		\$		\$		\$		\$		\$
1	Harbour au Bouche.....	117	400	3	30	293	39	12000	817					29	255
2	Cape Jack, Linwood & Tracadie..				30	372	40	10300	871					10	92
3	Bayfield, Monk's Head & South Side				32	450	34	15930	2770						
4	North Side Harbour, Morristown and Lakevale	138	1200	8	31	562	42	10400	1040					25	218
5	Cape George, Georgeville and Malignant Cove.....				32	485	46	11000	1227					31	288
6	Arisaig, Moidard and Knoydart..				26	472	39	6820	817					12	98
	Totals.....	255	1600	11	181	2639	240	66450	7542					107	951
	Values.....\$														
	<i>Colchester County.</i>														
1	Sterling.....				8	160	18	530	150	9	225				
2	Stewiacke.....				53	285	92	630	465						
3	Five Islands.....				5	145	8						2	300	
4	Economy.....				6	190	12	2015	265				7	2050	
5	Little Bass River to Highland Village.....				16	628	32	5400	655				4	1000	
6	Great Village to Queen's Village.				24	684	48	7565	867						
	Totals.....				112	2092	210	16140	2402	9	225	13	3350		
	Values.....\$														

NOTE.— In No 1 add 9 smelt nets \$225.

Marine and Fisheries—Fisheries Branch.

District No. 2.

Quantity and Value of all Fishing Materials, the Kinds and Quantities of Fish, and Nova Scotia (District No. 2) for the Year 1896.

KINDS OF FISH.																		TOTAL VALUE		
Salmon, fresh in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Trout, lbs.	Smelts, lbs.	Bass, lbs.	Alewives, brls.	Oysters, brls.	Eels, brls.	Shad, brls.	Coarse and Mixed Fish, brls.	Fish Oils, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.	\$
1200	516 414		52 21	52080	92 55	52 27	198 86	16 7	200 400	1500 3000		61 33	10 90	80	15 80	79 101	118 110		11,710 4,587	
19600	281		174	21264	22				600	10000		33	100				124		12,574	
5550	336		31	32832	284	380	1341	63	200	800		40	5			740	179		11,605	
400 6400	227 210		37 56	33912 13672	215 41	697 618	2088 1784	57 17				37				639 546	181 112		10,213 12,973	
33150	1984		371	183760	709	1744	5497	160	1400	15300		204	90	195	95	2105	824			
6630	8928		5194	25726	3190	4435	2748	560	140	765		816	360	1950	142	842	1236		63,662	
9100				17048					300 3050	13400			54	2	12			40		3,463 3,261
500					102			21	200		1200	134			3		38			698
2840		23000			13				300						53					1,646
16788 24085									400 200						168 119					5,077 6,027
53313		23000		17048	115			21	4450	13400	1200	134	54	2	403		38		40	
10662		460		2387	517			74	445	670	120	536	216	20	4030		15		20	20,172

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Fishing Industry in the Province of

Numbers.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.			Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.				
		Vessels.			Boats.			Gill Nets.		Seines.							
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.				Number.	Fathoms.	Value.	
	<i>Cumberland County.</i>			\$			\$					\$					
1	Pugwash, Port Philip and Gulf Shore					112	3750	109	1500	390							
2	Wallace					6	110	8	500	130					2200		
3	River Philip					3	70	6	170	80					1350		
4	Laplanché, Maccan and Nappan					9	180	18	260	100					3200	12	
5	Minudie to Apple River	1	35	400	7	5	125	8									
6	Advocate					11	480	23	360	200	4	130	25		500	70	1300
7	Spencer's Island and Port Greville	1	12	150	3	8	300	18	280	130					6800	90	
8	Parrsboro,	2	45	450	7												
	Totals	4	92	1000	17	154	5015	190	3070	1030	8	260	50	14050	212	1800	
	Values		\$											2810	954	18	

NOTE.—No. 1—Add 30 Smelt Nets, \$600.
 No. 8 “ 3 Weirs, \$100.

Marine and Fisheries—Fisheries Branch.

Quantity and Value of all Fishing Materials and other Fixtures employed in the
Nova Scotia, for the Year 1936,

KINDS OF FISH.														TOTAL VALUE.					
Herring, smoked, lbs.	Mackerel, salted, brls.	Mackerel, fresh or pre- served in cans, lbs.	Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh, cans.	Cod, dried, cwt.	Hake, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Alewives, brls.	Oysters, brls.		Eels, brls.	Shad, brls.	Fish oils, galls.	Fish used as bait, brls.	Fish used as manure, brls.
	2	400	492674	1					400		46000		50				450	1200	72,872
									1000		16000	250	400	10					3,580
										300	1500	320			160				1,910
					20	5	5				1000	90			200				2,305
					30		20												2,934
					125		40												540
800					135		6				1000					20	20		1,323
300							30	17		1100		10			2	25			2,720
1100	2	400	492674	3	310	11	95	32	1400	2400	64500	680	450	10	375	45	470	1200	
22	28	20	68974	225	1395	27	333	80	140	240	3225	2720	1800	100	3750	18	705	600	88,184

Marine and Fisheries—Fisheries Branch.

Return showing the Quantities and Value of Fish, &c.—Nova Scotia—Continued.

Number.	Districts.	KINDS OF FISH.														FISH PRODUCTS.			TOTAL VALUE.				
		Lobsters, preserved, in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Bas, lbs.	Alwives, brls.	Clams, brls.	Belts, brls.	Squid, brls.	Tom cod or frost fish, lbs.		Coarse and mixed fish, brls.	Fish Oils, galls.	Fish used as Bait, brls.	Fish used as Manure, brls.
<i>Guysborough County.</i>																							
1	Ecum Secum.	26728		325		60	1200	900	400		12	20	35	75	600					160	504	70	8,387
2	Marie Joseph.	64608		620		90	200	2600	500		20	15	40	80	750					300	655	160	16,130
3	Liscombe, Spanish Bay and Gegoggin.	71040		850		90	2500	1800	1200		250	90	25	120	1000					500	710	180	21,302
4	St. Mary's River and Bay.	40500		320		30	3000	2000	600		200	30	40	60	900					175	464	100	14,038
5	Wine Harbour.			215		25	700	1500	400		100	15	30	40	700					120	263		4,495
6	Indian Harbour and Lake.	33500		325		20	400	200	300			80	25	15	40	400				150	203	90	10,883
7	Holland Harbour and Indian River.			200		15	2000	1000	400		10	15	20	20	350					120	252		5,986
8	Port Beekerton.	58106		360		40	4000	4000	300		15	30	25	25	400					200	403	150	15,800
9	Fisherman's Harbour.	21648		375		20		3000	400			10	50	60	500					200	503		10,608
10	Country Harbour and Isaac's Harbour.	36680		250		50	1000	2000	1200		10	10	20	25	400					150	303	90	9,604
11	Isaac's Harbour to Whitehead.	38568		8890		2550	779	10120	6250	4000	700	745	350	150	340					10140	4425	2150	119,854
12	Whitehead to Canso including Tittle.	382176	26	6793	15	600	1000	1540	14000			110	80	1850						20000	2150		191,914
13	Canso to Salmon River.	53070		1992		220	500	1869	85	1800		50	4	16	3130					2540	6700	720	99,294
14	Salmon River to Antigonish, County Line, including Cook's Cove, Guysborough, North Shore and Canso.	9792		2750		300	2000	10000	10000		600		110	900						45	1876	700	117,812
Totals		886416	26	24265	15	1279	1550	19628	1494	26460	175250	39760	1000	2097	319	816	6575	6340	95	37231	19635	4410	
Values		117098	1950	109192	150	3197	775	68698	3735	2646	17325	1988	100	8388	2233	8160	26390	317	143	14892	28552	2205	646,116

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Fishing Material, &c.—
Nova Scotia—Continued.

Number.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.								
	Vessels.			Boats.			Gill Nets.		Trap Nets.		Seines.		Trawls.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Value.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Value.
<i>Halifax County.</i>															
1	10	150	3	115	1400	120	7500	1000	2	250	58	5800	3000	1	3000
2	12	200	4	165	2400	150	10500	1800	4	350	38	3500	4000	90	2
3	20	360	6	200	3350	200	25000	4000	3	550	29	2800	3000	45	3
4	2	360	6	58	1000	50	6500	1600	8	800	8	800	1600	25	4
5	45	650	20	210	2700	180	20000	4000	1	100	51	5000	8000	100	5
6	22	400	5	200	2900	160	18000	2400	160	4600	46	46000	8500	120	6
7	75	1200	16	230	3000	250	11000	1600	32	3000	32	3000	6000	150	7
8	70	1850	20	60	2000	100	4200	700	60	1300	14	1300	2500	80	8
9	290	3200	36	65	1200	110	7000	1300	9	750	9	750	1500	30	9
10	17	300	5	70	1000	150	7500	1800	16	1600	16	1600	3400	40	10
11	85	1200	170	85	1200	170	15000	3500	19	1900	19	1900	3800	22	11
12	180	5200	36	65	500	40	3000	650	26	2600	26	2600	5000	80	12
13	30	480	7	58	610	56	2400	375	47	4700	47	4700	8000	10	13
14	30	480	7	58	610	56	2400	375	47	4700	47	4700	8000	10	13
15	120	6500	30	5	110	10	600	250	3	300	3	300	700	14	14
16	15	500	6	10	220	30	230	85	30	280	12	1200	2800	60	15
17	14	170	15	80	1500	66	18000	1100	80	85	50	15015	3000	50	16
18	32	350	19	32	350	19	9000	625	625	625	25	7518	8000	20	17
19	130	1334	62	130	1334	62	20820	1250	20820	1250	70	21019	5000	25	18
20	46	1500	14	56	770	41	8610	535	535	535	60	18020	3000	60	19
21	45	850	7	54	855	40	4230	340	340	340	55	13521	5000	55	20
22	30	550	7	52	900	38	6840	436	436	436	45	13522	5000	45	21
23	13	200	4	84	1800	85	16200	1080	1080	1080	1	175	55	80	22
24	55	1450	12	82	1616	69	22640	1508	1508	1508	2	2850	500	90	23
25	55	1450	12	82	1616	69	1860	1204	1204	1204	75	22525	500	75	24
26	21	506	22	21	506	22	3150	220	220	220	25	7526	500	25	25

Marine and Fisheries—Fisheries Branch.

27 Tangier	1	39	1550	7	45	980	37	9000	600	1	400					45	135
28 Pope's Harbour and Gerrard's Island.					31	497	37	2162	523							30	90
29 Spry Bay, Taylor's Head and Mushaboon	5	157	2700	32	57	949	73	9850	2116								29
30 Sober Island and Sheet Harbour.					65	1247	65	3380	740								30
31 Beaver Harbour and Salmon River.					40	750	26	360	72								31
32 Quoddy and Harrigan Cove	1	10	125	2	18	240	10	200	40								32
33 Moser River and Smith's Cove.					12	200	22	160	45								33
34 Mitchell's Bay to Ecum Secum.					23	334	34	1040	174								34
Totals	59	1531	39315	367	2575	39303	2607	283612	38658	10	1150	411	42875	62355	1512	3765	

RETURN showing the Quantities and Value of all,

Number.	DISTRICTS.	SALMON.		HERRING.		MACKEREL.		LOBSTERS.		COD.	
		Fresh in ice, lbs.	Smoked, lbs.	Salted, brls.	Fresh or frozen, lbs.	Smoked, lbs.	Salted, brls.	Fresh or preserved, in cans, lbs.	Preserved, in cans, lbs.	Alive or fresh, tons.	Dried, cwt.
<i>Halifax County.</i>											
1	North Shore	140		50			2		1	10	
2	East St. Margaret's	300		300			5		3	150	
3	Indian Harbour	3000		2000	1000		75	200	8	500	
4	Peggy's Cove	2000		300	100		2		4	200	
5	Dover	3000		1000	4000		200	100	8	300	
6	Prospect	5000		800	3000	1500	25	350	18112	20	450
7	Terrence Bay	200		900	2500		700	1000	8579	30	1200
8	Pennant	120		130	800		250			12	1000
9	Sambro	250		25	500		100	240	52500	8	1250
10	Ketch Harbour	400		250	400		45	150		5	200
11	Portuguese Cove	250		100	100		25	150		2½	40
12	Herring Cove	500		20	100		10			1	500
13	Ferguson's Cove	50		10	500		1			½	12
14	Bedford	400						200			2
15	Halifax			15			5	250			600
16	Eastern Passage and Devil's Island	880		59			7				619
17	Lawrencetown and Cow Bay	338		68			6				48
18	Seaforth and Three Fathom Harbour			93			7				159
19	West Chezetcook			380			19				4000
20	East Chezetcook			160			2				635
21	Petpiswick Harbour			64			2		42000	125	337
22	Musquodoboit Harbour	1700	260	140			8				650
23	Jeddore	300	275	350			22		77336		1020
24	Clam Harbour and Owl's Head	400	400	679			68				500
25	Ship Harbour	260		957			69		9408		519
26	Pleasant Harbour			186			3		38544		200
27	Tangier	440		559			65				352
28	Pope's Harbour and Gerrard's Island			450			8		34560	4	267
29	Spry Bay, Taylor's Head and Mushaboon			553			151		87792	12	944
30	Sober Island and Sheet Harbour	900	1400	199					71568		351
31	Beaver Harbour and Salmon River			6					104688	20	62
32	Quoddy and Harrigan Cove	200		5					78816		60
33	Moser River and Smith's Cove										45
34	Mitchell's Bay to Ecum Secum			14			2		128064		192
	Totals	22288	2335	10842	13000	1500	1885	2640	751967	261½	17374
	Values	\$ 4457	467	48798	130	30	26390	132	105275	19613	78184

Marine and Fisheries—Fisheries Branch.

Kinds of Fish, &c.—Nova Scotia—Continued.

HAKE.		OTHER KINDS OF FISH.											FISH PRODUCTS.				VALUE.		
Dried, cwt.	Sacks, lbs.	Haddock, cwt.	Follock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Alewives, brls.	Oysters, brls.	Clams, brls.	Bels, brls.	Squid, brls.	Tom cod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Seal skins, No.	\$	Number.
		10	10	400			12			2	4		5	10	4			854	1
		10	25	200		100	3		2	2	1		2	12	4			2,380	2
400	150	500	10	100	100	50	20		6	3	8		10	200	44			16,737	3
50	12	25	20	150	150	50	15		2	1	4		5	120	26			3,475	4
150	250	50	50	200	600	100	25		2	2	8		8	200	42			11,101	5
50	40	35	40	60		50	20		10	2	2		20	170	80			11,910	6
200	150	75	250	50	600	100	75		40	3	40		40	500	125	50		25,580	7
150	200	90	70	400	500	75	50		20	3	25		20	400	100	25		11,476	8
25	50	40	1100		1000	150	12		1		5		5	750	40	130		18,757	9
40	60	50	200		250		18				8		8	60	28			4,133	10
		10					2				3		3	15				1,292	11
150	250	1500			12000								2	250	140			9,919	12
10	15	5	12		300								2	15	10			299	13
				300						2								149	14
140	180	200	5	1000										800	40			4,481	15
		258	150		5770		17		22	5				400	42			5,676	16
		9	21	200	190	6600	36		12	3	2			20	19			1,429	17
		11	18	150	192	23000	26		26	4				69	28			2,895	18
		306	78		1439	6300	12		252	5				2096	150			24,626	19
		96	44	200	195	1700	27		47	7				406	40			4,906	20
		83	205	200	500		260		45	5				209	24	125		19,548	21
		62	128	700	1050	6400	6	2	30	13				460	31			5,694	22
8	23	80	198	100	2290	2000	11		47	15	5			595	60	200		19,532	23
3		48	20	650	877		3		13	5	4			310	47			7,159	24
4	40	20	28	220	1000	600	468		15	5	4			298	33	300		11,659	25
		22	14		270		3		7	4	2			93	18	100		7,537	26
		33	82	390	1150	1300	9		16	6	5	400		268	26			6,032	27
		4	16		612				1		4			406	8	360	3	8,972	28
300	500	20	9		1000				2	7	4			70	50	1000		24,188	29
		10	9	1000	170				2	5	2			100	8	750		13,630	30
		2								2				42	5	1100	18	17,082	31
		10	5	500						3				60	5	800		11,924	32
		6		500					4					30				313	33
		18			400				5	5				90	4	1200		19,728	34
1680	1920	3698	2817	7670	32605	48575	1130	2	629	120	146	400	130	10154	1281	6140	21		
4200	960	12944	7042	767	3260	2428	4520	8	4403	1200	584	20	195	4061	1922	3070	21	335073	

RETURN showing the Number Tonnage and Value of Vessels

Number.	DISTRICTS.	BOATS.			FISHING MATERIALS.						Salmon, fresh in ice, lbs.	Herring, salted, bbls.		
		Number.	Value.	Men.	Gill-Nets.		Smelt-Nets.		Weirs.				Trawls.	
					Fathoms.	Value.	Number.	Value.	Number.	Value.			Number.	Value.
	<i>Hants County.</i>		\$			\$		\$		\$				
1	Maitland to Shubenacadie.....	25	212	25	1288	249							5400	
2	Shubenacadie to Grand Lake.....	21	68	21	410	104							805	
3	Noel to Maitland.....	5	125	5	820	85			2	450			190	
4	West Hants.....	22	875	30	4800	1130			11	360			4120	11
	Totals.....	73	1280	81	7318	1568			13	810			10515	11
	Values.....		\$										2103	49
	<i>County of Pictou.</i>													
1	West Pictou.....	140	2700	170	1800	550	3	75					250	10
2	Pictou Island.....	64	1445	232	750	150								70
3	Central Division.....	8	160	8	200	50	4	100						
4	Southern Division.....	25	466	35	2823	1580	3	32			24	102	8450	
5	Merigomish Island.....	12	180	14	970	485							7000	
6	North Beach.....	3	45	4	625	310							2500	
7	Ponds.....	18	270	18	1300	640	2	60					5000	
8	Lismore.....	4	60	4	650	305							2900	
	Totals.....	274	5326	485	9118	4070	12	267			24	102	26100	86
	Values.....		\$										5220	360

Marine and Fisheries—Fisheries Branch.

and Boats, and all Fishing Materials, &c.—Nova Scotia—Continued.

KINDS OF FISH.													FISH PRODUCTS.		VALUE.	Number.	
Herring, fresh or frozen, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Hake, dried, cwt.	Haddock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Bass, lbs.	Alewives, brls.	Oysters, brls.	Fels, brls.	Shad, brls.	Fish used as bait, brls.			Fish used as manure, brls.
									320	62			3			1,390	1
										256			38			1,565	2
2000			58		5	10000	700		900	86			50			538	3
													221			4,886	4
2000			58		5	10000	700		1220	404			312				
20			261		18	1000	70		122	1616			3120			8,379	
	5	252588	20			300		3300			20	8		500	600	37,022	1
	20	176584				500		5000			150	280		350	400	26,042	2
42800	5	17184	129			200		4900			280	20				2,220	3
		22540										12		20	45	5,612	4
												35		100	50	4,730	5
	3	33477	77	112		200		2200						120	80	960	6
						150		2000								6,696	7
42800	33	502373	226	112		1350		17400		150	300	75		1090	1175	595	8
428	462	70332	1017	280		135		870		600	1200	750		1635	588	83,877	

COMPARATIVE STATEMENT of the Value of Fisheries in each County of District No. 2, Nova Scotia, for the Years 1895 and 1896.

County.	Value in 1895.	Value in 1896.	Increase.	Decrease.
	\$	\$	\$	\$
Antigonish.....	60,182	63,662	3,480	
Colchester.....	26,798	20,172		6,626
Cumberland.....	83,695	88,184	4,489	
Guysborough.....	711,499	646,116		65,383
Halifax.....	429,671	335,073		94,598
Hants.....	13,702	8,379		5,323
Pictou.....	104,235	83,877		20,358
Total.....	1,429,782	1,245,463	7,969	192,288
	1,245,463			7,969
Decrease.....	184,319			184,319

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 2, Nova Scotia, with a Comparative Statement of the Increase or Decrease for the Years 1895 and 1896.

Articles.	Quantity.	Rate.	Totals.	Increase.	Decrease.
		\$ cts.	\$		
Salmon, fresh.....	Lbs. 210,401	20	42,080		24,760
do canned.....	" 3,000	15	450	1,000	
do smoked.....	" 3,635	20	727	1,600	
Herring, salted.....	Brls. 26,628	4 50	119,826		39,841
do fresh.....	Lbs. 278,000	01	2,780		499,660
do smoked.....	" 25,600	02	512		15,467
Mackerel, salted.....	Brls. 8,594	14 00	120,316	2,627	
do fresh.....	Lbs. 1,318,917	05	65,946	743,567	
Lobsters, canned.....	" 2,784,238	14	389,792		496,660
do fresh.....	Tons. 290½	75 00	21,788	21½	
Cod, dried.....	Cwt. 43,057	4 50	193,756	159	
do tongues and sounds.....	Lbs. 15	10 00	150		25
Hake, dried.....	Cwt. 4,856	2 50	12,139		2,554
do sounds.....	Lbs. 8,967	50	4,483	1,460	
Haddock.....	Cwt. 23,607	3 50	82,626	10,334	
Pollock.....	" 4,343	2 50	10,857	1,038	
Trout.....	Lbs. 52,730	10	5,273		10,792
Halibut.....	" 210,955	10	21,095		96,861
Smelts.....	" 198,935	05	9,946		17,870
Bass.....	" 3,420	10	342	270	
Alewives.....	Brls. 4,799	4 00	19,196	349	
Oysters.....	" 896	4 00	3,584	247	
Clams.....	" 948	7 00	6,636		204
Eels.....	" 1,218	10 00	12,180		19
Shad.....	" 1,090	10 00	10,900		118
Squid.....	" 6,721	4 00	26,884		469
Tom cod.....	Lbs. 6,740	05	337		11,416
Coarse fish.....	Brls. 320	1 50	480		486
Fish oils.....	Galls. 49,573	40	19,828	18,703	
do used as bait.....	Brls. 22,700	1 50	34,050	1,193	
do products used as manure.....	" 12,965	50	6,483		5,213
Seal skins.....	No. 21	1 00	21		8
Total for 1896.....			1,245,463		

Marine and Fisheries—Fisheries Branch.

RECAPITULATION

SHOWING the number and Value of Fishing Vessels, Boats, etc., in the District No. 2,
Province of Nova Scotia, for the Year 1896.

	Value.	Total.
	\$	\$
92 vessels, 2279 tons	57,395	
5635 boats	114,409	
754,208 fathoms gill-nets	160,862	
67 trap-nets	12,150	
448 seines, 46,405 fathoms	66,145	
61 smelt nets	1,192	
29 weirs	4,260	
2651 trawls	9,983	
	138,000	426,396
254,790 lobster traps	124,425	
108 canneries (1,792 hands)		262,425
	19,355	
37 freezers and ice houses	69,328	
1629 smoke and fish houses	44,864	
988 piers and wharfs	26,670	
41 steamers and smacks	1,981	
3753 hand lines		162,198
		851,019
Total value		

Marine and Fisheries—Fisheries Branch.

RETURN showing the Quantity and Value of Fish, &c., Nova Scotia—Continued.

Number.	Districts.	KINDS OF FISH.												FISH PRODUCTS.				TOTAL VALUE.	Number.						
		Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Hallbut, lbs.	Smelts, lbs.	Bass, lbs.	Alewives, brls.	Clams, brls.	Keels, brls.	Shad, brls.	Squid, brls.	Sardines, brls.	Flounders, lbs.	Tom cod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.			Fish used as bait, brls.	Fish used as manure, brls.	Fish guano, tons.			
<i>County of Annapolis.</i>																									
1	Margaretville.		105		1500													150	280		10	9,402 00	1		
2	Port George.	112	100		1000													190	300	60	10	8,276 00	2		
3	Port Lorne.	700	1500		2500													230	430	65	20	15,019 50	3		
4	Hampton.	600	112		10000													400	420	80	12	12,408 50	4		
5	Phinny and Young's Cove.	1200	210		2200													400	400	75	12	15,456 00	5		
6	Parker's Cove.	1600	300		2000													280	340		30	12,866 00	6		
7	Hillboro' and Delap's Cove.	1400	500		10000													380	410		12	19,448 00	7		
8	Victoria Beach.	7250	2500		35300													1000	1220	20	40	81,200 00	8		
9	Thorne's Cove to Ferry.	90	10																25	30		1	1,267 50	9	
10	Clementport to Bear River.	1000	110		2500													500	260	100	20	10,376 00	10		
11	Annapolis East to County Line.			1000		2000	2000	70										2000	2000	3000	12	580 00	11		
12	Lequille River.			600		200	100																274 00	12	
13	Round Hill River.			800		200		6															970 00	13	
14	Island Lakes and Streams.			9700																				970 00	14
	Totals.	14152	5447	12100	67000	2000	2400	176	700	5	220	5250	200	2000	3000	3270	4085	430	178				200,338 00		
	Values.	49532	13617	1210	6700	100	240	704	4900	50	2200	21000	800	100	6000	1308	6128	215	1424						

NOTE—Annapolis Royal has one fish drying establishment. Actual weight of fish dried 10,000 quintals. Employ 10 men. Weekly wages, \$65. Plant worth, \$7,000.

RETURN showing the Number and Value of Vessels and Boats engaged in the Fisheries, &c.—Nova Scotia.—Continued.

Number.	DISTRICTS.										FISHING MATERIALS.										KINDS OF FISH.															
	FISHING VESSELS AND BOATS.					Gill-nets.					Seines.					Weirs.					Trawls.															
	Vessels.		Boats.			Fathoms.		Value.			Number.		Fathoms.			Value.		Number.		Value.			Salmon, fresh in ice.		Herring, salted, brls.		Herring, fresh or frozen.		Herring, smoked, lbs.							
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.								
		\$	\$			\$			\$			\$			\$			\$		\$		\$		\$			\$									
<i>Digby County.</i>																																				
1	Digby	6	270	7000	65	5	150	10	280	4	750	1800	2	150	41	820	160	4000	2000	1	820	2000	1	820	2000	1	820	2000	1	820						
2	Bay View				8	240	17	240	89	5	850	2300			12	240	2000	50	1000	800	2	240	2000	2	240	2000	2	240	2000							
3	Broad Cove				7	210	14	470	200						8	160	30	1420	650	3	160	650	3	160	650	3	160	650	3	160						
4	Roseway				10	300	20	500	200	10	200	400	4	500	10	200	400	30	1420	650	4	500	1420	4	500	1420	4	500	1420	4	500					
5	Waterford				7	210	13	260	100	7	160	320	2	90	16	320	250	11	7000	460	6	160	320	6	160	320	6	160	320	6	160					
6	Centreville				35	1050	70	2000	844	2	300	250			34	680	250			7	34	680	250	7	34	680	250	7	34	680	250	7	34			
7	Sandy Cove				16	480	31	960	405	2	300	250			16	320	250			8	16	320	250	8	16	320	250	8	16	320	250	8	16			
8	Mink Cove				9	270	18	525	220	2	300	250			9	180	250			9	9	180	250	9	9	180	250	9	9	180	250	9	9			
9	Little River	1	24	900	9			1980	836	2	300	250			33	660				7	140	1700														
10	White Cove				7	360	24	300	110	12	360	24	320	115	12	240	1700			10	12	240	1700													
11	Long Beach and Whale Cove				4	120	8	240	98	8	300	250			4	80	11	20	600	13	4	80	11	20	600	13	4	80	11	20	600	13	4	80		
12	East Ferry				8	240	16	500	200	3	300	250			8	120	35	21000	600	12	8	120	35	21000	600	12	8	120	35	21000	600	12	8	120		
13	St. Mary's Bay				5	150	10	220	88	1	400	5	60	60	5	60	35	21000	600	14	1	400	5	60	60	14	1	400	5	60	60	14	1	400		
14	Weymouth				24	700	48	300	140	1	100	140			34	480	16	15	15	15	15	12	140	16	15	15	15	12	140	16	15	15	15	12	140	
15	White's Cove				12	360	24	420	150	2	150	500			12	140	16	15	15	15	17	140	16	15	15	15	12	140	16	15	15	15	12	140		
16	Church Point	2	25	600	10			4100	1650	2	150	500			25	500	80			17	25	500	80			17	25	500	80							
17	Meaveghan				8	240	16	320	125	8	300	250			8	80	18			18	8	80	18			18	8	80	18							
18	Cheticamp				15	470	36	870	360	15	300	250			15	300	20			19	15	300	20			19	15	300	20							
19	St. Mary's				5	150	10	180	100	12	700	10			15	300	20			20	12	700	10			20	12	700	10							
20	Smith's Cove	1	10	200	3			18000	7200	10	600	2525			40	820	20			21	10	200	3			21	10	200	3							
21	Westport	24	489	19000	175	41	3150	78	18000	10	600	2525			40	820	20			22	24	489	175	41	3150	78	18000	10	600	2525						
22	Freepont	12	303	7200	92	60	4000	121	20000	8000	1000	850			80	1200				23	12	303	7200	92	60	4000	121	20000	8000	1000	850					
23	Tiverton	7	185	5500	60	36	2100	22	7060	3540	850				36	620				23	7	185	5500	60	36	2100	22	7060	3540	850						
	Totals	54	1346	41500	424	313	17620	747	60135	24890	33	3650	9225	27	2390	406	8400	4350	59420	23000		4350	59420	23000		4350	59420	23000								
	Values																																			

Marine and Fisheries—Fisheries Branch.

RETURN showing the Kinds and Value of Fish, &c.—Nova Scotia—Continued.

Number.	Districts.	KINDS OF FISH.										FISH PRODUCTS.			TOTAL VALUE.			
		Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Cod, tongues & sounds, brls.	Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Pollock, cwt.	Hallbut, lbs.	Clams, brls.	Shad, brls.	Flounders, lbs.	Tom Cod or Frost Fish, lbs.		Coarse and Mixed Fish, brls.	Fish Oils, galls.	Fish used as Bait, brls.
<i>Digby County.</i>																		
1	Digby	9000	10	3000	8	10000	1100	8000	200	21000	80	750	2600	50	3000	950	220	92,917 50
2	Bayview	1	1	62	2	250	90	60	30	950	12	300	900	12	210	50	30	2,417 00
3	Broad Cove	1	1	28	2	250	90	111	40	480	12	300	900	14	350	50	35	1,688 00
4	Rosway			105	3	400	180	140	16	400	400	20	590	20	590	95	36	2,841 20
5	Waterford			22	2½	125	100	39	9	220	20	20	20	5	80	16	8	866 00
6	Centreville	8000	3	250	4	2000	260	70	38	650	60	1850	19	1850	300	80	9,160 50	
7	Sandy Cove			60	4	250	110	49	50	800	4	150	28	4	150	28	9	1,446 00
8	Mink Cove	1	1	95	1	600	300	125	25	800	300	900	9	600	75	41	8	3,133 50
9	Little River	1	1	240	1	1600	420	400	50	1100	18	450	155	18	450	155	24	14,670 50
10	White Cove			80	1	400	150	30	20	500	10	400	150	10	400	150	20	2,254 00
11	Long Beach and Whale Cove			270	4	1000	260	170	22	750	5	500	120	5	500	120	10	5,005 00
12	East Ferry			120	1	600	310	76	24	1000	6	250	65	6	250	65	4	3,035 50
13	St. Mary's Bay					200	120	20	50	900	319	6	10	180	29	6	13	4,550 00
14	Weymouth			46		400	200	140	39	250	250	6	6	1771	6	6	11	1,771 00
15	White's Cove			115	1	100	110	76	25	900	7	11	24	4	10	10	15	2,022 50
16	Church Point			340	2	120	116	120	400	1000	7	4	4	4	10	10	16	1,274 00
17	Meteghan	16000	2	126	1	320	1	36	110	750	6	29	23	6	65	65	17	5,821 00
18	Cheticamp			35	2	150	100	90	50	600	110	6	6	29	29	29	19	1,106 50
19	St. Mary's			10200	14	8000	640	9000	4000	35000	50	21000	3800	50	21000	3800	20	2,151 00
20	Smith's Cove			3	7000	10	5000	480	7000	18000	20	11000	2500	20	11000	2500	21	3,677 50
21	Westport			1	3000	8	3600	250	3000	600	7500	19	4000	1800	1800	1800	22	126,765 00
22	Freeport	12000	23½	25514	67	35015	5353	28852	17998	93500	452	326	3500	325	44610	10533	517	109,055 00
23	Tiverton	44000	1763	114813	670	87338	2677	109882	44935	9350	3164	3260	175	17844	15800	259	41,288 00	
	Totals	44000	23½	25514	67	35015	5353	28852	17998	93500	452	326	3500	325	44610	10533	517	437,946 20
	Values	\$	6160	1763	114813	670	87338	2677	109882	44935	9350	3164	3260	175	17844	15800	259	437,946 20

NOTE—No. 14, add 1 trap net, \$1,500. There is \$24,000 worth of Finnan Haddies added in each column.

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.									
		Vessels.			Boats.			Gill Nets.		Trap Nets.		Seines.		Weirs.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Value.
				\$			\$			\$	\$		\$		\$		\$
1	Starr's Flatts.....																
2	Kingsport.....	1	12	200	3	1	20	2							3	2000	1000
3	Newcomb's Point.....	1	12	200	3	2	26	3							2	1500	750
4	Blomidon.....					1	20	2							2	144	250
5	Baxter's Harbour.....					12	240	24	600	300							
6	Hall's Harbour.....	2	33	450	7	15	300	30	900	450							
7	Hunting Point.....					2	40	4	120	60							
8	Chipman's Brook.....					3	50	6	180	90							
9	Black Rock.....	2	25	800	5	9	180	10	360	180							
10	Harbourville.....	2	35	750	7	3	60	6	180	90							
11	Morden.....					3	60	6	90	50							
12	Scott's Bay.....					4	75	8	240	120					3	750	500
13	Aylesford.....																
14	Avonport.....					14	240	14	1800	700							
15	Boat Island.....														1	750	400
16	Gasperaux.....										35	200					
17	Long Island.....														2	1000	500
	Totals.....	8	117	2400	25	69	1311	115	4470	2040	35	200	13	6144	3400	39	7250
	Values.....\$																

Marine and Fisheries—Fisheries Branch.

the Quantity and Value of all Fishing Material, &c.—Nova Scotia—Continued.

KINDS OF FISH.													FISH PRODUCTS.			TOTAL VALUE.	Number.
Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Bass, lbs.	Alewives, brls.	Shad, brls.	Fish oils, galls.	Fish used as bait, brls.	Fish used as manure, brls.	\$			cts.
300	23	60000	1		2			5			165		50		1,675	00	1
200	4	50000			2			2			10		25		127	50	2
20000	400				240	75	50				1		20		1,464	00	3
26000	375	90000		1500	475	200	75						5		189	50	4
2000	150	20000			60	30	15					300	100	75	7,455	00	5
1500	175				90	40	10						20	50	1,942	50	7
8000	450	150000	25		180	20	50					100	30	40	1,762	50	8
9000	500	320000			54	25	29						60	90	8,115	00	9
6000	42				60	15	15						30	60	10,928	00	10
1500	700				60	30							40	50	1,834	00	11
2200								900			80		45	175	4,840	00	12
															530	00	13
										700					2,800	00	14
					6					3	106				1,099	00	15
2000								1500		600					2,950	00	16
250					1				250		45				529	50	17
78960	2819	645000	26	1500	1230	435	275	2400	250	1303	407	400	510	885			
15790	12685	12900	364	112500	5535	1523	688	240	25	5212	4070	160	765	442	172,899	00	

RETURN showing the Number and Value of Vessels and Boats engaged in the Fisheries, Fishing Material, &c.—Nova Scotia—Con.

Number.	DISTRICTS				FISHING VESSELS AND BOATS.						FISHING MATERIALS.						KINDS OF FISH.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Boats.	Gill Nets.	Trap Nets.	Seines.	Trawls.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Number.			
	<i>Lunenburg County.</i>																					
1																						
	66	5280	219200	990	185	7400	165	35000	21000	18	7200	6	730	1300	792	27720	150	125	3893	25000	800	825
2	70	4750	190000	980	194	7760	186	38000	22800	20	8000	5	500	750	480	16800	15463	813	2648	10000	400	162
3	7	460	18400	98	180	7900	138	30000	18000	2	800	4	730	..	60	2100	1800	750	1827	1200	800	3
4	3	102	1600	24	156	3400	155	30000	4600	12	5000	18	7000	4730	25	350	10000	800	35000	3000	2500	20
5	24	1675	58000	325	210	3500	85	17000	2300	2	800	10	51000	4000	165	2700	5000	100	800	2500	400	10
6																						5
7																						6
8																						7
9																						8
10																						9
11																						10
12																						11
13																						12
14																						13
15																						14
	171	12290	487600	2423	1612	46310	1510	583500	99450	81	32700	227	195960	71380	1778	52340	39138	2788	29053	44575	4900	1323
																						98
																						18522

RETURN showing the Number, Tonnage and Value of Vessels and Boats and

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.									
		Vessels.			Boat-.			Gill-Nets.		Trap-Nets.		Seines.		Trawls.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Fathoms.	Value.	Number.	Value.
				\$						\$	\$				\$		
	<i>Queen's County.</i>			\$		\$			\$	\$			\$				
1	Liverpool, Brooklyn and Gulls Island.....	9	588	22350	76	81	2211	110	5500	2209	3	660	7	1150	1985	25	310
2	Western Head, Moose Harbour and Black Point					48	843	55	5020	2008			2	200	500	4	20
3	White Point, Hants Point and Somerville.....					46	761	46	3324	1376							
4	Port Joli and Port Hebert..	1	13	400	4	47	985	47	1248	546							
5	Port Mouton	3	37	1150	12	95	1927	97	5040	1944	2	1000				14	98
6	Eagle Head and Beach Meadows					22	492	23	1190	505						8	48
7	West Berlin and East Berlin.					39	636	40	2260	900							
8	Port Medway.....	3	172	8000	34	60	1157	38	2758	1934			2	200	700	6	300
9	Milton					5	75		60	30							
10	Mill Village.....					50	350	30	768	325							
11	Greenfield.....					10	120	26									
	Totals.....	16	810	31900	126	503	9557	512	27168	10877	5	1660	11	1550	3185	57	776
	Values.....	\$															

Marine and Fisheries—Fisheries Branch.

the Quantity and Value of all Fishing Material, &c.—Nova Scotia—Continued.

KINDS OF FISH.														FISH PRODUCTS.		VALUE. TOTAL	Number.		
Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Hake, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Halibut, lbs.	Alewives, brls.	Eels, brls.	Shad, brls.	White fish, brls.	Fish oils, galls.			Fish used as bait, brls.	\$	cts.
4645		1099	651			3629	10	136	41	895	12				1988	130	33,050	20				1
		317				506		79	72					13	483	16	4,507	20	2
		372		25776		343		78	57					6	155	10	7,378	64	3
		1093		9600		189		15	3		25	20		4	70	5	7,548	50	4
		995	10	58800	279	1306	29	121	87	2385				15	309	30	40,922	10	5
		198	1	36144		76		18	5	50				17	82	8	6,602	46	6
		527		27024		46		7	19					10	253	4	6,641	06	7
9200	610	379	6			1033	25	26	17	38000	215			4	398	110	13,620	20	8
4000											45						980	00	9
8370	500										439		6				3,690	00	10
3710	250										164	10					1,548	00	11
30425	1360	4980	668	157344	279	7128	64	480	301	41330	900	30	6	69	3738	313			
6085	272	22410	9352	22029	20925	32076	160	1680	753	4133	3600	300	60	690	1495	470	126,488	36	

RETURN showing the Number and Value of Vessels and Boats, and all Fishing Material, &c.—Nova Scotia—Continued.

Number.	DISTRICTS.						FISHING VESSELS AND BOATS.						FISHING MATERIALS.						KINDS OF FISH.				
	Shelburne County.						Vessels.		Boats.		Gill-nets.		Trap-nets.		Seines.		Trawls.		Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Mackerel, salted, brls.	Mackerel, fresh or preserved, in cans, lbs.	Number.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.					
1	Barrington	85	4000	25	60	1600	66	14000	1300									300	325			1	
2	Wood's Harbour	123	4200	46	140	2700	134	19000	1860	1	2000	1	500					1600	1600			2	
3	Shag Harbour	52	1300	26	75	1500	50	16000	1300									2000	2000			3	
4	Bear Point	51	700	25	25	600	25	9600	1000										200	200			4
5	Cape Island	550	32000	300	400	8000	500	58500	6000	6	11000	6	8000					9000	9000			5	
6	Port La Tour and Baccaro	100	3000	19	280	3650	145	51000	6500									800	800			6	
7	Upper Port La Tour	50	1200	18	38	450	37	15000	560									1800	1800			7	
8	Cape Negro and Blanche	20	600	9	65	1400	62	16600	1150	1	1500	1	1500					2500	2500			8	
9	Cape Negro Island				6	60	6	600	30									3200	3200			9	
10	Port Clyde				12	2000	12	1400	30	6400	1060							1500	800			10	
11	North-east Harbour	57	2000	12	14	1200	30	6400	1060									1250	1250			11	
12	Black Point, Red Head and Round Bay	39	1450	12	52	3000	77	16000	2600									1900	1250			12	
13	Roseway and McNutt's Island				55	3800	87	16900	2500										1900	50			13
14	Gunning Cove, Churchover, and Birchtown.	13	300	5	50	1800	78	8300	1385									360	1790			14	
15	Shelburne and Sandy Point	540	17000	110	55	1450	76	19500	3300									1100	2200			15	
16	Jordan	113	3600	23	48	1480	66	12300	2080									8000	450			16	
17	Lockeport	1200	65000	250	110	8500	280	30000	6500									800	4000			17	
	Totals	2893	136350	880	1556	42240	1794	321900	40115	8	14500	8	11096	2	650	1852	11096	15260	36115	263	263	375600	
	Values																	3052	162518	3682		45072	

Marine and Fisheries—Fisheries Branch.

RETURN showing the Number and Value of Vessels and Boats, and all Fishing Material, &c.—Nova Scotia—Continued.

Number.	Districts.	KINDS OF FISH.										FISH PRODUCTS.		TOTAL VALUE.	Number.				
		Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Hake, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Hallbut, lbs.	Smelts, lbs.	Alewives, brls.	Clams, brls.	Reels, brls.			Tom cod or frost fish, lbs.	Fish oils, galls.	Fish used as bait, brls.	
<i>Shelburne County.</i>																			
1	Barrington	79392	92	2900		2100	200	560	1000	325	690	30				1200	2000	36,264 75	1
2	Woods Harbour	23808	700	900		165	100	800	800							300	5000	88,072 38	2
3	Shear Harbour		85	1100		600	250	200	2000	180	30					400	700	28,242 12	3
4	Bear Point		50	500		100	80	900	900							72	575	8,431 80	4
5	Cape Island	86928	800	12000		4400	400	110000	2000			60				6000	8000	248,489 92	5
6	Port La Tour and Baccaro		225	2300		800	2000	2000	2000		200	50				4500	1400	65,400 00	6
7	Upper Port La Tour	17424	62	500		175	300	1400	1400							375	500	12,902 36	7
8	Cape Negro and Blanche		310	500		630	200	950	950							225	500	40,424 86	8
9	Cape Negro Island		210	500		325	200	2500	2500							1800	900	33,569 50	9
10	Port Clyde		75	1050		150	60	610	900		425							4,887 40	10
11	North-east Harbour		40	475		7	30	30	2100		70	5				500		15,677 00	11
12	Black Point, Red Head and Round Bay		10	550		500	45	45	1000		10	8				600		13,507 50	12
13	Roseway and McNutt's Island			850		350	175	350	400		50					400		15,000 00	13
14	Gunning Cove, Churchover, and Birchtown.	25440	53	10000		200	75	5000	5500		75	5				2800		14,030 50	14
15	Shelburne and Sandy Point.		45	2380		340	10	2400	5000		50					750		68,039 10	15
16	Jordan	24000	200	26320		1344	780	2900	6000		45	768	10			2500		19,915 00	16
17	Lockeport		2957	62925		12554	4905	10770	137450		1705	1008	108	400		22897	19575	172,570 00	17
	Totals	274752																	
	Values	38465	221775	283163	2960	43939	12263	1077	13745	275	6820	7056	1080	20		9159	29363	885,482 33	

Marine and Fisheries—Fisheries Branch.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Fishing Material, &c.—
Nova Scotia—Continued.

Number.	DISTRICTS.	KINDS OF FISH.													Fish used as manure, brls.	Fish used as bait, brls.	TOTAL VALUE.													
		Cod, tongues and sounds, brls.	Hake, dried, cwt.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Hallibut, lbs.	Smelts, lbs.	Alewaves, brls.	Clams, brls.	Kels, brls.	Shad, brls.	Squid, brls.	Smoked Alewives, No. of fish.				Smoked Finnan Haddies, lbs.	Boneless cod, lbs.	Tom Cod or frost fish, lbs.	Fish Oils, galls.									
<i>Yarmouth County.</i>																														
1	West Pubnico.....		2650	1500		1000	12000	20				96					2400												288	93,194 00
2	East Pubnico.....		700	550		2000	10000	250				32					300											86	33,238 92	
3	Lower Argyle and Sound.....		100	50		5000	10000	40				2000					200										1000	22,976 92		
4	Tusket Wedge.....	10	50	300		5000	5000	15				50					5										2000	79,985 00		
5	Port Maitland.....	5	25	1000		1500	1500	50				50															2000	43,042 50		
6	Sandford.....		75	10		1500	1500																				75	45,422 50		
7	Yarmouth.....	24	1800	1150		52000						20					60										650	219,439 40		
8	Sluice Point.....		50	20		2500	2500	75				10					10										10	2,747 50		
9	Arcadis and Little River.....					8000	8000	4000				30					20											20000	51,085 00	
10	Tusket.....					1000	1000	600				30					30											20000	25,380 00	
11	Salmon River.....		30			500	400	250				200																		4,115 00
12	Beal Brook.....					66500	106400	5290				435					90											2619	3,545 00	
	Totals.....	39	105	4980		66500	106400	5290				398				21000	212000	40000	8825								2619			
	Values.....	\$ 390	263	23363		12450	5320	21160				380				1680	16900	2000	3530								3929			\$ 624,221 74

RECAPITULATION

Of the Yield of the Fisheries of District No. 3, Nova Scotia, 1896.

Kinds of Fish.	Quantities.	Rate.		Value.		Total.	
		\$	cts.	\$	cts.	\$	cts.
Salmon, fresh.....	Lbs.	212,373	0 20	42,474	60		
do smoked.....	"	4,148	0 20	829	60		43,304 20
Herring, salted.....	Brls.	101,328	4 50	455,976	00		
do fresh.....	Lbs.	103,995	0 01	1,039	95		
do smoked.....	"	681,900	0 02	13,638	00		470,653 95
Mackerel, salted.....	Brls.	7,045	14 00	98,630	00		
do fresh.....	Lbs.	391,500	0 12	46,980	00		145,610 00
Lobsters, canned.....	"	1,172,584	0 14	164,161	76		
do fresh or alive.....	Tons.	7,184 ¹ / ₂	75 00	538,837	50		702,999 26
Cod, dried.....	Cwt.	358,135	4 50	1,611,607	50		
do (boneless).....	Lbs.	212,000	0 08	16,960	00		
do tongues and sounds.....	Brls.	472	10 00	4,720	00		1,633,287 50
Haddock, dried.....	Cwt.	65,367	3 50	228,784	50		
do finnan haddies.....	Lbs.	321,000	0 08	25,680	00		254,464 50
Hake, dried.....	Cwt.	45,365	2 50	113,412	50		
do sounds.....	Lbs.	9,073	0 50	4,536	50		117,949 00
Pollock, dried.....	Cwt.	36,825	2 50				92,062 50
Trout.....	Lbs.	39,455	0 10				3,945 50
Halibut.....	"	695,440	0 10				69,544 00
Bass.....	"	2,650	0 10				265 00
Smelts.....	"	144,255	0 05				7,212 75
Alewives, salted.....	Brls.	9,711	4 00	38,844	00		
do smoked.....	Lbs.	36,000	0 01	360	00		39,204 00
Shad.....	Brls.	989	10 00				9,890 00
Eels.....	"	735	10 00				7,350 00
Squid.....	"	6,160	4 00				24,640 00
Clams.....	"	2,476	7 00				17,332 00
Sardines.....	"	200	4 00				800 00
Flounders.....	Lbs.	35,550	0 05				1,777 50
Tom cod.....	"	48,805	0 05				2,440 25
Coarse fish.....	Brls.	3,882	2 00				7,764 00
Whitefish.....	"	69	10 00				690 00
Fish oil.....	Galls.	153,097	0 40				61,238 80
do bait.....	Brls.	40,691	1 50				61,036 50
do manure.....	"	4,367	0 50				2,183 50
do guano.....	Tons.	530	8 00				4,240 00
Total for 1896.....							3,781,884 71
Total for 1895.....							3,715,572 96
Increase.....							66,311 75

Marine and Fisheries—Fisheries Branch.

TABLE showing the Number and Value of Fishing Vessels, Boats, Nets, &c., used in the District No. 3, Nova Scotia, including an Estimate of other Fixtures not included in Returns, 1896.

Fishing Material.	Value.	Total.
	\$	\$
386 fishing vessels (20,005 tons.).....	766,785	
4,866 boats.....	127,148	
1,062,423 fathoms of gill-nets.....	202,848	
209,904 do of (286) seines.....	87,840	
136 trap-nets.....	69,060	
87 weirs.....	13,340	
11 smelt nets.....	650	
240 dip-nets.....	240	
4,230 trawls.....	74,232	
34 lobster canneries (477 hands).....	24,700	1,342,143
191,152 do traps.....	99,060	
1,642 smoke or fishhouses.....	100,488	123,760
1 drying fishhouse.....	7,000	
123 freezers and icehouses.....	14,080	
36 fishing steamers and snacks.....	42,410	
583 piers and wharfs.....	76,266	
		240,244
Total.....		1,706,147

RECAPITU

RETURN showing the Number and Value of Vessels and Boats engaged in the
Number of Men employed in the Fishing Industry of

Number.	COUNTIES.	FISHING VESSELS AND BOATS.						FISHING						
		Vessels.			Boats.			Gill-Nets.		Trap-Nets.		Weirs.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Value.
		\$			\$			\$		\$		\$		
1	Cape Breton	12	199	3,900	65	771	18,242	1,330	60,885	26,774	1	300	.....	.....
2	Inverness	25	480	13,100	123	845	15,383	2,090	68,242	24,353	1	700	52	416
3	Richmond	74	2,417	36,095	562	1,521	24,497	2,074	258,090	72,050	.....	.....	5	80
4	Victoria	4	85	1,400	21	911	15,341	1,394	55,739	17,736	2	1,000	.....	.....
5	Antigonish	2	55	1,600	11	181	2,639	240	66,450	7,542	.....	.....	.....	.....
6	Colchester	.....	.....	.....	.....	112	2,092	210	16,140	2,402	.....	.....	13	3,350
7	Cumberland	4	92	1,000	17	154	5,015	190	3,070	1,030	.....	.....	3	100
8	Guysborough	27	601	15,480	159	2,266	58,754	2,620	368,500	105,592	57	11,000	.....	.....
9	Halifax	59	1,531	39,315	367	2,575	39,303	2,607	283,612	38,658	10	1,150	.....	.....
10	Hants	.....	.....	.....	.....	73	1,280	81	7,318	1,568	.....	.....	13	810
11	Pictou	.....	.....	.....	.....	274	5,326	485	9,118	4,070	.....	.....	.....	.....
12	Annapolis	13	477	14,310	111	223	4,460	359	23,400	11,700	.....	.....	18	3,050
13	Digby	54	1,346	41,500	424	393	17,620	747	60,135	24,890	1	1,500	27	2,390
14	King's	8	117	2,400	25	69	1,311	115	4,470	2,040	35	200	39	7,250
15	Lunenburg	171	12,290	487,600	2,423	1,612	46,310	1,510	583,500	99,450	81	32,700	.....	.....
16	Queen's	16	810	31,900	126	503	9,557	512	27,168	10,877	5	1,660	.....	.....
17	Shelburne	89	2,893	136,350	880	1,556	42,240	1,794	321,900	40,115	8	14,500	.....	.....
18	Yarmouth	35	2,072	52,725	487	510	5,650	816	41,850	13,776	6	18,500	3	650
	Totals	593	25,465	878,675	5,801	14,549	315,020	19,174	2,259,587	504,623	207	83,210	173	18,096

Marine and Fisheries—Fisheries Branch.

LATION.

Fisheries, Fishing Materials, and the Kinds and Quantities of Fish, as well as the
of the Province of Nova Scotia, for the Year 1896.

MATERIAL.			KINDS OF FISH.										
Number.	Seines.		Salmon, salted, brls.	Salmon, fresh in ice, lbs.	Salmon, preserved in cans, lbs.	Salmon, smoked, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Mackerel, fresh or preserved in cans, lbs.	Lobsters, preserved in cans, lbs.	Number.
	Fathoms.	Value.											
2	250	500	106	31,647	2,816	.....	3,643	15,900	5,000	1,581	500	448,062	1
3	525	600	16	68,535	480	.....	9,748	111,000	.....	2,916	6,400	239,620	2
1	120	60	27	6,750	.....	.....	12,905	.....	.....	4,118	.....	514,680	3
1	.....	.....	259	8,220	1,828	.....	3,984	.....	.....	1,091	.....	204,116	4
.....	.....	.....	.....	33,150	.....	.....	1,984	.....	.....	371	.....	183,760	5
.....	.....	.....	.....	53,313	.....	.....	.....	.....	23,000	.....	.....	17,948	6
8	260	50	.....	14,050	.....	.....	212	1,800	1,100	2	400	492,674	7
29	3,270	3,740	.....	50,985	3,000	1,300	13,499	218,400	.....	6,303	1,315,877	836,416	8
411	42,875	62,355	.....	22,288	.....	2,335	10,842	13,000	1,500	1,885	2,640	751,967	9
.....	.....	.....	.....	10,515	.....	.....	11	2,000	.....	.....	.....	.....	10
.....	.....	.....	.....	26,100	.....	.....	80	42,800	.....	33	.....	502,373	11
.....	.....	.....	.....	20,550	.....	.....	4,435	.....	7,000	10	15,000	.....	12
33	3,650	9,225	.....	4,350	.....	.....	416	59,420	23,000	.....	.....	44,000	13
13	6,144	3,400	.....	78,950	.....	.....	2,819	.....	645,000	26	.....	.....	14
227	195,960	71,380	.....	39,138	.....	2,788	29,053	44,575	4,900	1,323	900	187,872	15
11	1,550	3,185	.....	30,425	.....	1,360	4,980	.....	.....	668	.....	157,344	16
2	2,600	650	.....	15,260	.....	.....	36,115	.....	.....	263	375,600	274,752	17
.....	.....	.....	.....	23,700	.....	.....	23,510	.....	2,000	4,755	.....	508,616	18
740	257,204	155,145	408	537,926	8,124	7,783	158,236	508,895	712,500	25,345	1,717,317	5,363,300	.....

RECAPITU

RETURN showing the Kinds and Quantities of Fish,

Number.	COUNTIES.	KINDS OF FISH.										
		Lobsters, fresh or alive, tons.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Hake dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Pollock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Bas, lbs.
1	Cape Breton.....	23	13,460	24	53	.....	2,364	134	5,390	60,550	13,500	110
2	Inverness.....	189	23,511	50	4,418	1,625	2,516	.....	23,900	13,992	40,600	400
3	Richmond.....	8	28,669	13	.....	.....	7,460	1,533	.....	24,470	33,800	.....
4	Victoria.....	2	16,673	.....	238	.....	1,040	.....	6,485	12,300	63,807	.....
5	Antigonish.....	.....	709	.....	1,774	5,497	160	.....	1,400	.....	15,300	.....
6	Colchester.....	.....	115	.....	.....	.....	21	.....	4,450	.....	13,400	1,200
7	Cumberland.....	3	310	.....	11	.....	95	32	1,400	2,400	64,500	.....
8	Guysborough.....	26	24,265	15	1,279	1,550	19,628	1,494	26,460	175,250	39,760	1,000
9	Halifax.....	261	17,374	.....	1,680	1,920	3,698	2,817	7,670	32,605	48,595	.....
10	Hants.....	.....	58	.....	.....	.....	5	.....	10,000	700	.....	1,220
11	Pictou.....	.....	226	.....	112	.....	.....	.....	1,350	.....	17,400	.....
12	Annapolis.....	60	6,865	33	8,112	3,720	14,152	5,447	12,100	67,000	2,000	2,400
13	Digby.....	23	25,514	67	35,015	5,353	28,852	17,998	.....	93,500	.....	.....
14	King's.....	1,500	1,230	.....	.....	.....	435	275	2,400	.....	.....	250
15	Lunenburg.....	810	220,638	333	885	.....	2,219	2,919	3,685	289,660	30,350	.....
16	Queen's.....	279	7,128	.....	64	.....	480	301	.....	41,330	.....	.....
17	Shelburne.....	2,957	62,925	.....	1,184	.....	12,554	4,905	10,770	137,450	5,505	.....
18	Yarmouth.....	1,555	33,835	39	105	.....	6,675	4,980	10,500	66,500	106,400	.....
	Totals.....	7,627	483,505	574	54,930	19,665	102,354	42,835	127,960	1,017,707	494,897	6,580

Marine and Fisheries—Fisheries Branch.

LATION.

Province of Nova Scotia, for the Year 1896—Continued.

KINDS OF FISH.										FISH PRODUCTS					TOTAL VALUE.	Number.
Alewives, brls.	Oysters, brls.	Clams, brls.	Eels, brls.	Sbac, brls.	Squid, brls.	Flounders, lbs.	Tom Cod or Frost Fish, lbs.	Coarse and Mixed Fish, brls.	Fish Oils, galls.	Seal Skins, No.	Fish used as bait, brls.	Fish used as manure, brls.	Fish guano, tons.			
429	53	94	384	11	789	2,000	1,500	3	6,491	820	3,124	.....	190	197,214	63	1
670	786	229	732	15	3,487	.....	.....	415	12,998	.....	4,753	.....	60	301,966	70	2
1,400	.....	418	230	.....	487	72,130	23,250	380	12,527	.....	1,246	.....	.....	343,721	75	3
42	725	43	288	.....	2,758	.....	2,500	10,691	8,994	262	3,905	.....	.....	200,644	39	4
204	90	.....	195	.....	.....	.....	.....	95	2,105	.....	824	.....	.....	63,662	00	5
134	54	.....	2	403	.....	.....	.....	.....	38	.....	.....	40	.....	20,172	00	6
680	450	.....	10	375	.....	.....	.....	.....	45	.....	470	1,200	.....	88,184	00	7
2,097	.....	319	816	.....	6,575	.....	6,340	95	37,231	.....	19,035	4,410	.....	646,116	00	8
1,130	2	629	120	.....	146	.....	400	130	10,154	21	1,281	6,140	.....	335,073	00	9
404	.....	.....	.....	312	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,379	00	10
150	300	.....	75	.....	.....	.....	.....	.....	.....	.....	1,090	1,175	.....	83,877	00	11
176	.....	700	5	220	5,250	2,000	2,000	3,000	3,270	.....	4,085	430	178	200,338	00	12
.....	.....	452	.....	326	.....	1,050	3,500	325	44,610	.....	10,533	517	.....	437,946	20	13
1,303	.....	.....	407	.....	.....	.....	.....	.....	400	.....	510	885	.....	172,899	00	14
337	.....	226	157	.....	512	32,500	2,905	557	69,357	.....	3,056	510	352	1,334,509	08	15
900	.....	.....	30	6	.....	.....	.....	.....	3,738	.....	313	.....	.....	126,488	36	16
1,705	.....	1,008	108	.....	.....	.....	400	.....	22,897	.....	19,575	.....	.....	885,482	33	17
5,290	.....	90	435	30	398	.....	40,000	.....	8,825	.....	2,619	2,025	.....	624,221	74	18
17,051	2,460	4,208	3,587	2,105	20,402	109,680	82,795	15,691	243,650	1,103	76,419	17,392	991	6,070,895	18	

NOTE—Add to value of No. 2, 6,500 lbs. dogfish..... \$ 65
do No. 4, 183,000 do 1,830
do No. 12, 200 brls. sardines..... 800
do No. 16, 69 brls. whitefish 690
do No. 18, 212,000 lbs. boneless cod..... 16,960
do do 21,000 lbs. finnan haddies 1,680
do do 36,000 lbs. smoked alewives 360

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of Nova Scotia, for the year 1896.

Kinds of Fish.	Quantities.	Rate.		Value.		Total.
		\$	cts.	\$	cts.	
Salmon, pickled	Brls.	408	16 00	6,528 00		
do fresh	Lbs.	537,926	0 20	107,585 00		
do canned	"	8,124	0 15	1,218 60		
do smoked	"	7,783	0 20	1,556 60		116,888 20
Herring, pickled	Brls.	158,236		689,352 00		
do fresh	Lbs.	508,895		5,406 20		
do smoked	"	712,500	0 02	14,250 00		709,008 20
Mackerel, pickled	Brls.	25,345	14 00	354,830 00		
do fresh or preserved	Lbs.	1,717,317		113,754 00		468,584 00
Lobster, preserved, in cans	"	5,363,300	0 14	750,860 68		
do fresh, in shell	Tons.	7,627½	75 00	572,044 25		1,322,904 93
Cod, dried	Cwt.	483,505		2,134,615 50		
do (prepared, boneless)	Lbs.	212,000	0 08	16,960 00		
do tongues and sounds	Brls.	574	10 00	5,740 00		2,157,315 50
Haddock, dried	Cwt.	102,354		341,515 50		
do (finnan haddies)	Lbs.	321,000	0 08	25,680 00		367,195 50
Hake, dried	Cwt.	54,930		134,969 50		
do sounds	Lbs.	19,665		9,832 00		144,801 50
Pollock, dried	Cwt.	42,835				106,253 00
Trout	Lbs.	127,960	0 10			12,796 00
Halibut	"	1,017,707	0 10			101,770 70
Smelts	"	494,897	0 05			24,744 10
Bass	"	6,580	0 10			658 00
Eels	Brls.	3,587	10 00			35,870 00
Shad	"	2,105	10 00			21,050 00
Alewives	"	17,051	4 00	66,933 50		
do smoked	Lbs.	36,000	0 01	360 00		67,293 50
Oysters	Brls.	2,460	4 00			9,840 00
Clams	"	4,208				28,672 00
Squid	"	20,402	4 00			81,608 00
Sardines	"	200	4 00			800 00
Flounders	Lbs.	109,680	0 05			5,484 00
Tom-cods	"	82,795	0 05			4,139 75
White fish	Brls.	69	10 00			690 00
Coarse fish	"	15,691				42,711 00
Dog fish	Lbs.	189,530	0 01			1,895 00
Seal skins	No.	1,103				1,373 50
Fish oil	Galls.	243,650	0 40			97,458 80
Fish as bait	Brls.	76,419	1 50			114,628 50
do as manure	"	17,392	0 50			8,696 50
do guano	Tons.	991				15,765 00
Total for 1896						6,070,895 18
do 1895						6,213,131 07
Decrease						142,235 89

Marine and Fisheries—Fisheries Branch.

TABLE showing the Lobster Plant, and Number of Employees in Canneries, also other Fixtures used in the Fishing Industry, not included in previous returns, in Nova Scotia, 1896.

COUNTIES.	LOBSTER PLANT.				Number of hands employed.	OTHER FIXTURES USED IN FISHERIES.							
	Canneries.		Traps.			Freezers and Ice houses.		Smoke and Fish houses.		Piers and wharfs.		Tugs, Steamers and Smacks.	
	Number.	Value.	Number.	Value.		Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	\$		\$			\$		\$		\$		\$	
Cape Breton.....	14	16550	31500	18865	515	7	227	311	8525	104	4910	18	1975
Inverness.....	16	12100	36485	18385	300	18	1995	346	13478	65	29860	5	390
Richmond.....	17	9650	54605	27300	503	4	2200	230	5900	20	1690	26	1477
Victoria.....	17	4660	19680	11535	252	3	200	296	20387	58	15750	7	630
Antigonish.....	5	7800	25627	15130	141			50	970	1	100	5	700
Colchester.....	1	1200	1100	770	7			3	75				
Cumberland.....	21	15625	24958	13759	258								
Guysboro'.....	28	39800	98226	54641	650	29	18830	586	42755	231	28977	32	22620
Halifax.....	27	18850	59479	24050	305	8	525	985	25448	747	16027	4	3250
Hants.....								5	80				
Pictou.....	26	41150	45400	29650	431					9	260		
Annapolis.....	1	1000	9175	6869	6	16	890	135	5090				
Digby.....	3	1450	18275	9533	30	43	2730	110	9230	30	17350		
King's.....						25	1260	75	4580				
Lunenburg.....	9	4550	20850	6250	118	7	1675	572	38220	322	25000	15	3550
Queen's.....	7	2000	11877	4658	77			179	3863	32	741	6	535
Shelburne.....	8	9600	81875	47200	129	19	4000	363	21025	168	21575	7	1925
Yarmouth.....	6	6100	49100	24550	117	13	3525	208	18480	31	11600	8	36400
Totals.....	206	192085	587612	313145	3839	192	38057	4454	218106	1818	173340	133	73552

RECAPITULATION

SHOWING the Number and Value of Fishing Vessels, Boats, Nets, &c., in the whole Province of Nova, Scotia for the year 1896.

Article.	Value.	Total.
	\$	\$
593 Vessels, 25,565 tons.....	872,675	
14,549 Boats.....	315,020	
2,259,587 Fathoms gill-nets.....	504,623	
740 Seines, 257,204 fathoms.....	155,145	
207 Trap-nets.....	83,210	
8,992 Trawls.....	94,771	
173 Weirs.....	18,096	
180 Smelt nets.....	2,707	
240 Dip-nets.....	240	
		2,052,487
206 Canneries (3,839 hands).....	192,085	
587,612 Traps.....	313,145	
		505,230
192 Freezers and icehouses.....	38,057	
4,454 Smoke houses and fish-houses.....	218,106	
1,818 Piers and wharfs.....	173,340	
133 Steamers and smacks.....	73,552	
3,753 Hand lines.....	1,981	
1 Drying fishhouse.....	7,000	
		512,036
Total value.....		3,069,753

Marine and Fisheries—Fisheries Branch.

APPENDIX No. 4.

NEW BRUNSWICK.

District No. 1, comprising the county of Charlotte.—*Inspector J. H. Pratt, St. Andrews.*

District No. 2, comprising the counties of Restigouche, Gloucester, Northumberland, Kent, Westmorland and Albert.—*Inspector R. A. Chapman, Moncton.*

District No. 3, comprising the counties of St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.—*Inspector H. S. Miles, Oromocto.*

DISTRICT No 1.

REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK, COMPRISING THE COUNTY OF CHARLOTTE, FOR THE YEAR 1896, BY INSPECTOR JOHN H. PRATT.

St. ANDREWS, N.B., 2nd January, 1897.

Honourable L. H. DAVIES,
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my eighth annual report on the fisheries of District No. 1, N.B., comprising the county of Charlotte, and including the islands at mouth of bay, with the fisheries of Chiputneticook lakes. These lakes extend from St. Croix northward, along the international boundary line between the province of New Brunswick and the state of Maine. Tabulated statements giving quantities and values of each kind of fish are also herewith, together with a synopsis of the several officers fisheries reports to me.

Considering the low prices paid during the year to the fishermen, a very favourable season is shown, when compared with previous seasons. An increase of \$142,280.26 in the value of the catch over the previous year of 1895, will be noticed,

The value of the catch for the past season is as follows:—

Total value of fisheries for 1895.....	\$ 968,203 50
do do 1896.....	1,110,483 76

Increase in value during 1896..... \$ 142,280 26

I have already forwarded your department a preliminary report of the fisheries of the district controlled by me, which dealt with the fisheries during the past season of 1896, but there are other matters which may be necessary to be further reported on in this my annual report for the season. I have already made special reports on various matters during the past year, which need not be touched on here.

I would also desire to draw your attention to the fact that numbers of vessels come into this district and catch their loads of fish and the returns for those cargoes do not enter into the accompanying statistics, but will probably be found in the returns from some other district, probably in the Nova Scotia returns. Most of the visiting fishing schooners hail from ports in that province.

During the past season I made several cruises in this ship on the Nova Scotia coast, and during the spring and autumn visited the coast of Cape Breton. I was principally employed there in protecting the three mile limit from the encroachments of United States fishing vessels and in enforcing the observance of the fishery laws by Canadian fishermen.

The lobster regulations seemingly offer the greatest temptation to our fishermen to violate them, but I am pleased to say several very good lessons were taught them at a number of places I called at, where fishing was attempted.

However, I have dealt with all matters relating to cruising in the "Curlew" in my annual report on the ship's work for the past year, which will be found elsewhere in your departmental reports.

SALMON.

Although this fish is not taken for commercial purposes in this district, numbers of them are taken by sportsmen with the rod and fly on the St. Croix River. Overseer Todd reports an increase of the salmon in the St. Croix over all previous years. Some poaching was attempted by a number of turbulent characters, who still reside along that river, but owing to the vigilance of Overseer Todd and his associates on the Canadian and American sides of the stream, little if any success attended the poachers' efforts at netting. It seems impossible to do without the special guardian services on the St. Croix River during the past few seasons, and I would strongly urge their re-appointment during the coming season, between April and November.

Several contradictory stories are told regarding salmon ascending the Magaguadavic River during the past season, but the reports have not been fully verified. The river is being narrowly watched by numbers of persons interested in its welfare as a salmon river, and the first favourable results will be immediately reported to your department.

HAKE.

About double the catch of hake is reported this year over that of 1895. It is not, I believe, that the fish were any more plentiful than formerly, but the great decrease in the schools of dog-fish on our shores, gave the fishermen more encouragement to engage in this fishery. It was quite a common sight in 1895 and former years for a man to haul his trawls and find one-half of the hooks holding a dog-fish when the owner of the trawl earnestly hoped they would have been occupied by hake, haddock or cod.

POLLOCK.

An immense increase will be noticed in the catch of pollock. In the Quoddy River, especially, they were very plentiful, but the prices paid for them were so low, that numbers of the fishermen went at some other branch of the business.

HADDOCK.

An increase of 3,000 quintals over that of last year is noticed in the haddock catch. They were quite plentiful at certain periods during the season, and brought a ready sale at the different markets. The principal cause of the increase in the catch is mainly due to the fewer schools of dog-fish this year on the grounds. The prices paid for haddock continued quite low all season.

MACKEREL.

Mackerel were not found in this district during 1896, I very much regret to say. The catch of 81 barrels reported in the returns were caught in the Gulf of St. Lawrence during the summer by two vessels which were owned and fitted out in this district.

Marine and Fisheries—Fisheries Branch.

In the memory of "the oldest inhabitant," the mackerel frequenting the Passamaquoddy waters have appeared and disappeared in a most irregular manner. It is now several years since any were taken here, but we need not be surprised if in the very near future they appeared in the Passamaquoddy waters again.

COD.

The catch of cod remains about the same as last season, over 9,000 quintals. During the year they were fairly plentiful, but the prices paid the fishermen were very low. The above would not represent the catch of cod in the district, as many vessels hailing from other districts did not report their catches here. Dog-fish did not trouble the cod fishermen as in 1895.

On account of the light demand in the market for all kinds of line fish, together with the poor prices paid, numerous fishermen turned their hands to other work, which offered better financial results.

LOBSTERS.

Only a slight decrease is noticed in the catch of lobsters, when compared with last season. The fishery was prosecuted by about the same number of fishermen and the demand for all sizes was good at remunerative prices.

It is a pleasure to note the increasing value of this fishery year by year, and the manifest desire of even the fishermen themselves that stringent measures should be enacted for its preservation. Even with all the precaution taken, and the sentiment of the fishermen condemning the violations, a number of disreputable characters will secretly set traps in several out of the way places. I destroyed several hundred traps during the past fall, and I hope to secure the names of some of the guilty parties, that they may be suitably punished.

Owing to the lobster regulations now in force in the State of Maine, prohibiting the catching of lobsters at any time under $10\frac{1}{2}$ inches in length, some of the lobster canners have come to the Canadian side and erected factories. Their presence has given considerable employment to a large number of people, and been of great benefit to all, by canning the small lobsters on our side instead of the United States.

The canneries in this district during the season packed 3,424 cases, while in former seasons not more than 170 or 200 cases would be the total pack. The feeling is increasing among the fishermen of the district, and in fact in the whole Bay of Fundy, that the size limit of 9 inches, under which size none shall be caught, should be raised to $10\frac{1}{2}$ inches. Although the fishermen are aware that the raising of the legal size limit will prevent lobster canning, yet they believe unless something of this kind is done speedily, the lobsters will slowly but surely decrease in numbers and size. It is remarkable the various opinions at present existing among fishermen and dealers as to the measures necessary for the restocking of our waters, and the preservation and increase of the lobster fisheries. It makes it extremely difficult to frame suitable laws when such differences exist.

HERRING.

I have great pleasure in reporting that in spite of the alarming reports in circulation, that the herring have all been destroyed in the Bay of Fundy, they are just as plentiful as ever. The supply in Charlotte County seems to be governed simply by the demand. Like all deep-sea fish, herring are somewhat erratic in their movements, and do not always frequent the same locality during successive seasons. This leads to the opinion, often loudly expressed to those who do not give the matter proper study and attention, that "the herring fishery is totally ruined." I have in my possession the report of a commission appointed by the House of Assembly of this province in 1836, to inquire into the herring fishery of Grand Manan, it having been reported as declining greatly and almost ruined.

Owing to frequent strikes during the year of the employees in the sardine canneries on the United States side, the demand for small herring was very irregular, and when caught in a weir were often liberated on account of no purchasing boats having left Eastport. During the fall months herring of a large size were very plentiful at Grand Manan, and big hauls were made in the weirs and gill-nets. This shows that the statement of the herring fishery being ruined is the same "old, old story." I do not deny but what proper regulations for the government of this fishery, should be enforced, and unnecessary waste must be guarded against. Prices for herring, whether fresh or cured, ruled very low all the season. The market for canned sardines was very dull, and the rates quoted by the New York selling agents touched a lower point this year than ever before. In fact the price went lower than the cost of manufacture, and it was deemed advisable to store thousands of cases at the factories in anticipation of a future rise in value. During last winter no net herring were caught on the "north shore" of the Bay of Fundy, and various conflicting reasons are assigned by those interested as to the cause of their non appearance during the winter season. Some advance the theory that it is owing to net fishing of spawn herring, others, that weir fishing for small herring is the cause, and others again assert that the weirs on the spawning ground is one of the principal causes of the decline of the winter herring fishery. This matter has been the subject of much interesting debate in years gone by, and will doubtless be in the future. However, we have the experiences of the rise and decline of the herring fisheries of other countries to profit by. During the year 309 herring weir licenses were issued, against 355 issued in 1895. Not more than two thirds of those weirs were built.

CAMPOBELLO FISH FAIR.

Before closing my report, I would wish to make reference to the beneficial effects of this fair on the fisheries of this district. Its objects are of the best, and deserve the hearty support of the fishermen and all those interested in the fisheries of the county. Notwithstanding the fact that the day appointed for this fair and sports to be held at Welchpool by the Campobello Fisheries Society, was a stormy and very disagreeable one, the splendid programme prepared by them was carried out to the letter. Beautiful exhibits of all kinds of cured fish were on view in the exhibition rooms on the wharfs of James Calder, Esq. I do not believe those exhibits could be excelled in any part of the world, and were inspected by hundreds of admiring visitors during the day. The aquatic sports, consisting of sailing and rowing races for different classes of boats, took place in the afternoon, and excited intense interest. The annual dinner of the society took place in the evening, at which many distinguished residents of the county were present. A grand ball, which was largely attended, finished the day's festivities. It is needless for me to dilate on the great benefits derived by our fishermen from the competition necessary to secure the handsome prizes offered for the best cured fish. It has a stimulating effect on the better curing of the several varieties of fish, placed on the various markets for sale.

If delegates from the several districts of the county were sent to this fair, and a formal conference held, relative to matters affecting the fishing interests of the county, considerable benefit would result from the interchange of ideas. Nearly all branches of business are now organized for mutual help and protection, but fishermen are not, and this in a manner accounts for the diversified opinions held by them regarding all matters affecting the fisheries.

SYNOPSIS OF OFFICERS' REPORTS.

Overseer Brown, of Campobello, reports a decrease in the aggregate value of the catch in his district this season, owing to the low price of fish and to the smaller number of men engaged in the industry. The herring catch will equal that of last

Marine and Fisheries—Fisheries Branch.

year, and the schools were as plentiful as ever, but there was a great decline in the price. About half the usual quantity was pickled, but more were smoked than during the previous season.

Pollock and haddock will show a large increase in the catch, owing doubtless to the decreased number of dog-fish in the bay. Other line fish will average about the same catch as 1895. The lobster catch will also equal that of last year.

Overseer Campbell, of St. Andrews, reports "herring were plentiful in my district and in St. Andrew's Bay, sardine herring were never so numerous. In fact, during the past two or three years the whole of my district has swarmed with those fish. Owing to the depressed American market the demand this year has been weak. In Digdeguash, particularly small herring have been very plentiful during the year, and the supply in all parts of my district has far exceeded the demand. On many occasions after the fish were taken from the weirs buyers could not be found, and the owners were compelled to use them as a fertilizer on the land. There was no net herring taken in my district during the year, although there was supposed to be numerous schools in the St. Andrew's Bay during the winter.

"Line fishing has developed into a valuable industry during the past two years, owing to the rapid increase of fish in the bay, where their feed is now so plentiful, and to their ready purchase by a fish company in St. Andrew's.

"There has been no mackerel in my district for some years.

"A large quantity of smelts have been found in the herring weirs, and have been sold for local consumption, bringing about five cents a pound.

"The lobster fishery has been about the same as in 1895, with prices rather better. It is difficult to get correct returns of this fishery, as numbers of the traps are fished by Deer Island men who make their returns to their own officer. Lobsters in the inner bay seem to be getting fewer each year, while their size keeps the same or larger. This I attribute to the winter fishing, when the female lobster is not covered with spawn and cannot so easily be told from the male, and consequently taken when they should not be. This is the opinion of some of the old fishermen, and I heartily coincide with them. I would suggest that lobster fishing be allowed from October 1st or 30th to January 1st, and from March 1st or 15th to June 30th, in this bay.

"A number of Nova Scotia schooners have taken from my district about 1,500 barrels shelled clams.

"With respect to the lobster fishery, there should be a regulation stating how far apart traps should be set, and I would strongly advocate a close season of two or three years for St. Andrews Bay and St. Croix River. This is the only plan, in my opinion, that would be feasible in re-stocking those waters cheaply and quickly.

"Our papers just now are discussing the question of oyster culture here, which was tried a few years since by Mr. Hatton, of Montreal, but his attempt was unsuccessful. The tides have too much rise and fall, and there are no native oysters in the Bay of Fundy. I would again impress on your attention the necessity of a small steam launch in connection with the "Curlew" and to be used partly by the local officers. It would be a great assistance to the local officers and keep matters much straighter than they are at present."

Officer Dick, of Latête and L'Etang District, in his report states that the catch of sardine herring was small, owing to the slow demand when catches were being made by the weirs. Herring, however, were as plentiful as in 1895. The catch of lobsters, he reports, will be about the same as the previous one, and high prices prevailed during the season. Line fishing as good as 1895, with prices lower, and the same number of men employed in it. Considerable illegal fishing for lobsters and herring was attempted, but by energetic measures taken at the beginning, I managed to prevent it and drive the parties away.

Overseer Cross, of Beaver Harbour, in his annual report states there has been a large increase in the catch of cod, hake and pollock. The hake has been in shore and gave the fishermen a better chance. Large herring were scarcer, but small herring have been as plentiful as in former years, but were not all taken from the weirs, on account of the slight demand.

The lobster catch will be about the same as last year, but realized better prices, and more lobsters have been canned this year than last.

The sardine factories here and at Black's Harbour have packed an increased number of cases over preceding years, and fair prices were realized. It is a pleasure to be able to state that the fishermen of my district have made a fairly good season's catch.

Special Guardian Haney, at West Isles, states there has been a slight falling off in the herring pickled during the year, also a large falling off in the quantity of small herring taken for sardine purposes. There has been no herring smoked in this district, there being very little demand. Prices of all kinds of fish have ruled lower than last year except for fresh haddock, which showed an increase in price.

Lobsters show an increased catch over last year, and the returns also show an increase in codfish. The increased codfish catch was due to there being more hands employed at line fishing, owing to the fact that many weir fishermen had to leave the weirs and take up some other branch of fishing. In pollock there has been a very large increase in the catch, owing to the fact of more people being engaged in this fishery, and an enormous increase in the schools of fish. Very few smelts were caught this season, because of the presence of pollock and silver hake along shore.

Overseer Martin, of Grand Manan, in his annual report states: "I am grateful to be able to report an increase in all branches of the fisheries. The catch of cod show an increase of a thousand quintals; pollock, fifteen hundred quintals, and hake, fifteen hundred quintals. The catch of haddock shows about the same as last season. The herring catch exceeds any previous year, there having been taken about 12,500,000 lbs. The catch of lobsters also increased about 100 tons, owing to a greater number of traps having been employed than last year. The increase of the traps was caused by a cannery having been established at Grand Harbour and to keen competition by foreign buyers. The prices for lobsters realized by our fishermen were almost fabulous, and therefore one of the best seasons in this line were realized.

"The increase in the catch of cod I cannot attribute to any particular cause, but the increase in the hake catch I attribute not only to better feed in the bay, but also to the scarcity of dog-fish, giving the trawls a better chance to fish. As there was no increase in men or plant, I know of no better cause.

"The increase in the pollock catch, I think, is entirely due to the large schools of herrings which inhabited the bay, and with reference to the latter, I firmly believe they were chased and driven inshore by the former. The principal part of fish of all kinds marketed so far, have gone to markets other than the United States, large quantities have been sold in Canada, and nearly all that have gone to the United States, have gone in bond for export from there.

"Quite an agitation is in progress here among herring curers to determine upon a method of preventing such an enormous quantity of fresh herring going to the United States, there to be cured. This practice takes labour from our people and fills the market with raw material, which we should have for the cured product, or rather, helps the American to supply the southern markets, in competition against us.

"Not a single violation of the spawning ground regulations has come under my notice. There have been several cases of the throwing of fish offal outside of the proper grounds, all of which I have reported to you. There are also complaints relative to netters leaving their gear, &c., in the waters during the day time. This practice is injurious to the fisheries, and in my opinion should be prevented."

Overseer W. B. McLaughlin, in charge of the spawning grounds at Southern Head, Grand Manan, in his annual report states, that the herring fisheries at South Grand Manan have arrived at the normal condition they were in at the beginning of the present century, and all this he attributes to the thorough protection of the spawning grounds. He says: "At the beginning of this century, herring were so plentiful at Grand Harbour that the pollock drove them ashore in such quantities, and their decay on the beach contaminated the air for weeks. At that time vessels from all parts of the Bay of Fundy and the New England States gathered at Grand Manan

Marine and Fisheries—Fisheries Branch.

for herring, and an inordinate greed, with slovenly and wasteful habits of fishing, soon drove the herring from Grand Harbour and vicinity, and Seal Cove became the resort of the fishing fleet, which, in those early days, numbered several hundred sail. The grounds were so overfished that in the early thirties the gradual failure of the herring fishery began, and the government of New Brunswick, for the preservation of the spawning grounds, passed an act limiting each vessel and boat to a few fathoms of net, the use of which would make it impossible for vessels to overfish the grounds. But unfortunately, boats were allowed the same quantity of nets that vessels were allowed, and numbers of men would unite, hire a vessel, and attach a small fleet of boats, thereby violating the intention of the law. This led to seizures and litigation, and in many cases to mob fights between the officers and fishermen, till finally the act was repealed, and the spawning grounds were left to the mercy of selfish men, who gathered on these grounds in great numbers, and so destructive was their work to the grounds that in the late forties, herring were slowly but surely disappearing from the waters of Charlotte County. In 1848 and 1849, the fishing fleet did not average five barrels to a vessel during the season, and the britt or sardine herring had entirely disappeared from these waters. About the year 1850 I drew up a petition to the government of New Brunswick, asking for an annual close time at the spawning grounds at the Southern Head of Grand Manan, to which I got several hundred signatures. This petition, with the report of Mr. Perley in 1852, brought the close time of three months in each year into force, which is from the 15th day of July to 15th day of October. As fishing vessels resorted to Grand Manan from Bay of Fundy and New England ports, considerable trouble was found in enforcing the law.

“An officer and 4 men from a ship of the Royal Navy in Halifax, assisted in protecting the grounds till 1854, when the war with Russia caused the withdrawal of this assistance. The New Brunswick government also became indifferent, and the grounds were left to themselves till about 1862, when Messrs. Stevens and Helms, with a sail boat, arrived to protect the grounds. Those men were much surprised at the reception accorded them. Poachers fired at them, one of their boats was burned, and another taken off and sunk in deep water. They seized much property, imposed many fines on evil-doers, but nothing seemed to discourage the poachers, and they carried on their illegal work up to the time of confederation. I was then given control with a boat's crew, and found the spawning ground limits badly defined, and extended off shore only one mile. This allowed vessels on dark nights to slip over the line and poach. With considerable difficulty I got the limits defined and extended off shore three miles. After seizing, confiscating and destroying considerable property, the poachers gave up their business, and the increase of herring in these waters since then is simply marvellous. The waters of Three Islands, Long Pond Bay and Grand Harbour have become well stocked with herring again, and the cod and pollock have returned to their old haunts. Herring fishermen are now able to procure all the herring they want, without disturbing the Southern Head spawning grounds. This fact makes protecting the Southern Head grounds easy, also the presence of the cruiser “Curlew,” which often passes over the grounds, and is always within easy call of the local officer. The local officer living on the grounds simplifies the protection very much and knows a poacher at sight. These spawning grounds are now in excellent condition, and one of the finest breeding places on the coast of North America. I would suggest that lobster fishing be allowed on these grounds, only from March 1st to June 1st, as I am well satisfied that lobster fishing taints the waters and keeps the herring off shore. March, April and May are months that herring rarely visit the inshore grounds, and therefore are the proper months for lobster fishing on these grounds.”

Guardian Conrad, the officer in charge of the border lakes from St. Croix, N.B., running northwards, states in his report that an increase is quite noticeable in the fish frequenting the lakes and streams of his district. An increased number of sportsmen visit the waters, and are well pleased at the sport obtained. The men

who formerly poached there are still in the vicinity ready to engage in the business again at the first opportunity. Very few attempts were made at poaching this season, and those only by the residents of the United States side of the border.

His business of lumbering and farming compels my constant cruising on the lakes inland in my steam launch and thereby compelling a strict observance of the law.

I have the honour to be, sir, .

Your obedient servant,

JOHN H. PRATT,

Inspector of Fisheries.

Marine and Fisheries—Fisheries Branch.

DISTRICT No 2.

REPORT ON THE FISHERIES OF DISTRICT No. 2, COMPRISING THE COUNTIES OF RESTIGOUCHE, GLOUCESTER, NORTHUMBERLAND, KENT, WESTMORLAND AND ALBERT, FOR THE YEAR 1896, BY INSPECTOR R. A. CHAPMAN.

MONCTON, 2nd January, 1897.

Honourable L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report on the fisheries of District No. 2, comprising the counties of Restigouche, Gloucester, Northumberland, Kent, Westmorland and Albert, in the province of New Brunswick, for 1896, with extracts from the reports of the local fishery officers, though many of them are not very full or explicit, also tabulated statements giving the product and value by districts and counties, together with a return of the capital employed in the prosecution of the fisheries. The returns show an increase in the aggregation over last year of \$224,984, exceeding somewhat the estimate in my preliminary report; the gross values of fish taken for past seven years while I have had charge of this district are:

For 1890.. .. .	\$1,445,194 82
“ 1891.....	2,075,392 47
“ 1892.....	2,147,782 60
“ 1893.....	2,792,269 20
“ 1894.....	2,940,185 00
“ 1895.....	3,175,008 50
“ 1896.....	3,399,992 50

The quantities of the four largest yielding kinds of fish for the first and last of those years are:—

	1890.	1896.
Salmon, lbs.....	1,016,197	2,360,735
Herring, brls.....	57,110	220,405
Cod, cwt.....	57,400	99,050
Smelt, lbs.....	3,778,952	8,298,790

Mackerel fresh in ice have also increased from 45,520 lbs. in 1890, to 698,975 lbs. in 1896, and this while the catch in other parts of the maritime provinces has remained nearly stationary, yet there is not the least doubt that the fisheries of the gulf counties are capable of expansion in many ways without at all endangering the supply if proper care and protection are given during the several spawning seasons. I will now briefly remark upon the principal kinds of fish caught.

SALMON.

The increase this year was largest in the rivers and estuaries, yet all the streams were full of salmon and grilse, on their way to the spawning grounds, last fall, which points to the continuance of improvement, which has been so marked for past few years.

HERRING

Were exceedingly abundant last spring all along our coasts, and the nets were so loaded with them in many places that they could not be taken care of; nearly every season large quantities of spawn are driven ashore at several points amounting in the aggregate to hundreds of tons which are carted ashore for manure.

MACKEREL.

The quantity taken and shipped in ice exceeds that of last year, while very few are now salted; in many parts of the gulf these fish were plentiful but would not take bait, those caught were of fine size and quality.

LOBSTERS.

There is quite a large falling off in the pack this year which is certainly caused by overfishing, the high prices obtained keep many at work that would otherwise abandon this business.

COD.

A better class of vessels and boats are producing an increase in the catch of this staple fish, and yet this fishery is capable of great expansion.

SMELTS

Show a very considerable increase over last year's enormous catch, and this fall the streams are full of them, showing that the large quantities taken and sold are not diminishing the supply, in fact this can only be a small percentage of what is consumed by other fish for food.

BASS.

The catch is slightly inferior to that of 1895, owing to this fish not having struck in until the time allowed for fishing in September on the Miramichi had nearly expired.

ALEWIVES

Were very plentiful on their usual grounds and taken in large quantities.

OYSTERS.

Less were raked in Bay du Vin than the year before, principally owing to rough weather; at Buétouche and Cocagne where the best oysters are found more were taken than during the previous season.

SHAD.

That fine fish not being protected during its spawning season is becoming scarcer each year in the Bay of Fundy. The only possible way to restore this fishery to what it was years ago, when some two or three hundred large boats were profitably engaged in it, is to allow no fishing anywhere until after the 20th June, by which time they will have ascended the rivers and spawned. My predecessor, Mr. Venning, reported on this, and I have each year and at the several conferences at Ottawa pressed the importance of this matter, but while the facts I state were undisputed, nothing has ever been done to remedy the evil.

Marine and Fisheries—Fisheries Branch.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS.

RESTIGOUCHE COUNTY.

Overseer Verge reported a very large increase in the catch of salmon which is the principal fish in that district.

Overseer McLean says salmon fishing on the whole was never better, the catch being about 70 per cent better than last year. Herring very plentiful; regulations were observed.

GLOUCESTER COUNTY.

Overseer Sweeney reports an increase in salmon and not much difference in other kinds of fish.

Overseer Jas. D. Theriault reports salmon largely in excess of last year; lobster pack considerably less and fish small, due to over fishing.

Overseer Xavier D. Albert reports a phenomenal increase in catch of salmon at Caraque Island; other fishing generally good.

Overseer Arcade Landry says fishing generally is a little better than last year.

Overseer Adolphe Aché reports fishing generally fair; lobster fishing overdone.

Overseer Olivier Robichaud reports a very large increase in his district of nearly all kinds of fish, especially in herring, cod and gaspereau.

NORTHUMBERLAND COUNTY.

Overseer Ferdinand Robichaud says a much larger quantity of salmon and smelts were taken. Bass arrived too late for September fishing, consequently very few were caught.

Overseer Williston reports a largely increased catch of salmon and smelts, but less of lobsters and also of oysters, owing largely to rough weather. He says the streams were full of salmon this fall and that the smelts that leave such an immense amount of dollars among all classes have put in a royal appearance again this winter. They were large and fat and brought good prices. He also reports regulations well observed.

Overseer Abbott reports nearly double the catch of salmon in 1896 over 1895, also a very large catch of smelts and frost fish.

Overseers Hogan and Boyce both report an increase in the catch of salmon, and that the north-west and south-west branches of the Miramichi River and their tributaries (the great building grounds of these fish) were full of salmon and grilse last fall.

KENT COUNTY.

The overseers report a decrease in pack of lobsters, except at Cocagne, where more fishing was done; a larger catch of mackerel of very fine size and quality; herring and gaspereaux abundant; smelts a little in advance of last year, and a larger quantity of oysters of fine quality.

WESTMORLAND COUNTY.

Overseers report about 100,000 cans less lobsters packed than last year, herring exceedingly plentiful, and smelts in the aggregate better than in 1895.

ALBERT COUNTY.

The fisheries of this county since the failure of the shad alluded to elsewhere are not important.

I have the honour to be, sir,
Your obedient servant,

R. A. CHAPMAN,
Inspector of Fisheries.

DISTRICT No. 3.

REPORT OF THE FISHERIES OF DISTRICT No. 3, OF NEW BRUNSWICK, COMPRISING THE COUNTIES OF VICTORIA, CARLETON, YORK, SUNBURY, QUEEN'S, KING'S AND ST. JOHN, FOR THE YEAR 1896, BY INSPECTOR H. S. MILES.

OROMCTO, SUNBURY Co., 2nd January, 1897.

The Honourable L. H. DAVIES,
Minister of Marine and Fisheries.
Ottawa.

SIR,—I have the honour to submit my fourth annual report on the fisheries of District No. 3, comprising the counties of St. John River, in the province of New Brunswick, with extracts from reports by overseers and wardens, also tabulated statements giving the product and value of the fishery industry, and the number of men and amount of capital employed. The returns show an increase in nearly all kinds of fish for which no special cause can be assigned. The figures are:—

1895.....	\$259,946 25
1896	290,739 20
Increase in 1896.....	\$ 30,792 95

SALMON.

There was an increase of 50 per cent in the catch of this fish in St. John Co., the average weight being about fourteen pounds per fish. For twenty years there have not been so many taken in a single year. Grilse, weighing from four to six pounds, were also often seen, which no doubt was the result of the placing of the fry in the rivers.

LOBSTERS

Show a considerable increase. They were fished during the winter in the deep water off shore by men and vessels that had formerly been engaged in the herring fishery. More than half the catch was shipped to the United States, where remunerative prices were obtained.

ALEWIVES.

In the spring an unusually large supply of these fish were taken for food and bait. The Nova Scotia fishermen are quite dependent on the supply obtained in St. John for this purpose. For fishing with trawls in the Bay of Fundy and on the eastern and southern sides of Nova Scotia, not less than 3,000 barrels were shipped fresh to Halifax, Yarmouth, Digby, &c. All the salted alewives were shipped to Boston and other American cities.

SHAD

Are being overfished, and unless immediate action is taken to protect them for a few years there is imminent danger of their almost complete destruction. No fish sells more readily for cash than shad, and during the entire season not only are they overfished in the various rivers, but in St. John harbour, the nets are long and deep, and so thickly set as to render the passage of many into the rivers exceedingly difficult.

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TROUT.

The quantity of trout caught is exceedingly difficult to estimate. There is a great abundance of them in the lakes and brooks, and the strict enforcement of the law prevents them being overfished.

HAKE, COD AND HADDOCK.

The catch of these fish was somewhat better than usual, owing to more men being engaged in fishing them. As a result of the low wages offered by coasting vessels, many stayed at home and fished.

HERRING

Were not less abundant than other years, but owing to the fact that in the early season prices were low not many prepared to fish for them, so there were fewer taken and better prices prevailed than was expected.

SARDINES

Were very plentiful, but the demand for them was limited, and the greater part of the catch was sold and packed for bait to be used for lobster fishing this winter.

SYNOPSIS OF FISHERY OFFICERS' REPORTS.

ST. JOHN COUNTY.

Overseer O'Brien reports a very successful year's work. Salmon fishing was better than for years—herring were abundant both spring and fall. A considerable quantity of lobsters were taken in the winter and netted, the fishermen getting better prices than usual. The demand for this fish in Boston cannot be supplied. From Beaver Harbour to the head of the Bay of Fundy was throughout the whole season literally fenced with traps, and consequently lobsters were greatly overfished, as shown in the diminution in size and weight of the individual fish in localities which have been fished continuously for several years. The catch of cod is much above the average. Halibut found a ready market at home or was shipped fresh in ice. The catch of pollock and hake was about an average with other years. There were plenty of them, but as this fishery is more difficult and the prices less than those received for other fish, few engaged in the business. Trout are still plentiful in our lakes and streams, and as none are exported no great danger of exhaustion exists, but every year increases the number of sportsmen intent on their capture.

KING'S COUNTY.

Overseer W. H. Heine says: Alewives, the first fish to make their appearance in the spring, were this season late in coming and very scarce. Some sections in which large quantities have been caught were not visited by them at all. No reason for their non-appearance is apparent. The shad fishery which comes on during the latter part of May was vigorously prosecuted, and consequently the catch was larger than for years before. This was especially so on the upper waters of the Kennebecasis, which has to be constantly patrolled to enforce the weekly close time. The catch of pickerel is becoming more important each year, and this industry is developing into a remunerative business for a considerable number of persons. These fish are all shipped fresh in ice to the New York and Boston markets where they command good prices. Salmon of late years have been scarce, but on account of the ten thousand fry which by order of the department were placed in these waters, grilse were frequently seen, and in a few years the Kennebecasis with its rapids and shady pools will be an excellent stream for sportsmen.

The close seasons were fairly well observed. Four nets were seized and sold; the ownership could not be proven, so no prosecutions resulted. All the mills on the Kennebecasis, except Waddel's mill, at Reed's Point, are burning or otherwise taking care of their saw-dust and mill rubbish. Considerable difficulty is experienced in getting fishermen to give a complete and accurate account of their catch, some giving less than a fifth of the amount known to have been taken by them.

Overseer W. L. Belyea, Browns Flats, King's County, says: In the waters of the St. John River, flowing through the parishes of Kingston, Greenwich and Westfield, the amount of fish caught is about the same as last year, except a slight increase in the catch of sturgeon, owing to the open season commencing two weeks earlier than the previous year. About 50 per cent of the fish caught in this district have been exported, 40 per cent sold in Canada, and 10 per cent used for home consumption. No abuses exist to his knowledge. The several close seasons have been well observed, no violations came under his notice. The Saw-dust Act has been fairly well observed by the mill owners. No fish-ways in his district.

Overseer J. H. Gray, Springfield, King's County, says bass fishing has not been so remunerative as in years past, very few have been taken, and the fishing material largely reduced, yet the fishermen are determined to keep a vigilant eye over the industry, and will be prepared to take advantage of its benefits when the opportunity offers. The fish taken were exported to the United States. Shad fishing is carried on upon a limited scale in a general way, the nets used for salmon are brought into requisition for this purpose. Alewives were plentiful, but the catch reported is about the same as last year; two-thirds of them consumed at home, and the balance sold in St. John for exportation. Eels are very destructive and annoying to the fishermen; a bounty for capturing eels might have beneficial results. Pickerel seem to be on the increase, about double the amount being caught this year to that of last, and are exported to the States. He does not know of any abuses existing except the saw-dust from a few small mills. Close seasons have been observed by the fishermen. He has kept vigilant watch and patrolled the district each month for the purpose of enforcing the law. No illegal fishing has come to his notice. There are no fish-ways in his district.

Overseer J. W. Nowlan, Smiths Creek, King's County, says everything in his district pertaining to the fisheries is legally done, and that trout are plentiful and that the close seasons have been well observed. No fish-ways in his district.

Overseer A. C. Warden, Johnston, Queen's County, says about the same number of men were engaged and the same amount of fishing gear used as last year, but there was a slight decrease in the catch of alewives compared with last year, the prices being so low caused a less effort put forth to catch them. There was a slight increase in the catch of shad, caused, no doubt, by the favourable winds at the mouth of the Washademoak, and an increase in the catch of pickerel caused by more winter fishing being carried on. About 80 per cent of the fish caught were sold in the St. John market, and the balance used at home. The several close seasons have been strictly observed. No illegal fishing came to his knowledge. The Saw-dust Act was not observed. No fish-ways in his district.

Overseer M. Case, Wickham, Queen's County, says the catch of shad and salmon for this year is about the same as last, and a decrease in the catch of alewives; the catch of pickerel increased largely within the last year owing to the high prices obtained for this fish in the American markets. Eels are over abundant and a great nuisance to the salmon fishermen, but not many of them were taken on account of the absence of the men who formerly engaged in this fishery. All the fish caught in this district were used for home consumption or sold in St. John, except pickerel, which were exported to the United States. The close seasons were well observed. Saw-dust was allowed to escape in the rivers.

SUNBURY COUNTY (NOTE BY INSPECTOR.)

Geo. W. Hoben, formerly overseer for Sunbury, died in July. He was one of the oldest fishery officers in New Brunswick, having held the office, so he has informed me, for 24 years. After his death I gave his district my personal supervision.

Marine and Fisheries—Fisheries Branch.

Salmon, shad and alewives were abundant; pickerel fishing is growing to be quite an industry. They are shipped to Boston, very few being used for food in this county. No abuses existed, and the close seasons well observed. The fish-way, in Smith's dam, on North Oromocto River is useless. No fish will enter it. I caught and placed in it with a dip-net last spring eleven strong active alewives, and put it up so that they could only escape by going through it, turned the water on and waited twenty minutes, expecting the fish in that time to pass up and escape into the river above. I shut the water off and went down into the compartments, travelling towards the entrance. I found no fish until I arrived at the last compartment, the same one I placed the fish in. I found them all dead, seven of them were mangled so that their entrails protruded, the other four dead but not torn. I am of the opinion that no twenty salmon could live to go through it. It may be a good fish-pass in some rivers, but in the North Oromocto River it is a complete failure.

Overseer Robt. Orr, York County, says: "During the year I devoted all my time to watching the rivers and lakes within my district. As a whole I did not observe much illegal fishing. There was some drifting done on the River St. John in tidal water, but early in the season Mr. E. H. Allen, of this city, interested himself so much in the matter that you thought well to place a special guardian on this water, and as a consequence no more illegal work was brought to my notice there. The South-west Miramichi being the principal salmon stream in my district, I devoted all my spare time there. Owing to the riparian or club owners withdrawing their men from the river, I had to exercise special diligence in preventing spearing, which is the most common form of poaching on this river. In the early spring I was notified by Mr. T. G. Loggie, the manager for the club owners, that owing to the bad guarding of the river below Boiestown, he would not place any men on the river.* For the last two years the river for 65 miles below Boiestown to tide water has been completely choked with nets, and very few fish were allowed to ascend into my district. It was through this reason alone that the anglers lost heart and abandoned the work. This season the river over this 65 miles was choked with nets as usual, and large quantities of salmon were barrelled up for winter consumption. During the open season scarcely any large salmon were observed on the upper part of the river, but as the nets were cleared away large numbers of salmon were allowed to ascend. If the fishery laws could be amended so that the settlers on this river could have three days fishing in the week, and allow the fish to ascend the other three, it would be a tremendous boon. It would satisfy the anglers, fairly satisfy the settlers, and the increased number of fish allowed to get on the spawning beds in my district would be the means of replenishing the fisheries at the mouth of the Miramichi. As mentioned above, owing to the few men in the government employ to guard the river, there was some spearing carried on. We found and seized eight sets of spearing apparatus, but no one could be found to say that they were the owners, and they are still in my possession. There should be at least six men on this stretch (51 miles long) keeping it clean. On the whole there was no increase of salmon and shad in my district, and pickerel were very plentiful, and perch, trout and gaspereau fair."

T. G. Loggie, Secretary of the S. W. Miramichi Angling Club, reports as follows:—

"During the past season the anglers, as my correspondence to your department will show, placed no guardians on the river to act in concert with those employed by your department. Our reasons for not so doing were explained at the time, and our action was fully borne out by the wholesale destruction of the river below that part over which Inspector Miles holds jurisdiction. Looking at the matter in a calm, unprejudiced manner, one is forced to the conclusion that in a very short time, yea, in a very few years, salmon angling on the S. W. Miramichi will be a thing of the past. A glance at the diaries of the guardians as well as the reports of the

* This 65 miles of river spoken of below Boiestown is in Northumberland county, consequently comes under R. A. Chapman's control.—H. S. MILES.

overseer and the inspector himself, will show you that during the months of June, July and August of this year, scarcely a full grown salmon could be seen over the whole district from Boiestown to the Forks, a distance of 50 miles. Over the entire distance are innumerable pools tempered by the cold waters from the many streams that flow and mingle with the waters of the Miramichi, forming resting places for the salmon that ascend to spawn. As matters are now, it is next to an impossibility for a salmon to escape the barriers that are placed on the river below Boiestown to seek his capture. After escaping the net work of fisheries in the Miramichi Bay and river he ascends into non-tidal water, where the river narrows in many places so that nets can be strung from bank to bank, and has to run the gauntlet of nets, so set, for 65 miles more, until he reaches Boiestown. If he ever reaches there, he is scarred, torn and battered. The record of the past season over this 65 mile stretch has been most disastrous. In some instances, I am told, smaller mesh nets were set above the ones of large mesh to capture the grilse passing through. The result is not surprising. I will give you one instance, the sale of 100 grilse in this city by a settler on this stretch, the result of one night's fishing.

"The anglers do not claim that the settlers should be debarred from a moderate use of their fronts. The late law prohibiting net fishing for salmon in non-tidal waters sought to wipe out the riparian rights enjoyed for over a century, and the result was that the settler redoubled his energies to evade the law. What is required is a law establishing the settlers' rights and make regulations whereby these valuable fisheries may be restored and protected. Let the nets be removed three days and three nights in the week, to allow the fish to ascend, and have guardians and efficient overseers appointed or continued to carry this out. Prolong the close season to the 20th June, to allow the first run to get up. Then the anglers would again take up the protection and the river would be restored to its once famous state."

Wm. Blake, Esq., special fishery statistician for Carleton county, reports a total disregard of all fishery laws and regulations on the St. John River, Maduxnakeag and Miramichi Rivers, flowing through that county. Not only had net fishing been carried on in those non-tidal waters, but dynamite as well had been used. For several years the poachers have had it all their own way owing to there having been no fishery officers in the county, where not less than four are required throughout the greater portion of the fishing season. Of the catch it was impossible to get anything like a correct account, as no doubt three-fourths of the fish taken were illegally caught. The fish-way which was lately built on the Maduxnakeag River at Woodstock is considered a success. It is looked after by William McDonald. The inhabitants living along the St. John River complained bitterly about the saw-dust in the river. In the village of Hartland he was told that it was impossible to get a bucket full of water from the river which did not contain saw-dust, whereby the fisheries were undoubtedly injured to a very considerable extent.

Overseer T. D. Ryan, Victoria County, says there has been no increase in the catch of fish in his district this season, but rather a decrease, not on account of the scarcity of fish, but rather from a less vigorous prosecution of the fisheries. He must ascribe this to the hard times in this locality during the fishing season this year. All fish caught in this district are used for home consumption. There are abuses existing in his district, and the only means to prevent them that he can suggest is by special guardians. The close seasons have been well observed. Two or three cases of illegal fishing came to his knowledge, but some time after it happened, and he could not in any case find the names of the parties. The Saw-dust Act is not observed in his district, nor does he consider that there is any injury done to the fisheries by the saw-dust.

Overseer Joseph Martin, Baker Lake, Victoria County, says that trout, &c., were abundant in the rivers and lakes, that some illegal fishing was carried on. He seized a canoe and spearing outfit, and got the names of violators. The case is now in the hands of the inspector, which will be prosecuted later on. The close seasons are well observed. No fish-ways in his district.

Marine and Fisheries—Fisheries Branch.

GENERAL REMARKS.

SUNBURY COUNTY.

Before closing my report, I cannot too strongly urge upon the department the great advantage (to the general fisheries of St. John, King's, Queen's, Sunbury and York) that would result from the removal of the dams across the Oromocto River at Hartt's and Tracy's mills, which effectually debar fish of all kinds from one of the best spawning beds in the province, viz., North Oromocto Lake, which each year salmon, shad and alewives vainly try to reach, and in the end are forced to return to the low lying meadows along the river bank, where alewives deposit their spawn, where in a few hours the receding freshet has left them to dry up and blow away. Two fish-ways were built on this river, one at Hartt's mills and one at Tracy's mills, but neither of them was sufficient for the requirements. Two years ago the freshet removed the Tracy fish-way, mill and part of the dam, and there remains now only the obstruction at Hartt's mills to be overcome.

The lobster fishery in St. John County is a source of great wealth to the deep sea fishermen, who threaten this industry with speedy extinction, and some protective measure should be at once adopted. Shad also are overfished to an alarming extent, and unless the catch of them is prohibited for a few years on some good spawning grounds—say Darling's Lake, or other suitable place, there will soon be none to catch. Their scarcity has resulted in excessive fishing in the past, and now when the supply is failing, this fishing is redoubled with renewed energy, which threatens their hasty extinction.

I am, sir, your obedient servant,

H. S. MILES.

NEW BRUNSWICK—DISTRICT No. 1.

Return showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries; Quantity and Value of Fishing Material; Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in District No. 1. Province of New Brunswick, for the Year 1896.

Number.	FISHING VESSELS AND BOATS.				FISHING MATERIAL.						KINDS OF FISH.											
	Vessels.		Boats.		Nets.		Weirs.		Sineit Nets.		Lobster Traps.		Salmon, fresh, in ice, lbs.	Scallops, in cans, lbs.	Clams, shelled, lbs.	Seal skins, number.	Herrings, pickled, bris.	Herrings, frozen or fresh, lbs.	Herrings, smoked, in boxes, lbs.	Alewives, bris.	Cod, cwt.	Number.
	Tonnage.	Value.	Men.	Number.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.											Value.
	Number.	Value.	Men.	Number.	Value.	Men.	Value.	Number.	Value.	Number.	Value.	Number.	Value.									
<i>Charlotte County.</i>																						
1	204	4550	63	118	1945	154	4950	2475	30	5700	3400	2511	10000	21500	4	570	80000	2000	750	1		
2	99	1600	30	201	6729	173	1073	368	64	12975	2188	880				255			1897	2		
3	10	300	2	72	2150	75			32	8500	466	415			2300				1000	3		
4	17	8900	83	267	55250	478	12500	3500	45	42400	14100	14106	350						250	4		
5	10	231	50	105	4800	148	1204	350	22	8890	758	376				8600	12562000	9343000	4130	5		
6	8	143	3000	26	282	10048	260	3697	74	19225	40	317			4000			362400	802	6		
7	53	1010	25750	1045	80922	1288	23424	7428	267	97800	53	427	10000	27800	4	10149	12643760	9767400	250	7		
8																			634	8		
																				250	9273	

Marine and Fisheries—Fisheries Branch.

RETURN showing the Quantity and Value of Fish, &c.—New Brunswick—Con.

Number.	Districts.	KINDS OF FISH.															FISH PRODUCTS.					TOTAL VALUE.	Number.					
		Pollock, cwt.	Hake, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Finnan Haddies, lbs.	Clams, unshelled, brls.	Trout, lbs.	Frost fish.	Squid, brls.	Flounders, lbs.	Smelts, lbs.	Pickarel, lbs.	Clams, canned, lbs.	Sardines, brls.	Scallops, brls.	Lobsters, tons.	Lobsters, cans.	Fish Oils, galls.	Coarse and mixed fish, brls.			Fish Guano, tons.	Fish used as bait, brls.	Fish used as manure, brls.	\$	cts.
	<i>Charlotte County.</i>																											
1	Lepreaux to Letang..	480	5387	5387	910	25000		2074		10 4400				24000	3000			361	24482	5970	20	90	450	270	86,850	48	1	
2	Letang to St. George.	3357	1406	1175	1194	8000		189		167	229	3500		40450		100		74		4200			966	300	116,602	28	2	
3	St. George to St. Stephen.	1000			2000		195000				2600	2700				28345		14		1230		45	44	3025	104,239	00	3	
4	St. George (inland).											3500	2500													1,745	00	4
5	St. Stephen.	5020	3500	4000	450	81000												334	60000	15330			1450	1800	578,023	50	5	
6	Grand Manan.	7000	5500	4600	9700	35400										3120		18	30000	5120			395	20	36,743	00	6	
7	Campobello.	26254	30	30	1145	240				77	500	1573			7964			137		3707	32		1744	147	120,898	50	7	
8	West Isles.																											8
	Totals.....	45511	15823	15192	15398	149640	195000	2583	13250	2500	935	11273	2500	24000	82479	100	938	114432	35557	52	135	5049	5562	1,108,701	76			

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 1, New Brunswick, for the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		§	cts.	§	cts.
Salmon, fresh, in ice.....	Lbs. 350	0	20		70 00
Sardines, do.....	Brls. 82,479	2	00	164,958	00
do in oil.....	Cans. 405,500	0	05	20,275	00
Scallops, fresh.....	Brls. 100	2	50		250 00
do canned.....	Cans. 10,000	0	15	1,500	00
Clams, unshelled.....	Brls. 2,583	1	25	3,228	75
do shelled.....	Lbs. 27,800	0	10	2,780	00
do canned.....	Cans. 24,000	0	10	2,400	00
Herring, pickled.....	Brls. 10,149	4	50	45,670	50
do frozen or fresh.....	Lbs. 12,643,760	0	02	252,875	20
do smoked.....	" 9,767,400	0	02	195,348	00
Cod, dried.....	Cwt. 9,273	4	50	41,728	50
Alewives, pickled.....	Brls. 250	4	00	1,000	00
Seal skins.....	No. 4	3	00		12 00
Pollock, dried.....	Cwt. 45,511	2	50	113,777	50
Hake do.....	" 15,823	2	50	39,557	50
do sounds.....	Lbs. 15,192	0	50	7,596	00
Haddock, dried.....	Cwt. 15,399	3	50	53,896	50
Finnan haddies, smoked.....	Lbs. 195,000	0	10	19,500	00
Halibut, fresh.....	" 149,640	0	10	14,964	00
Lobster, fresh.....	Tons. 938	80	00	75,040	00
do canned.....	Cans. 114,432	0	14	16,020	48
Trout, fresh.....	Lbs. 13,250	0	10	1,325	00
Tom cod or fresh fish.....	" 2,500	0	05	125	00
Squid.....	Brls. 935	4	00	3,740	00
Flounders.....	Lbs. 7,729	0	07	541	03
Smelt.....	" 11,273	0	05	563	65
Pickarel.....	" 2,500	0	05	125	00
Fish oil.....	Galls. 35,557	0	45	16,000	65
do guano.....	Tons. 135	25	00	3,375	00
do used as bait.....	Brls. 5,049	1	50	7,573	50
do used as manure.....	" 5,562	0	50	2,781	00
Coarse and mixed fish.....	" 52	2	00		104 00
Total value of catch for 1896.....				1,108,701	76
do do 1895.....				968,203	50
Increase during 1896.....				140,498	26

Marine and Fisheries—Fisheries Branch.

NUMBER and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 1, New Brunswick, for the Year 1896.

Materials.	Value.
	\$ cts.
53 vessels (tonnage 1,010).....	25,750 00
1,045 boats.....	80,922 00
23,424 fathoms of gill-nets.....	7,428 00
269 seines for weirs (fathoms, 7,300).....	14,919 00
267 weirs.....	97,600 00
53 smelt nets.....	427 00
914 trawls.....	7,000 00
3,000 hand-lines.....	3,000 00
500 dip-nets.....	2,500 00
23,141 lobster traps.....	19,290 00
7 lobster canneries.....	14,200 00
30 fish-presses.....	3,000 00
9 ice houses.....	16,750 00
750 smoke and fishhouses.....	157,144 00
231 piers and wharfs.....	50,155 00
12 sailing and steam smacks.....	5,950 00
2 sardine canneries.....	3,000 00
1 fish-curing factory.....	3,500 00
1 do guano do.....	5,000 00
80 weir-scows.....	4,000 00
50 pile-drivers.....	500 00
Total value of material.....	522,035 00

NEW BRUNSWICK—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in Fish, and the Total Number of Men employed, &c., in District

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIALS.				
		Vessels.				Boats.		Gill-Nets.		Trap-Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.
<i>Restigouche County.</i>												
1	Above Dalhousie.....					30	450	30	7215	7215		
2	Dalhousie to Belledune.....					164	3000	328	17800	17800		
	Totals.....					194	3450	358	25015	25015		
	Values..... \$											
<i>Gloucester County.</i>												
1	Petit Rocher, &c.....					196	2300	400	58400	14500		
2	Bathurst, &c.....					362	11100	900	39700	21700		
3	Grande Anse.....	1	24	400	3	200	3500	400	6800	6100	1	3000
4	Upper Caraquet.....	11	128	4550	34	19	5700	52	2100	950		
5	Caraquet.....	108	1150	43200	374	37	9250	131	26200	11600		
6	Shippegan Mainland.....	24	308	15050	85	72	5200	159	6500	2500		
7	Shippegan Island.....	46	585	28000	170	106	10875	262	9000	4500		
8	Miscou, &c.....	3	35	800	9	84	2700	184	2600	1200		
9	Pokemouche.....	1	11	700	3	230	4600	285	19780	12825		
10	Tracadie.....	3	34	600	8	100	10000	220	25000	12500		
	Totals.....	197	2275	93300	686	1406	65225	2993	196080	88375	1	3000
	Values..... \$											
<i>Northumberland County.</i>												
1	Neguac, &c.....	2	24	700	8	146	2920	246	45000	61000		
2	Bay du Vin, &c.....	2	60	600	6	230	10350	600	100000	125000		
3	Chatham, &c.....	4	94	2800	19	158	3000	160	22000	19000		
4	North-west Miramichi River.....					60	600	60	2500	2500		
5	South-west Miramichi River.....					70	750	75	3000	3000		
	Totals.....	8	178	4100	33	664	17620	1141	172500	210500		
	Values..... \$											
<i>Kent County.</i>												
1	Harcourt, &c.....					5	50	6				
2	Carleton.....					47	2000	100	3600	1600		
3	St. Louis.....					60	2400	120	2500	1500		
4	Richibucto, &c.....	3	36	950	10	205	8200	410	17000	7500		
5	Buctouche, &c.....					350	11000	800	7800	3200		
6	Cocagne.....					165	4700	320	40000	3500		
	Totals.....	3	36	950	10	832	28350	1756	70900	17300		
	Values..... \$											
<i>Westmorland County.</i>												
1	Shediac, &c.....					210	7000	400	20000	9000		
2	Botsford.....					107	4000	191	12000	6000		
3	Westmorland and Sackville.....					45	2400	60	9000	2600		
4	Dorchester and vicinity.....					30	1500	60	7500	2500		
	Totals.....					992	14900	711	48500	20100		
	Values..... \$											
<i>Albert County.</i>												
1	Albert County.....					3	90	6	600	350		
	Values..... \$											
	Grand totals.....	208	2489	98350	729	3491	129635	6965	513595	361640	1	3000
	Values..... \$											

Marine and Fisheries—Fisheries Branch.

DISTRICT No. 2.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of No. 2, Province of New Brunswick, for the Year 1896.

FISHING MATERIALS.						KINDS OF FISH.											
Smelt-Nets.		Bass-Nets.		Trawls.		Salmon, fresh, in ice, lbs.	Salmon, preserved, in cans, lbs.	Herring, salted, brls.	Herring, fresh or frozen.	Herring, smoked, lbs.	Mackerel, salted, brls.	Mack'el, fresh or preserved, in cans, lbs.	Lobsters, preserved, in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Number.	
Number.	Value.	Number.	Value.	Number.	Value.												
200	12000					118000									1		
20	1000					208400		2000	30000			4000	32500	1 1/2	40		
220	13000					326400		2000	30000			4000	32500	6 1/2	40		
						65280		9000	600			480	4550	475	180		
						142500		20500	50000		10	2000	46800	3	2070		
25	1200			15	200	991595	3560	37075			137	47925	137975	5	23990		
7	350			18	180	59820		2400			170	9500	58200	3	3700		
25	650			10	100			1500			60				3600		
10	350			100	2000	14000	1000	24000		30000	400	1500	97000	4	29800		
34	1150			50	500			2650		13200	134	9800	67550	3	7160		
14	450			16	320			4150				12000	196050	4	10600		
20	600			20	290		6000	9000			25	1000	280000	3	1500		
85	2975			15	150	40000		2350	25000		50	20250	21400	2	750		
72	2170			12	120	36000		21000			10	1500	39200	2	13000		
292	9895			256	3860	1283915	10560	124625	75000	43200	996	105475	944175	29	96170		
						256783	1584	560812	1500	864	13944	12657	132184	2175	432765		
163	6460			10	150	174000	500	3000		20000		1000	61500	2	500		
184	7360			15	250	206610		3000		40000		70000	105000	4	100		
306	15000	100	500			166100		200	1000			1000			50		
		200	1000			75000											
		50	250			65000											
653	28820	350	1750	25	400	686710	500	6200	1000	60000		72000	166500	6	650		
						137342	75	27900	20	1200		8640	23310	450	2925		
						500											
69	2500			10	150	18000		1320			10	200000	85440	2	160		
90	2700			6	100			7000		10000	100	16000	30000	3	300		
305	12200			2	80	18500		11500		20000	75	280000	158000	5	580		
218	7630							6000	50000	10000	40	9000	145000	4	100		
104	2200							7200		5000	30		52160	2	800		
786	27230			18	330	37000		33020	50000	45000	255	505000	470600	16	1940		
						7400		148590	1000	900	3570	60600	65884	1200	8730		
175	8000					5000		28000	15000	40000	100	5000	234000	50	100		
78	2200					6000		24000	10000	10000	75	5000	393600	10			
27	650			4	30	2250		2500	40000	30000		2500		10	100		
						60		60									
280	10850			4	30	13250		54560	65000	80000	175	12500	627600	70	200		
						2650		245320	1300	1600	2450	1500	87864	5250	900		
						2400			5000					2	50		
						480			100					150	225		
2231	89795	350	1750	303	4620	2349675	11060	220405	226000	228200	1426	698975	2241375	129 1/2	99050		
						469935	1659	991823	4520	4564	19964	83877	313793	9700	445725		

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men employed, &c., in District No. 2,

Number.	DISTRICTS.	KINDS OF FISH.										
		Cod, tongues and sounds, brls.	Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Trout, lbs.	Haitbut, lbs.	Smelts, lbs.	Bass, lbs.	Alewives, brls.	Oysters, brls.	
<i>Restigouche County.</i>												
1	Above Dalhousie					7000		500800				
2	Dalhousie to Belledune					1700		32000				
	Totals					8700		532800				
	Values					870		26640				
<i>Gloucester County.</i>												
1	Petit Rocher, &c.					2000						
2	Bathurst, &c.					10370		115270	8000			
3	Grande Anse		300	120		500		12500				
4	Upper Caraquet	2	800		200	1300	1400	64000	750		950	
5	Caraquet	27	500	700	500	400	43000	70000	1500		300	
6	Shippegan Mainland		600	1670	110		5640	82120	500		20	
7	Shippegan Island		320	200	200		3000	38600				
8	Miscou, &c.		200	200			1800	144000	1600			
9	Pokemouche	5	170	250	152	3400	1500	175500	780	1540		
10	Tracadie		1200		400	1200	800	72000	1800	1800		
	Totals	34	4090	3140	1562	19170	57140	773090	14930	3340	1270	
	Values		340	10225	1570	5467	1917	5714	38699	1493	13360	5080
<i>Northumberland County.</i>												
1	Neguac, &c.		160			1600	2000	700000	8100	200		
2	Bay du Vin, &c.					1000	5000	884000	21700	300	7000	
3	Chatham, &c.					1800		1500000	50000	350	400	
4	North-west Miramichi River					25000			114000	1150		
5	South-west Miramichi River					5000		2500	55000	1250		
	Totals		160			34400	7000	3086500	248800	3250	7400	
	Values		400			3440	700	154325	24880	13000	29600	
<i>Kent County.</i>												
1	Harcourt, &c.					7600			900			
2	Carleton					3000		160000	50000			
3	St. Louis		200		150	6500		360000	14000	1400	150	
4	Richibucto, &c.	23	900	3550	260	1300	1840	1040000	2400	2800	180	
5	Buctouche, &c.		500	400		1200		950000	1600	800	3500	
6	Cocagne					3000		440500	2800	200	1900	
	Totals	23	1600	3950	410	22600	1840	2950500	71700	5200	5730	
	Values		230	4000	1975	1435	2260	184	147525	7170	20800	22920
<i>Westmorland County.</i>												
1	Shediac, &c.		100			6000		620000	3000	800	200	
2	Botsford					2000		210000	3000	100	100	
3	Westmorland and Sackville		10			1500		121000	5000	200		
4	Dorchester and vicinity					1000						
	Totals		110			10500		951000	11000	1100	300	
	Values		275			1050		47550	1100	4400	1200	
1	<i>Albert County.</i>					5000		4000	300	25		
	Values					500		200	30	100		
	Grand totals	57	5960	7090	1972	100370	65980	8298790	346730	12915	14700	
	Values	570	14900	3545	6902	10037	6598	414940	34673	51660	58800	

Marine and Fisheries—Fisheries Branch.

the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish,
Province of New Brunswick, for the Year 1896—*Concluded.*

KINDS OF FISH.										FISH PRODUCTS.					TOTAL VALUE.	Number.
Clams, brls.	Eels, brls.	Shad, brls.	Squid, brls.	Sardines, cans.	Flounders, lbs.	Tom-cod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Fish guano, tons.	Seal skins, No.				
						17300				1500			51,055 00	1		
					2700	9000			800	1400			61,120 00	2		
					2700	26300			800	2900						
					135	1315			1200	1450			112,175 00			
	10					825200		450	1100	16000			148,352 00	1		
900	150							10620	38520				588,356 50	2		
150			6					325	2500	300			57,146 00	3		
400	25		25			5000		2300	1500	400			38,625 00	4		
3500	15		420			26000		19500	3500	1000			301,800 00	5		
1050			200			1500	5920	430	2150	3440	1340		75,484 00	6		
400	30								5500	4300	2500		110,392 00	7		
30	5								2000	4000	600		103,395 00	8		
130	36	10			1050	5550	120		200	1250	500	12	48,868 00	9		
	120		10		3500	3000			250	900		1	184,734 00	10		
6560	391	10	661		6050	870670	550	32675	33110	61160		13				
13120	3910	100	2644		303	43534	1100	13070	49665	30580		13	1,657,172 50			
	20							800	300	3000	2000		4	104,789 00	1	
	25				5000	175000		100	3000	800	500		187,332 00	2		
	8	400		72000	40000	130000				150			192,420 00	3		
	200	700											42,500 00	4		
	10	150											25,725 00	5		
20	268	1750		72000	45000	1475000		800	400	6000	2950	500				
40	2680	17500		3600	2250	73750	1600	160	9000	1475	12500	4	552,766 00			
	20												1,150 00	1		
	30	65						200	1500				63,091 60	2		
	300	60			9000	50000	20000	300	2000	300			117,890 00	3		
20	500	45			9000	30000		380	4800	2800			201,436 00	4		
300	150					70000	500	200	3000				128,500 00	5		
950	780					1400	100	200	3000	3700			91,377 40	6		
1270	1780	170			18000	151400	20600	1280	14300	6800						
2540	17800	1700			900	7570	41200	512	21450	3400			603,445 00			
	100												225,090 00	1		
	25	15						300	200	17000			204,004 00	2		
	5	25	450			4000		50	2000	500			31,185 00	3		
		750						150					8,620 00	4		
130	140	1200				15000	700	200	32000	800						
260	1400	12000				750	1400	80	48000	400			468,899 00			
15	10	200						40	100							
30	100	2000				30000		80	40				5,535 00	1		
7995	2589	3330	661	72000	71750	2568370	22690	34655	86210	74610	500	17				
15990	25890	33300	2644	3600	3588	128419	45380	13862	129315	37305	12500	17	3,399,992 50			

RECAPITULATION

OF the Yield and Value of the Fisheries in District No. 2, New Brunswick, for the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, fresh.....	Lbs. 2,349,675	0	20	469,935	00
do in cans.....	" 11,060	0	15	1,659	00
Herring.....	Brls. 220,405	4	50	991,822	50
do fresh.....	Lbs. 226,000	0	02	4,520	00
do smoked.....	" 228,200	0	02	4,564	00
Mackerel.....	Brls. 1,426	14	00	19,964	00
do fresh.....	Lbs. 698,975	0	12	83,877	00
Lobsters.....	Cans. 2,241,375	0	14	313,792	50
do.....	Tons. 129 $\frac{1}{2}$	75	00	9,700	00
Cod.....	Cwt. 99,050	4	50	445,725	00
do tongues and sounds.....	Brls. 57	10	00	570	00
Hake.....	Cwt. 5,960	2	50	14,900	00
do sounds.....	Lbs. 7,090	0	50	3,545	00
Haddock.....	Cwt. 1,972	3	50	6,902	00
Trout.....	Lbs. 160,370	0	10	10,037	00
Halibut.....	" 65,980	0	10	6,598	00
Smelts.....	" 8,298,790	0	05	414,939	50
Bass.....	" 346,730	0	10	34,673	00
Alewives.....	Brls. 12,915	4	00	51,660	00
Oysters.....	" 14,700	4	00	58,800	00
Clams.....	" 7,995	2	00	15,990	00
Eels.....	" 2,589	10	00	25,890	00
Shad.....	" 3,330	10	00	33,300	00
Squid.....	" 661	4	00	2,644	00
Sardines.....	Cans. 72,000	0	05	3,600	00
Flounders.....	Lbs. 71,750	0	05	3,587	50
Frost fish.....	" 2,568,370	0	05	128,418	50
Coarse fish.....	Brls. 22,690	2	00	45,380	00
Fish oil.....	Galls. 34,655	0	40	13,862	00
Fish, as bait.....	Brls. 86,210	1	50	129,315	00
do manure.....	" 74,610	0	50	37,305	00
do guano.....	Tons. 500	25	00	12,500	00
Seal skins.....	No. 17	1	00	17	00
Total.....				3,399,992	50

Marine and Fisheries—Fisheries Branch.

NUMBER and Value of Vessels, Boats, Nets, Traps, &c., engaged in the Fisheries in
District No. 2, New Brunswick, in the Year 1896.

Material.	Value.	Total.
	\$ cts.	\$ cts.
208 vessels (aggregate tonnage, 2,489).....	98,350 00	
3,491 boats.....	129,635 00	
513,595 fathoms of nets.....	361,640 00	
2,231 smelt nets.....	89,795 00	
350 bass nets.....	1,750 00	
1 mackerel trap-net.....	3,000 00	
173,420 lobster traps.....	141,720 00	684,170 00
191 lobster factories, (4068 hands employed).....	98,300 00	
10 general canneries.....	13,000 00	240,020 00
110 freezers and ice houses.....	61,500 00	
641 fish houses and smoke houses.....	35,060 00	
31 piers and wharfs.....	8,500 00	
15 steamers and smacks.....	14,250 00	
303 trawls.....	4,620 00	
850 smelt shanties.....	10,500 00	
		147,430 00
Total value.....		1,071,620 00

NEW BRUNSWICK—DISTRICT No. 3.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries; Quantity and Value of Fishing Materials; Kinds and Quantities of Fish, and the Total Number of Men employed, &c, in District No. 3, Province of New Brunswick, for the Year 1897.

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.				FISHING MATERIAL.				KINDS OF FISH.								
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.		Gill Nets.	Weirs.	Seines.	Salmon, salted, brls.	Salmon, fresh in ice, lbs.	Finman Haddies, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Number.			
<i>St. John County</i>																					
1	21	420	\$	5	200	8000	400	31080	23310	26	9100	7	420	490	58800	600000	400	600000	200000	1	
2	160	5200		32	30	2500	100	40800	32000			6	450	450	49400					2	
3	35	700		8	50	2500	100	40000	30375			5	375	400	75000		200			3	
4	31	620		4	16	800	32	40000	30000	4	1440	12	480	960	50400					4	
5					30	1200	60	14400	9900						1400					5	
	12	247	6940	49	346	15000	692	106280	125580	30	10540	30	1725	2300	226000	600000	900	600000	200000	6	
<i>Other Counties.</i>																					
6	12	120		3	152	6080	325	19400	4000						18000		560			7	
7					210	8400	384	24186	18854						26240		204				8
8					80	800	140	9000	4800						1000						9
9					98	1950	200	5200	1400						10000						10
10					40	600	80	520	270						3300						11
11					100	500	160	1600	800						3000						11
	13	259	7060	52	1026	33330	1982	226186	155704	30	10540	30	1725	2300	287540	600000	1664	600000	200000		
Grand Totals																					

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 3, New Brunswick,
for the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, salted.....	Brls. 16	16	00	256	00
do fresh.....	Lbs. 287,540	0	20	57,508	00
Herring, salted.....	Brls. 1,664	4	50	7,488	00
do frozen.....	Lbs. 600,000	0	02	12,000	00
do smoked.....	" 200,000	0	02	4,000	00
Finnan haddies.....	" 600,000	0	04½	27,000	00
Sturgeon.....	" 25,000	0	07	1,750	00
Lobsters.....	Tons. 290	75	00	21,750	00
Cod.....	Cwt. 554	4	50	2,493	00
Tongues and sounds.....	Brls. 2	10	00	20	00
Hake.....	Cwt. 4,050	2	50	10,125	00
Haddock.....	" 3,245	3	50	11,357	50
Pollock.....	" 435	2	50	1,087	50
Trout.....	Lbs. 62,520	0	10	6,252	00
Bass.....	" 1,665	0	08	133	20
Alewives.....	Brls. 21,420	4	00	85,680	00
Caviare.....	Lbs. 3,800	0	17½	665	00
Eels.....	Brls. 150	10	00	1,800	00
Shad.....	" 2,401	10	00	24,010	00
Sardines.....	" 1,500	1	50	2,250	00
Pickarel.....	Lbs. 129,800	0	05	6,490	00
Coarse fish.....	Brls. 410	3	00	1,230	00
Fish oil.....	Galls. 370	0	40	144	00
Fish for bait.....	Brls. 3,500	1	50	5,250	00
Total value of fish.....				290,739	20

NUMBER and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of
District No. 3, New Brunswick.

Material.	Value.		Total.	
	\$	cts.	\$	cts.
13 vessels (259 tons).....	7,060	00		
1,026 boats.....	33,330	00		
226,186 fathoms nets.....	155,704	00		
30 weirs.....	10,540	00		
30 seines (1,725 fathoms).....	2,300	00		
9,060 lobster traps.....	6,795	00	208,934	00
26 ice houses.....	5,900	00		
45 smoke and fish houses.....	40,000	00		
6 steamers and smacks.....	600	00		
115 trawls.....	2,775	00		
68 wharfs and piers.....	19,800	00		
Total value of material.....			75,870	00
			284,804	00

Marine and Fisheries—Fisheries Branch.

RECAPITULATION showing the Number and Value of Vessels and Boats engaged in the Fisheries, Fishing Materials, Fishing Materials, and the Kinds and Quantities of Fish, as well as the Number of Men Employed in the Fishing Industry of the Province of New Brunswick, for the Year 1896.

Number.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.						KINDS OF FISH.						
	Vessels.			Boats.			Gill-Nets.		Snarl-Nets.		Weirs.		Seines.		Salmon, fresh, in ice, lbs.	Salmon, preserved in cans, lbs.	Herring, salted, brls.	Number.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Fathoms.	Value.					Number.	Value.
1	Restigouche	197	2275	93300	686	194	3450	25015	220	13000					326403	2000	1		
2	Gloucester	197	2275	93300	686	194	3450	25015	220	13000				1283915	10560	124625	2		
3	Northumberland	8	178	4100	33	654	17620	172500	653	28820	1141	88375	242	3895	686710	500	6200	3	
4	Kent	3	36	950	10	832	28350	17300	786	27230	17300	17300	786	27230	37000		33620	4	
5	Westmoreland					392	14900	20100	280	10850	48500	20100	280	10850	13250		54500	5	
6	Albert					3	90	350	600		6	350	600		2400			6	
7	St. John	12	247	6940	49	346	15000	164280			692	15000	30	10540	226000		900	7	
8	King's			120	3	152	6080	19400	4000		326	6080			18000		560	8	
9	Queen's	1	12			210	8400	24186	18854		384	8400			26240		204	9	
10	Sunbury					80	800	4800	9000		140	800			1000			10	
11	York					98	1950	1400	5200		200	1950			10000			11	
12	Carleton					40	600	520	270		80	600			3300			12	
13	Victoria					100	500	800	1600		160	500			3000			13	
14	Charlotte	53	1010	25750	254	1045	80922	7428	23424	53	427	267	97600	267	7300	14919	350	10149	14
	Totals	274	3758	131160	1035	5562	243887	524772	763205	2254	90222	297	108140	297	9025	17219	11060	232218	

RECAPITULATION showing the Kinds, Quantities and Values of Fish, &c.—New Brunswick—Continued.

Number.	KINDS OF FISH.														Number.		
	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Mackerel, fresh or preserved, in cans, lbs.	LoBSTERS, preserved, in cans, lbs.	LoBSTERS, alive or fresh, tons.	Cod, dried, cwt.	Cod, tongues, and sounds, brls.	Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Finnan Haddies, lbs.	Pollack, cwt.	Trout, lbs.		Hallbut, lbs.	Smelts, lbs.
1	30000	43200	996	4000	32500	6½	40	4090	3140	1562	..	..	..	8700	57140	532800	1
2	75000	60000	..	103475	944175	25	96170	160	..	..	..	..	..	19170	7000	773990	2
3	1000	45000	..	72000	163500	6	650	160	..	..	..	..	..	3440	7000	3086500	3
4	50000	45000	255	505000	470500	16	1940	23	3950	410	..	..	..	22600	1840	2050500	4
5	65000	80000	175	12500	627600	70	200	110	..	..	..	..	..	10500	..	951000	5
6	5000	..	..	..	..	2	50	..	..	..	..	..	..	5000	..	4000	6
7	600000	205000	..	..	..	290	554	3650	..	3245	600000	435	..	..	..	..	7
8	..	..	..	..	..	..	..	400	..	..	..	..	..	3600	..	..	8
9	..	..	..	..	..	..	..	..	..	..	..	..	..	3820	..	..	9
10	..	..	..	..	..	..	..	..	..	..	..	..	..	3600	..	..	10
11	..	..	..	..	..	..	..	..	..	..	..	..	..	8000	..	..	11
12	..	..	..	..	..	..	..	..	..	..	..	..	..	14000	..	..	12
13	..	..	..	..	..	..	..	..	..	..	..	..	..	30000	..	..	13
14	12643760	9767400	..	..	114432	988	9273	15823	15192	15399	195000	45511	13250	149640	11273	..	14
Totals	13469760	10135600	1426	698975	2355807	1357½	108877	59	25833	20616	775000	45946	176140	215620	8310063	348395	

Marine and Fisheries—Fisheries Branch.

RECAPITULATION showing the Kinds, Quantities and Values of Fish, &c.—New Brunswick—Concluded.

Number.	Districts.	KINDS OF FISH.											FISH PRODUCTS.					TOTAL VALUE.	Number.
		Alewives, brls.	Oysters, brls.	Clams, brls.	Eels, brls.	Shad, brls.	Squid, brls.	Sardines.	Pickrel, lbs.	Flounders, lbs.	Tom cod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.	Seal skins, No.	Fish used as bait, brls.	Fish used as manure, brls.	Fish guano, tons.		
1	Restigouche	3340	1270	6560	391	10	691	Cans.	2700	26300	870670	550	32575	13	800	2900	0	112,175 00	1
2	Gloucester	3250	7400	29	268	1750	10	72000	6050	1475000	800	800	300	4	6000	61160	500	1,657,172 50	2
3	Northumberland	5200	5730	1270	1780	170	18000	151400	20600	1280	143000	6800	200	4	32000	800	0	552,766 00	3
4	Kent	1100	300	130	140	1200	10	15000	700	40	100	60	300	4	3500	0	0	603,445 00	4
5	Westmoreland	25	15	15	10	200	10	2500	7729	2500	52	35557	4	5049	5562	135	0	468,899 00	5
6	Albert	18400	280	2583	100	1025	985	*1500	10000	210	7	60	0	0	0	0	0	5,535 00	6
7	St. John	280	26	336	26	336	42	720	90000	20	20	300	0	0	0	0	0	230,487 00	7
8	King's	1100	1620	8	8	70	24000	4000	24	24	0	0	0	0	0	0	0	15,885 00	8
9	Queen's	20	4	20	4	20	1800	20	180	130	0	0	0	0	0	0	0	23,211 20	9
10	Sunbury	14700	10578	2769	5731	1596	477500	132300	79479	2370870	23152	70572	21	94759	80172	635	0	28,020 00	10
11	York	20	4	20	4	20	1800	20	180	130	0	0	0	0	0	0	0	9,020 00	11
12	Carleton	20	4	20	4	20	1800	20	180	130	0	0	0	0	0	0	0	6,132 00	12
13	Victoria	20	4	20	4	20	1800	20	180	130	0	0	0	0	0	0	0	2,468 00	13
14	Charlotte	250	14700	10578	2769	5731	1596	477500	132300	79479	2370870	23152	70572	21	94759	80172	635	4,799,433 46	14
	Totals	34585	14700	10578	2769	5731	1596	477500	132300	79479	2370870	23152	70572	21	94759	80172	635	4,799,433 46	

* Barrels.
 Include here +27,800 lbs shelled clams valued at \$2,780
 24,000 cans " preserved " 2,400
 scallops, fresh and " 1,700

RECAPITULATION of the Number and Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of the whole Province of New Brunswick with approximate value of other fishing material, 1896.

Articles.	Value.	Total.
	\$	\$
274 fishing vessels (3,758 tons) (1,035 men)	131,160	
5,562 do boats (10,235 men)	243,887	
763,205 fathoms of gill-nets	524,772	
297 seines (9,025 fathoms)	17,219	
297 weirs	108,140	
2,284 sunelt-nets	90,222	
350 lass-nets	1,750	
500 dip-nets	2,500	
1 trap-net (mackerel)	3,000	
3,000 hand lines	3,000	
1,332 trawls	14,395	
		1,140,045
198 lobster canneries (4,208 men)	112,500	
205,621 do traps, lines, &c.	167,805	
		280,305
12 general canneries	16,000	
1 fish curing factory	3,500	
850 smelt shanties	10,500	
30 fish presses	3,000	
145 freezers or ice-houses	84,150	
1,436 smoke and fish houses	232,204	
33 steamers and smacks	20,800	
80 scows	4,000	
50 pile drivers	500	
1 guano factory	5,000	
330 fishing piers and wharfs	78,455	
		458,109
Total		1,878,459

Marine and Fisheries—Fisheries Branch.

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of New Brunswick
for the year 1896.

Kinds of Fish.	Quantity.	Price.		Value.		Total Value.	
		\$	cts.	\$	cts.	\$	cts.
Salmon, fresh..... Lbs.	2,637,565	0	20	527,513	00		
do preserved, in cans..... "	11,060	0	15	1,659	00		
do salted..... Brls.	16	16	00	256	00		
						529,428	00
Herring, salted..... "	232,218	4	50	1,044,981	00		
do fresh..... Lbs.	13,469,760	0	02	269,395	20		
do smoked..... "	10,195,600	0	02	203,912	00		
						1,518,288	20
Mackerel, salted..... Brls.	1,426	14	00	19,964	00		
do fresh..... Lbs.	698,975	0	12	83,877	00		
						103,841	00
Lobster, preserved, in cans..... "	2,355,807	0	14	329,812	98		
do fresh or alive..... Tons.	1,357 $\frac{1}{2}$			106,490	00		
						436,302	98
Cod, dried..... Cwt.	108,877	4	50	489,946	50		
do tongues and sounds..... Brls.	59	10	00	590	00		
						490,536	50
Hake, dried..... Cwt.	25,833	2	50	64,582	50		
do sounds..... Lbs.	22,282	0	50	11,141	00		
						75,723	50
Haddock, dried..... Cwt.	20,616	3	50	72,156	00		
do smoked, finnan haddies..... Lbs.	795,000			46,500	00		
						118,656	00
Pollack, dried..... Cwt.	45,946	2	50			114,865	00
Halibut, fresh..... Lbs.	215,620	0	10			21,562	00
Trout..... "	176,140	0	10			17,614	00
Smelts..... "	8,310,063	0	05			415,503	15
Bass..... "	348,395	0	10			34,806	20
Alewives, salted..... Brls.	34,585	4	00			138,340	00
Shad, salted..... "	5,731	10	00			57,310	00
Eels, salted..... "	2,769	10	00			27,690	00
Squid..... "	1,596	4	00			6,384	00
Sardines..... "	83,979			167,208	00		
do preserved in oil..... Cans.	477,500	0	05	23,875	00		
						191,083	00
Pickarel..... Lbs.	132,300	0	05			6,615	00
Flounders..... "	79,479	0	05			4,128	53
Frost fish or Tom cods..... "	2,570,870	0	05			128,543	50
Oysters..... Brls.	14,700	4	00			58,800	00
Clams..... "	10,578			19,218	75		
do shelled or canned.....				5,180	00		
						24,398	75
Scallops, fresh or canned.....						1,750	00
Sturgeon..... Lbs.	25,000	0	07	1,750	00		
do caviare..... "	3,800	0	17 $\frac{1}{2}$	665	00		
						2,415	00
Coarse and mixed fish..... Brls.	23,152					46,714	00
Seal skins..... No.	21					29	00
Fish oils..... Galls.	70,572					30,006	65
do as bait..... Brls.	94,759					142,138	50
do as manure..... "	80,172					40,086	00
do guano..... Tons.	635					15,875	00
Total for 1896.....						4,799,433	46

APPENDIX No. 5.

PRINCE EDWARD ISLAND.

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND FOR 1896,
BY INSPECTOR OF FISHERIES S. F. PERRY.

TIGNISH, P.E.I., 8th February, 1897.

Honourable L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report on the fisheries of this province for the season just closed.

The fisheries generally along the coast of Prince Edward Island, with the exception of herring, may be considered below the average of other years.

HERRING

appeared generally the first week of May, and catches were good all along the north side, but they were scarce on the south side. Altogether enough of these fish were secured for home consumption, the most of them being used for lobster and mackerel bait, and about 5 per cent for food.

LOBSTERS.

The work of fishing and canning commenced early in May. The quantity canned shows a decrease as compared with other years, notwithstanding that some new factories were added. More boats, traps and men were employed than in former years, which goes to show that this once great industry is falling off.

The close season was fairly well observed from the West Point round by the North Cape to Malpeque on the north side.

At lot 7, on the west shore, some of the fishermen and packers fished and packed till the latter end of September. The guardians kept patrolling along the shore until they succeeded in prosecuting and convicting four of these parties. There was also some illicit fishing and packing along Egmont Bay and other points on the south side, which in some cases is done at night and in the woods. It is a matter of great importance that the regulations should be strictly enforced. The general impression among packers and fishermen is that short season and most rigid enforcement of the regulations are the only means of protecting this industry.

COD.

This fishery is not carried on to any large extent by our fishermen. At the time that the cod make their appearance the fishermen generally are employed fishing lobster, and about the first week in July, when the mackerel appear, they turn their attention to that fishing. The boats which are used for lobster and mackerel fishing are of a small size and not fit to follow the cod on the banks. There is no doubt cod fishing would be remunerative if properly prosecuted. Over one hundred large boats come from Gloucester County, N.B., every year and fish off the North Cape, about ten miles off the land. They report doing well. They also catch

Marine and Fisheries—Fisheries Branch.

a large quantity of fall herring which are equal in quality to Labrador herring. These large boats take refuge in stormy weather in Tignish harbour, and often close the mouth of the harbour so that our small mackerel boats cannot get out for the morning fishing which is a drawback to our own people.

MACKEREL.

These fish were caught first about the first week of July in small quantities but a very large size, and kept scarce all the season; in fact no big catches were reported and the mackerel fishing season ended as it commenced with very poor results. The general impression among fishermen is that no mackerel nets, nor seines or traps should be allowed, and no other mode of fishing mackerel should be allowed only hook and line. They claim that the bait that is used to catch them tends to keep the fish on the ground.

The failure of mackerel fishing is severely felt by our fishermen and the merchants who supply them.

OYSTERS.

Oyster fishing commenced on the 15th September and was actively carried on as long as the weather permitted. At the outset several fishermen used drags, but the department at once forbade them. The fishery staff had a good deal of trouble in stopping them, indeed the officers deserve a good deal of credit for the way in which they behaved, and after punishing several of them the season closed with no drags in use. People who pretend to know say that drags and spring fishing are injurious; they also believe that fishing oysters should not begin till the first of October. The catch in Richmond Bay is falling off from year to year, and unless the regulations are strictly enforced this industry will ultimately be destroyed.

SMELTS.

Smelt fishing has been prosecuted vigorously this season and the catch a fair average one. No illicit fishing is reported.

TROUT

are caught in small quantity for home consumption; the rivers are well guarded and no poaching is reported so far. Dunk River is well protected by guardians and all seems to be satisfactory.

The yield of the fisheries of this province is disposed off as follows:—

Salmon.	—95	per cent	for home consumption.
“	5	“	exported to the United States.
Herring.	—All	used for home consumption for lobster and mackerel bait.	
Lobster.	—35	per cent	exported to Europe.
“	45	“	to United States.
“	20	“	used in Canada.
Cod.	—50	“	for home use.
“	50	“	sold in Canada.
Hake.	—70	“	home consumption.
“	30	“	sold in Canada.
Smelts.	—95	“	exported to United States.
“	5	“	home consumption.
Oyster.	—90	“	sold in Canada.
“	10	“	home consumption.

I have the honour to be,

Your obedient servant,

S. F. PERRY,
Inspector of Fisheries.

Marine and Fisheries—Fisheries Branch.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—Prince Edward Island
—Continued.

Number.	DISTRICTS.	KINDS OF FISH.										FISH PRODUCTS.			TOTAL VALUE. \$ cts.	Number.			
		Hake, dried, cwt.	Hake, sounds, lbs.	Haddock, cwt.	Trout, lbs.	Hallbut, lbs.	Smelts, lbs.	Alwives, brls.	Oysters, brls.	Clams, brls.	Refs, brls.	Squid, brls.	Tom Cod or Frost Fish, lbs.	Coarse and Mixed Fish, brls.			Fish Oils, galls.	Fish used as bait, brls.	Fish Guano, tons.
<i>King's County.</i>																			
1	Souris and Red Point.....	2650	6000	.....	700	.....	.....	.....	125	15	30	500	700	.....	2150	1200	60	40,697 76	1
2	Annandale (for Dundas).....	2000	4500	.....	2000	.....	7000	.....	.....	10	10	.....	.....	.....	1725	3000	200	55,981 68	2
3	Bay Fortune.....	320	640	.....	2500	.....	1500	.....	60	15	.....	.....	.....	.....	350	550	.....	12,156 96	3
4	Georgetown.....	725	1450	.....	.....	.....	500	.....	75	.....	1000	.....	.....	.....	720	1000	30	39,356 72	4
5	Murray Harbour, North.....	1200	2400	.....	6000	.....	2000	.....	.....	50	.....	1000	.....	.....	1100	2500	.....	33,902 66	5
6	Murray Harbour, South.....	2800	5800	.....	.....	.....	.....	.....	.....	20	6	1000	.....	.....	2800	3500	75	52,643 44	6
7	Morell and St. Peter's.....	2300	4800	.....	6000	.....	2000	.....	.....	4	.....	.....	.....	.....	3400	3500	40	79,178 24	7
8	Naufrage.....	50	125	.....	50	.....	500	.....	.....	20	.....	1000	.....	.....	370	850	30	21,498 74	8
9	North Lake.....	100	200	.....	3000	.....	1000	.....	.....	5	.....	.....	.....	.....	125	650	50	16,335 28	9
10	East Lake.....	.....	.....	.....	3000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12,767 76	10
Totals.....		12095	23915	75	18200	1000	11500	350	15	260	139	46	3500	700	13150	10750	515	.....	.....
Values.....		36285	12958	263	1820	100	575	1400	60	780	834	184	175	1400	5260	25125	5150	370,519 24	.....

Marine and Fisheries—Fisheries Branch.

RETURN showing the Kinds and Quantities of Fish and Fish Products, &c., Prince Edward Island—Continued.

Number.	Districts.	KINDS OF FISH.										FISH PRODUCTS.			TOTAL VALUES			
		Mackerel, fresh or preserved, in cans, lbs.	Lobster, preserved, in cans, lbs.	Cod, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Smelts, lbs.	Alewives, brls.	Oysters, brls.	Clams, brls.	Hels. brls.	Tom cod or frost fish, bs.	Fish oils, gals.	Fish used as bait, brls.	Fish guano, tons.	\$	cts.	Number.
<i>Prince County.</i>																		
1	Tignish.....	7680		438	300	400											1	32,169 10
2	Nail Pond.....			250	35												2	12,909 50
3	Frog Pond.....			430	225	400											3	21,776 00
4	Munnigash.....			738	755	1165											4	17,416 70
5	Alberton.....		46600	270													5	16,514 50
6	Narrows and Lot 11.....		27128	30					137	7							6	8,032 92
7	Ellerslie Lot 12.....		34560	1000	400				1600	30	1						7	26,676 40
8	Grand River.....		10560	210					32000								8	15,423 40
9	Malpeque.....		57000	40					12000								9	41,514 00
10	Richmond Bay.....								100								10	32,324 08
11	Roxbury Lot 6.....		12912	40					6000	2	100						11	4,071 50
12	Fifteen Point.....		268416	206					17000	112							12	49,068 24
13	Brae.....								14000		5						13	4,619 00
14	West Point.....		9600						290	10							14	32,488 00
15	Traveller's Rest.....		3500						50000								15	19,671 00
16	Carleton.....		70464						64000								16	20,404 96
17	Summerside.....								22000								17	1,100 00
18	Tryon.....		106569						10900								18	20,436 96
	Totals.....	11180	740609	3652	1715	1965	248600	10	18842	26	176	100	3213	13666	552			376,616 06
	Values.....	1342	103686	16434	5145	982	12430	40	75368	78	1056	5	1285	20349	5520			

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Quantity and Value of all Fishing Materials, &c.—
 Prince Edward Island, for the Year 1896.

DISTRICTS.	FISHING VESSELS AND BOATS.										FISHING MATERIALS.									
	Vessels.					Boats.					Gill-Nets.		Seines.		Trap-Nets.		Trawls.		Smelt-Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1 King's	6	202	\$ 3800	32	751	12935	1575	43320	\$ 17250							237	2955	9	180	
2 Queen's	5	138	4000	29	422	14934	851	13540	4481	15	6250					54	730	38	1110	
3 Prince	6	153	4250	25	896	27682	2242	29349	10989	3	600	900	1	500	105	2805	77	1640	3	
Totals.	17	493	12050	86	2069	55551	4068	86209	31820	18	6550	4750	1	500	396	6490	124	2930		

DISTRICTS.	LOBSTER PLANT.				OTHER FIXTURES USED IN FISHERIES.				KINDS OF FISH.													
	Canneries.		Traps.		Freezers and ice-houses.		Smoke and fish-houses.		Piers and wharves.		Tugs steamers and smacks.		Herring, fresh, lbs.		Herring, smoked, lbs.		Mackerel, fresh, lbs.		Mackerel, salted, brls.		Lobsters, preserved in cans, lbs.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1 King's	42	38260	67655	40535					18	14750	2	6400	22075	500	200	11080	936	725391	1			
2 Queen's	47	28675	44755	23087				8	9900			6435	52275	500	537	562709	537	562709	2			
3 Prince	85	45188	106695	53810	2	140	5	155	26	24650	2	6400	21173	1000	200	11180	2686	740609	3			
Totals.	174	109123	219105	117432	3748	2	140	5	155	26	24650	2	6400	49083	500	11080	4159	2028709				

Marine and Fisheries—Fisheries Branch.

RECAPITULATION showing the Quantity and Value of Fish, &c.—Prince Edward Island, for the Year 1896.—Continued.

DISTRICTS.	KINDS OF FISH.														FISH PRODUCTS.				TOTAL VALUE.	Number.	
	Cod, dried, cwt.	Cod, tongues and sounds, brs.	Haddock, dried, cwt.	Hake, dried, cwt.	Hake, sounds, lbs.	Hallbut, lbs.	Trout, lbs.	Smelts, lbs.	Alwives or Raspe-reau, brs.	Clams, brs.	Reis, brs.	Oysters, brs.	Tom-cod or frost fish, lbs.	Squid, brs.	Coarse and mixed fish, brs.	Fish-oils, galls.	Fish used as bait, brs.	Fish used as manure, brs.			Fish guano, tons.
1 King's.....	14240	.....	75	12095	25015	1000	18200	11500	350	280	139	15	3500	46	700	13150	16750	.....	15	370 519 24	1
2 Queen's.....	4925	.....	235	.....	40	1100	6225	419100	530	275	345	11357	200	105	.....	2400	3600	125	723	228,990 51	2
3 Prince.....	3652	.....	1715	.....	1965	.....	.....	248600	10	26	176	18842	100	.....	.....	3213	13666	.....	552	376,616 06	3
Totals.....	22817	1	1230	14045	27920	2100	24425	673200	890	561	660	30214	3800	151	700	18763	38916	125	1790	976,125 81	

RECAPITULATION

SHOWING Yield and Value of the Fisheries in the Province of Prince Edward Island, during the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.		Total Value.
		\$	cts.	\$	cts.	
Salmon, preserved in cans..... Lbs.	500	0	15			75 00
Herring, salted..... Brls.	49,683	4	50	223,573	50	
do fresh..... Lbs.	53,275	0	01	532	75	
do smoked..... "	200	0	02	4	00	
						224,110 25
Mackerel, fresh..... "	11,680	0	12	1,401	60	
do salted..... Brls.	4,159	14	00	58,226	00	
						59,627 60
Lobsters..... Lbs.	2,028,709	0	14			284,019 26.
Cod, dried..... Cwt.	22,817	4	50	102,676	50	
do tongues and sounds..... Brls.	1	10	00	10	00	
						102,686 50
Haddock, dried..... Cwt.	1,230	3	50			4,305 00
Hake, dried..... "	14,045	3	00	42,135	00	
do sounds..... Lbs.	27,920	0	50	13,960	00	
						56,095 00
Halibut..... "	2,100	0	10			210 00
Trout..... "	24,425	0	10			2,442 50
Smelts..... "	679,200	0	05			33,960 00
Alewives..... Brls.	890	4	00			3,560 00
Clams..... "	561	3	00			1,683 00
Eels..... "	660	6	00			3,960 00
Oysters..... "	30,214	4	00			120,856 00
Tom cod or frost fish..... Lbs.	3,800	0	05			190 00
Squid..... Brls.	151	4	00			604 00
Coarse and mixed fish..... "	700	2	00			1,400 00
Fish oils..... Galls.	18,763	0	40			7,505 20
Fish as bait..... Brls.	33,916	1	50			50,874 00
Fish as manure..... "	125	0	50			62 50
Fish guano..... Tons.	1,790	10	00			17,900 00
Total for 1896.....						976,125 81
do 1895.....						976,836 64
Decrease.....						710 83

Marine and Fisheries—Fisheries Branch.

RECAPITULATION

SHOWING the Number and Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of the Province of Prince Edward Island, season 1896.

Number.	Articles.	Value.	Total Value.
		\$	\$
17	Vessels, 493 tons (86 men)	12,050	
2,069	Boats (4,668 men)	55,551	
86,209	Fathoms gill-nets	31,820	
18	Seines, 6,850 fathoms	4,750	
1	Trap net.....	500	
396	Trawls	6,490	
124	Smelt nets	2,930	
			114,091
174	Canneries (3,748 hands).....	109,123	
219,105	Lobster traps.....	117,432	
			226,555
2	Ice-houses.....	140	
5	Smoke-houses and fish-houses	155	
26	Piers and wharfs	24,650	
2	Steamers and smacks.....	6,400	
			31,345
	Total value.....		371,991

APPENDIX No. 6.

Q U E B E C .

REPORT ON THE GULF OF ST. LAWRENCE FISHERIES, FOR THE YEAR 1896, BY COMMANDER WM. WAKEHAM, INCLUDING SYNOPSES OF THE LOCAL OVERSEERS' REPORTS OF THE WHOLE PROVINCE.

GASPE BASIN, 2nd January, 1897.

The Honourable

L. H. DAVIES,

Minister of Marine and Fisheries.

SIR,—I beg to present the report on the fisheries of the Gulf Division, together with synopses of the reports of the various local fishery officers, and the statistics of the catch for the season of 1896.

These returns show a considerable gain in the total value of the fisheries, calculated at the usual rates, as compared with the previous season. As a matter of fact, however, though there was in many branches of the fishery an increase in the catch, the prices actually obtained were lower than usual, and exporters have not done as well as in previous years when the actual volume of the fishery was much smaller.

The completed statistics show that in 1896 the value of the catch, computed at the same rates as in 1895, was \$1,674,586.03—while in 1895 we had a yield estimated at \$1,518,829.43—being a gain of \$155,756.60 for the year just closed. The leading branches of the fishery are dealt with under separate heads.

COD.

Cod-fishing began early, and on the south shore the yield of the summer fishery, which closes about the 15th August, was a fair average. On the north shore, west of Natashquan, during the same season, cod were not as abundant as usual, in fact at the extreme western end of this coast, from Moisie to Manicouagan, the summer fishery was almost a complete failure. Strong westerly winds prevailed, as a result the bait was kept off shore, and the cod naturally followed, while the boats were frequently for many days in succession unable to venture out. At and below Natashquan going east as far as St. Mary's Islands, cod were more than usually abundant, and large catches were made by such vessels as were fortunate enough to have followed the fishing on this part of the coast. In the neighbourhood of Cape Whittle several Nova Scotia vessels secured fares of over 1,200 cwt. each in three weeks. Below St. Mary's on down to Blancs Sablons, the fishery was irregular, the schools only striking

Marine and Fisheries—Fisheries Brauch.

in here and there and never holding long at one point. At Blancs Sablons and on down through the Straits of Belle Isle the fishery was unusually good, the harbours and coves being sometimes literally blocked with fish. It was generally considered that the presence of this enormous volume of cod in the straits was due to an ice blockade of the outer Labrador Coast, which prevented the bulk of the fish from passing on down to the north, and turned them into the straits. As the fishing on many parts of Big Labrador was a failure there would seem to have been some ground for this conclusion.

Cod were very abundant during the season of the fall fishery, which begins with September and ends with October, but unfortunately the weather was rough, and comparatively little fishing could be done. Many boats were either destroyed, or damaged by being washed ashore from, or broken up on their moorings. This was particularly the case at Percé where on the night of the 1st of October over 40 boats were either totally lost, or so damaged as to have been rendered useless for the balance of the season. Immediately prior to this storm the boats had been taking all the fish they could handle.

These constantly recurring losses speak more loudly than words, as to the necessity for furnishing at the large fishing centres some shelter for the fishing boats, and though such a complete loss of property as that which occurred at Percé appeals more directly to our sympathy, it should be understood that it is a mere bagatelle compared to the losses which are constantly happening owing to the lack of the necessary shelter along a large part of the coast, as on the slightest appearance of bad weather the boats are either afraid to venture out at all, or if actually on the fishing grounds are obliged to up anchor and run before completing their trips so as to reach shore and be beached before the sea has had time to make. The act of beaching a heavy boat in rough weather is one which no matter how carefully or skilfully done always causes strain and injury; then again when the boats are once ashore and hauled up several days are lost before they can be launched again and re-balasted, for though a boat may be beached with a heavy swell on shore, it requires absolutely smooth water to relaunch her. It is safe to say that at an exposed station like Percé one-fourth of the fishing season is lost in this way, and the same causes operate to a greater or less extent at all stations where there are not secure harbours. This want of shelter operates against the fisherman and the fishing interests in still another way, as owing to the necessity for beaching the boats, they have to be built as slightly as possible, and their size has to be kept down so that they may be easily handled, and quickly run up on the beach—as a consequence we have a class of boats that is too small to carry on the fishery to advantage, they can not hold enough—they cannot venture far enough to sea to reach the outer banks, which they should be able to fish, when the inshore fishing is slack—so that generally speaking they are not as able, safe, solid and comfortable as they should be. It is of course quite out of the question to build breakwaters at all the points where they are asked for—but at certain central stations, to be selected by impartial experts, harbours of refuge should be provided at which the boats could rendezvous and be kept afloat. Protecting the fisherman from loss, and enlarging the field of his operations means cheapening the cost of his product. Our fishing industry never required this assistance as much as it does to-day when owing to a variety of circumstances our exporters are practically shut out from all of their usual markets. In Spain, Portugal, and throughout the Mediterranean the heavily bountied French fish has driven us out, while in the most of the South American and West Indian markets what between the heavy duties, and the impoverished condition of the people, due to the constantly recurring civil wars, it is impossible to dispose of our dry codfish at anything like a profit.

SALMON.

The salmon fishery of 1896 has been one of the best of recent years, salmon were everywhere abundant. The following table which gives the annual catch for the past 20 years shows very clearly the flourishing condition of the fishery :—

Year	Quantity lbs.
1877.....	873,553
1878	1,175,160
1879.....	903,856
1880.....	469,140
1881.....	364,065
1882.....	452,707
1883	489,975
1884.....	556,858
1885.....	652,098
1886.....	496,612
1887.....	638,321
1888.....	622,907
1889.....	556,817
1890.....	568,854
1891.....	638,077
1892.....	672,740
1893.....	658,280
1894.....	756,181
1895.....	569,136
1896.....	933,517
Total.....	12,848,854

By the above table it is shown that only once during the past 20 years has the catch of 1896 been exceeded, and that while from 1877 to 1886, the total catch amounted to 6,234,024 lbs. during the last 10 years from 1887 to 1896 it has amounted to 6,614,830 lbs. thus maintaining an even improved average. These figures are fairly accurate, and are certainly under rather than over the mark, they do not include the angler's catch, the returns of which are not regularly made to us. In connection with this, it should be borne in mind, that sport fishing for salmon has greatly increased, at least twice as many rods being fished now as we had in 1877. This condition of the salmon-fishery has been maintained in the face of a slight increase in the number of net fishing stations. During recent years we have succeeded in removing a great many nets from some of the overcrowded estuaries. This has been done in some rivers by cancelling, and not renewing, the stations of those who have left the coast, or in the event of the death of the holder of more than one license, the issuing of not more than one to his successor. In other rivers such as the Grand Cascapedia, Grand River and St. John's, the estuary nets have been bought out by the anglers, that is to say, by an arrangement between the net fisherman and the anglers, the former have agreed not to fish their stations, for which they continue to be licensed, and for so doing they are paid by the anglers an amount equal to the annual net yield of the station, the department agreeing not to issue any new licenses in estuaries where this arrangement is made. This seems to be a perfectly fair arrangement, and one that works well for all parties, under it the holder of the estuary license is fairly recouped for the loss of his fishing, the anglers gets a greater run of fish in the river, with the holder; of the outside net stations are making larger catches. There is no doubt that under this arrangement a larger number of breeding fish survive in the rivers, and in the rivers where it has been adopted the fishing has most decidedly improved.

Marine and Fisheries—Fisheries Branch.

Between Cape Whittle and Blancs Sablons, it was noticed that while there was a scarcity of large salmon there was a heavy run for small fish which passed through the ordinary 5-inch gill-net used on that part of the coast. By the above it will be seen that we are fairly holding the balance as regards the salmon-fishery, a most unusual occurrence as regards any fishery. I would therefore strongly urge especially as my connection with the gulf fishery has been closed, that no change be made in the present method of dealing with the fishery, that is, that the number of the estuary nets be everywhere kept down—that the arrangement under which anglers are encouraged to buy out estuary nets be continued, and that the number of salmon-net stations be nowhere increased beyond the present limit.

LOBSTERS.

The lobster fishery shows a slight increase over that of 1895—this is, however, entirely due to an increase in the number of traps fished; the following table shows this:—

	No. of traps fished.	No. of lbs. canned..
1895.....	88,036	1,002,492
1896.....	94,551	1,158,822
Increase in 1896.	6,515	156,330
	6,515	156,330

The number of lobster canneries is steadily increasing and lobsters are being fished far off many parts of the coast which it was not considered profitable to fish in the early days of the industry. A number of new canneries will be put up during the coming Spring, along the south shore of the gulf, in that part of the county of Gaspé, west of Cap des Rosiers.

If it is at all desirable that the lobster should be preserved from extinction, the time has surely come when some active measures should be taken to greatly restrict the fishery. We absolutely control the market, as with the increased size limit now in force all along the New England coast, the canning of lobsters there has been practically prohibited. This being the case, I think we are fully justified in either increasing the size limit, and seeing that the rule was enforced, or in greatly restricting the amount of fishing.

There is an unlimited demand for canned lobsters, the price is steadily rising, lobsters are not canned anywhere outside of the Dominion. So that we furnish the sole supply, and have no outside competition to fear. Under these circumstances, and viewing the present exhausted condition of the fishery, the time has arrived when means should be taken to put a stop to the destructive methods now practised. If we greatly reduce the output, and insist on more care in the preparation of the canned article, the price will rise in proportion, and I cannot see that either canners or fishermen will suffer by the restriction, while the future of the industry will be secured.

HERRING.

The catch of herring was a little better than in 1895. Spring herring were abundant all over the gulf, they were however only taken for bait or manure. A large trade was at one time carried on between several of our gulf ports and Boston in this cheap Spring herring, but the imposition of the duty on salted fish which followed the abrogation of the Reciprocity Treaty, at once put an end to it. At present the market for salted summer and Fall herring is confined to the province of Quebec, but were more care taken in the curing and barrelling of the fish, and a proper inspection insisted on, the demand for it would be increased and extended.

MACKEREL.

The catch of mackerel shows a still further falling off, the statistics giving us only 6,835 brls. as against 7,653 in 1895. Much disappointment was felt among the fishermen at this result, as from the presence in 1894 and 1895 all over the gulf of immense schools of young mackerel, a better fishery had been hoped for in 1896. Complaints continue to be made by the Magdalen Island fishermen that their hook and line fishery for mackerel is greatly injured by the immense fleets of gill-nets fished by foreign vessels all round the island. They suggest as a remedy that no mackerel gill-nets should be allowed to be fished between the 15th July and the 1st October.

SMELTS.

The smelt-fishery continues to increase, especially in the estuary of the Restigouche where a very extensive bag-net fishery, is prosecuted under the ice in January and February. This fishery which has only been introduced during recent years, gives employment to quite a number of men who would otherwise find it difficult to get employment during the Winter season. Sometimes enormous catches are made, instances being given of men clearing two hundred dollars after only a few days fishing. These are of course exceptional instances, but on the whole good wages are made. Smelt are found abundantly, in most of the north shore rivers, but at the season when they could be taken, navigation is closed and it is impossible to get the fish to market.

SEALS.

The return of the seal hunt shows that about the same number of skins was taken as in 1895. The great falling off in the value of the oil does not encourage our fishermen to prosecute the seal hunt at the ice in March and April as vigorously as they used to when the oil was worth more than double as much per gallon as it now is. As the vessels required for the ice work need to be specially built and fitted for it, it has followed that as they become worn out, or are lost, they are not replaced. Seals have undoubtedly increased in the Gulf and a number of vessels from Newfoundland made good fares last spring between Rich Point and the East end of Anticosti.

BAIT.

The bait fishes such as herring, capelin, squid and lance show no falling off; they may occasionally miss at one point, and be more than usually abundant at another, but on the whole it cannot be said that bait is not as plentiful as ever it was.

With some few exceptions, which have been duly reported by the local officers from time to time, the fishery laws and regulations have been well observed.

It having been decided that I am no longer to have charge of the gulf fisheries, I desire to tender my sincere thanks to all those, both fishery officers, fishermen, and others, who have during the past eighteen years done so much to make my work easy and pleasant. The condition of the gulf fisheries, and more especially of the salmon fishery with which our *regulations* have most to do, is the best evidence of the care and fairness with which these have been observed and administered.

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SYNOPSIS OF THE REPORTS OF LOCAL OFFICERS,

BONAVENTURE COUNTY.—RESTIGOUCHE SUBDIVISION.

Overseer Verge reports a greatly increased catch of salmon. The figures being for 1895, 40,362 lbs., and for 1896, 82,291 lbs., or more than double. The fly-fishing on the upper waters of the Restigouche River was also exceptionally good.

There was also a considerable improvement in the smelt-fishery, the returns showing 739,630 lbs. compared with 577,558 lbs. in 1895. So far these enormous catches of smelt do not seem to have in any way affected the Spring run of spawning fish, as during the spawning season in the Spring smelt were actually more abundant than they have been for fifty years past. There can be no doubt that this condition is solely due to the prohibition of Spring fishing, at which season, until quite recently, farmers had been in the habit of taking large quantities for manure.

Mr. Verge favours allowing the fishermen to begin the smelt-fishing at an earlier date than the 1st of December. An extension at the end of the season he does not favour, as by this time smelts have fallen off in value, and the weather is getting so mild that many fish are lost or spoiled in transit. Neither dealer nor fisherman really benefit by the Spring extension.

The fishery regulations were generally well observed, with the exception of certain cases which were duly reported to the department.

CARLETON SUBDIVISION.

Overseer Dagneau reports the salmon catch as being one-third greater than that of 1895. Cod were scarce in the summer, but abundant in the fall. However, very little fishing was done, as late in the season when the fish were abundant, the weather was too rough to allow the boats to get out to the fishing grounds. No violations of the fishery regulations were reported.

BONAVENTURE SUBDIVISION.

Overseer Smith reports a decided improvement in the salmon fishery, the catch being the best of recent years. Lobster-fishing began during the first week of May. Three canneries were operated, and the pack was slightly greater than that of last year. Spring herring were abundant all along shore in the division. Cod-fishing was fair all through the season up to the last week in October, when the weather became too rough to continue fishing. The fishery regulations were well observed.

PORT DANIEL SUBDIVISION.

Overseer Ross reports the cod-fishery as showing an improvement over that of last season, but the prices received by the fishermen were much lower than they have been for years. Herring-fishing was about the same as usual. The lobster pack is slightly increased, but this is due to a fine fishing season and an increased number of traps. The salmon catch was about an average. The close seasons were well observed and no abuse of the fishing regulations were reported.

GASPÉ COUNTY.

GRAND RIVER SUBDIVISION.

Overseer Jones reports a slight increase in the catch of cod during the early part of the season the fishing was excellent, but towards the fall, owing to rough weather, the fishing fell off greatly. The lobster-fishery was not as good as in 1895,

and although the return shows a larger yield, this was due to a considerable increase in the number of traps. Salmon-fishing was better than in 1895, but the herring catch was not up to the average.

GASPÉ SUBDIVISION.

Overseer Annett reports all kinds of summer fishing as having been good. Cod shows an increase of 9,095 cwt., though owing to rough weather the fall fishing was a failure. Salmon net-fishing shows a large increase, being 62,648 lbs. in excess of that of 1895. Herring shows a falling off; this was due to the failure of the Fall fishing owing to rough weather. Lobster-fishing was almost exactly the same as that of 1895, but the number of traps was increased. Very few mackerel were caught, and very few were seen anywhere about the coast. Smelt-fishing was good, showing an increase of 11,757 lbs. Two parties were fined for illegal salmon-fishing; with this exception the regulations were well observed.

FOX RIVER SUBDIVISION.

Overseer Theriault presents no report concerning his subdivision, and it may be stated that the summer cod-fishery was good, but owing to the heavy weather in the Fall this fishery failed. Very little salmon netting is done in this subdivision as only one small station is fished. One lobster cannery fishing 500 traps was established at Fox River Cove; the catch was good and the lobsters of large size. This was the first season that any attempt to take lobsters, save for domestic use, was ever made west of Cape Gaspé. It is proposed to establish a number of canneries next year, as the fishermen report lobsters to be abundant.

MONT LOUIS SUBDIVISION.

Overseer Lemieux reports the Summer cod-fishing to have been about as usual, but during the Fall the fishing failed completely owing to bad weather. Herring were abundant all through the season. Salmon were more abundant than usual. Mackerel were not seen on the coast. White porpoises did not visit the coast to the same extent nor as often as usual; they have usually been blamed for driving the fish off, but their absence this season does not seem to have mended matters.

STE. ANNE DE MONTS SUBDIVISION.

Overseer Sasseville reports the cod-fishing to have been smaller than usual, though about the same number of men carried on the fishery. There is no doubt this fishery is failing in the river. Herring were very abundant, some 2,000 barrels having been put up. Salmon-fishing was a failure, only a few stations were fished, and at these, owing to heavy weather during the season of fishing in June, the nets were more often ashore than afloat. Fly fishing in the Ste. Anne's River was excellent, 350 salmon averaging 20 lbs. were landed with the rod. No mackerel were seen on the coast, and capelin were scarce. Fishery regulations were well observed.

MAGDALEN ISLANDS SUBDIVISION.

Overseer Chevrier reports that the sealing vessels at the ice in April did badly. Seals were also scarce on the inshore ice. The spring herring-fishery was poor at the opening of the season, owing to rough cold weather keeping the fish off shore; later, however, the fish came in. The local fishermen did not do as well as usual owing to the presence of a trap-net which caught fish all the time, and provided the cod-fishing vessels with the bait they wanted. Mackerel-fishing was not as good as usual. The general impression among the local fishermen is that the setting of such

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large numbers of gill-nets round the islands from vessels has caused this decrease; they also believe that the practice of dressing the fish on the grounds is hurtful. Mr. Chevrier's opinion is that no mackerel gill-nets should be allowed in the water between the 15th of July and the 1st of October. The cod-fishery was better than last year. The lobster canning returns show an increased pack; this was due to a considerable increase in the number of canneries and the amount of gear fished. Mr. Chevrier reports that considerable illegal lobster canning was carried on in spite of all that the local guardians could do; many traps were destroyed. He states that the most effective way of stopping this fishing during the close season for lobsters, is by keeping a cutter on the station.

SAGUENAY COUNTY.

POINTE DE MONTS SUBDIVISION.

Overseer Comeau reports the fishing season as having been unfavourable, owing to the prevalence of high winds, chiefly from the north and north-west, which had the effect of driving the bait off shore, a scarcity of cod and herring naturally followed. The salmon catch was however remarkably good, the season of 1896 being one of the best on record, the exact figures showing that 30,758 were caught in 1895 and 77,638 lbs. in 1896, and these figures do not include the anglers catch. The weather was not in the fishermen's favour, and many days were lost to them owing to the damages sustained by the nets. Salmon were abundant in every river in the subdivision, the increased numbers in the pools could be easily noted. Mackerel were scarce and none were seen near shore. Immense numbers of white porpoises were seen at various times during the season, a few were shot but no regular hunt was made for them. The Winter seal hunt was good, the total number killed being above the average. Smelts were abundant, but owing to the want of communication during the season at which they could be taken—November—the catch is limited to the local requirements. Pearl fishing is being carried on to a considerable extent in some of the salmon rivers, and some regulations are required to control it, as the salmon are disturbed on the spawning beds, and in some cases the ova are raked over and destroyed. The pearls are found in the fresh water mussels which exist in all the streams. Angling for salmon and trout was good on all the rivers in the subdivision, the catches being above the average.

MOISIE SUBDIVISION.

Overseer Migneault reports that salmon-fishing began on the 20th of May and closed on the 23rd July. The catch was exceedingly abundant the returns showing a yield of 223,122 lbs., or an increase of 81,320 lbs. over the preceding year. Between the 15th June and the 9th July, 449 salmon were taken on the Moisie River with the fly, and when the anglers left fish were still rising freely. The sea shore salmon netters did poorly owing to the rough weather, as their nets were frequently washed ashore. Cod-fishing was poor—this was largely due to the fact that the capelin kept off shore, in fact both herring and capelin were forced to keep in deep water owing to the constant strong winds. As the cod-fishing in the Moisie Subdivision is carried on close inshore this absence of the main baits on the regular fishing grounds was necessarily followed by a poor fishery. The mackerel fishery was a complete failure, it has now been five seasons since any mackerel were seen on this part of the coast. Times are very hard on the coast owing to the failure of the cod-fishery.

MINGAN SUBDIVISION.

Overseer DuBerger reports the yield of the cod-fishery to be 8,850 cwt. short as compared with 1895, this is in part due to the fact that fewer boats from the south shore were engaged in the fishery. Owing to the failure of foreign markets the large fishing firms are not anxious to handle too much fish. Salmon net fishing was

excellent, 73,900 lbs. being taken as compared with 22,000 lbs. in 1895; there was also increase of 47 brls. in the salted catch. The Spring seal hunt, though a long way below the former average, shows for this year an increase of 1,230 skins, and 5,210 gallons of oil, over the yield for 1895. The catch of herring was a failure, this is due to the absence of the usual fall run of herring on the coasts of Labrador and Newfoundland, the vessels from Esquimaux Point which go down to the straits of Belle-Isle to prosecute the Fall herring-fishery returned with only 370 brls. in all. Mr. Chevrier is anxious that certain repairs should be made to the hut in which he lives at Mingan, the hut being owned by the department.

NATASHQUAN SUBDIVISION.

Overseer Gaudin reports the Spring seal-fishery as being only a medium one—the fishermen in the schooners reported the seals plentiful, but the ice conditions were such that they could not reach them. The salmon-fishery has been the best for the past 10 years. The improvement was in the catch made in the estuaries of the Natashquan and Agwanus rivers, the ordinary nets on the sea shore which are more exposed only made an average catch. The anglers on the Natashquan did well, 4 rods having killed 250 fish in about three weeks. Lobster canning was carried on in a small way by two movable canneries. The cod-fishery though late in beginning was exceedingly good, and lasted longer than usual, the catch was more than double that of 1895. The late beginning of the fishing was due to the fact that the capelin only struck in on the 23rd June. Herring were scarce throughout the season. The fishery laws were well observed and no fines imposed.

ST. AUGUSTIN SUBDIVISION.

Overseer LeGouvie furnishes no report. It may however be stated for this subdivision, that the cod were very unevenly distributed, being unusually abundant at the western end of the subdivision between Romaine and Harrington, the vessels fortunate enough to be on this part of the coast during the end of June and beginning of July did wonderfully well, many of them filling up and leaving for home after only a couple of weeks fishing. Off the eastern shores of the subdivision, the fishery was a failure, the cod passing down off shore, outside the reach of the fishermen. Salmon-fishing was a failure, it was remarked by the fishermen that there was an unusual run of small salmon, fish of only five or six pounds weight. These of course would not mesh in the regulation 5 or 6-inch mesh. There is a general feeling among the resident fishermen that the salmon-fishery is being ruined by the large number of cod traps which are being fished of recent years. The sedentary seal-fishing with nets was about an average. Herring were not abundant though a few good hauls were made at Mutton Bay and Meccatina.

BONNE ESPERANCE SUBDIVISION.

Mr. Whitely reports a poor salmon-fishery; the run began about the usual time 25th June, but mature fish were never plentiful. Here as in the subdivision to the west an unusual run of small salmon was observed, and reports from north on the outer Labrador say the same condition was noted there. Cod-fishing was fully up to the average, and east of boundary in the Straits of Belle-Isle they were unusually abundant. Capelin and launce were very abundant, and no difficulty was experienced at any time during the season in getting all the bait needed for fishing purposes. All the settlers are getting traps for cod-fishing, instead of seines, these latter being very little used at present. This change of appliance benefits the hooking, as the traps being sedentary, do not worry and disturb the fish as the cod seines did. Dry cod-fish met with a ready sale, and with the exception of the usual drones all the families in the subdivision are well off for the Winter, in fact many have a year's supply of provisions ahead.

I have the honour to be, sir,
Your obedient servant,

W. WAKEHAM.

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SYNOPSIS OF FISHERY OFFICERS REPORTS IN THE PROVINCE OF QUEBEC (EXCLUSIVE OF THE GULF DIVISION) FOR 1896.

SOUTH SHORE, RIVER ST. LAWRENCE, FROM CAPE CHATTE TO POINT LEVIS.

Overseer Johnny Joncas reports cod and halibut-fishing on the south shore of the St. Lawrence a complete failure; in fact the catch returned was made on the north coast by some of their fishermen. The large numbers of belugas (white whales) prowling in that vicinity have no doubt a tendency to frighten the cod away. Herring and salmon fishing were satisfactory. Many salmon ascended the Matane River, but only fifty were caught by anglers. The fishery regulations were well observed. He suspected some parties of spearing salmon in the upper waters of Matane River, but could not secure proof of their guilt. The total value of the fisheries of Matane district are given at \$17,850, an increase of 50 per cent over that of last year.

Overseer L. E. Grondin states that salmon seemed scarce on that part of the south coast of the St. Lawrence. While sardines were not plentiful, herring was abundant and remained as late as November. Large quantities were taken to make up the deficiency in other species. Fishermen are reluctantly conforming to the regulation compelling them to have their weirs open during Sunday, but he reports progress in that respect. The fisheries yield of this district is valued at \$46,500, an increase of over 30 per cent over that of last year.

Overseer H. Martin reports a considerable improvement in the yield of salmon, shad, herring, sturgeon, and eels, and a decline in sardines and coarse fish, as compared with the previous results. The increase of nearly four thousand barrels of herring is specially noticeable. The fishery laws were generally well observed, and no infractions came under his notice. The total value of the catch of fish is computed at \$35,500, an increase of \$11,000 over that of the previous one.

Overseer Nap. Levesque states that the returns of the fisheries under his charge fell short of the average yield. This he ascribes to the stormy weather prevailing during the fishery season. About one third of the catch is consumed for local use, and the balance disposed of on the Quebec markets. The only violation reported was that of two parties caught fishing with nets at River du Loup without license.

Overseer X. Pelletier states that notwithstanding the catch of fish equals the previous one, there is no doubt that fish are generally on the decline. Salmon, shad and bar-fish formerly plentiful are now seldom seen on this coast. Sturgeon are getting scarcer every year. Sardines were rather plentiful especially at Kamouraska and St. André, where a sardine factory was in operation during the Summer, putting up nearly a thousand cases of a hundred boxes each. Eels are still abundant, and when the season is favorable large catches are effected, especially after a few days of strong north-east winds, while with high temperature and during calm weather, few are caught. The whole catch is valued at \$29,500, about the same as last year.

Overseer O. V. Beaubien reports the reappearance of shad in their waters, 50,000 lbs. being taken. As the fall was windy, the catch of eels was very good. Seining for smelts has been almost entirely abandoned. Excepting about 10 per cent used for local consumption, the catch is disposed of on the markets of Quebec City. The value of these fisheries is reckoned at \$26,430.

NORTH SHORE, RIVER ST. LAWRENCE, FROM QUEBEC TO BERSIMIS.

Overseer L. P. Huot, states that salmon-fishing was almost nil this summer. Shad shows signs of improvement, but bar, whitefish and mackerel gave the best returns. Although the catch of eels seems satisfactory it falls short of that of the previous season, which was an exceptional year. Smelts are gradually decreasing. The whole catch, valued at \$17,000, is disposed of on the Quebec market.

Overseer U. Bhereur makes no report, but returns a smaller catch than last year.

Overseer L. N. Catellier, of the Saguenay District, reports an increase of nearly 100 per cent over the previous catch of fish. It is true that the year 1895 had fallen short on account of rough weather damaging the salmon stands on three different occasions. The following figures seem to prove a steady increase for several years past:

	Lbs. of salmon.
1892.....	48,000
1893.....	68,780
1894.....	82,400
1895 ...	76,680
1896.....	146,820

This beneficial result should be at least partly credited to the distribution of fry from the Tadoussac Hatchery. It is so admitted by most of the fishermen and anglers. The different tributaries of the famous Saguenay are all reported well stocked with parent salmon. All the salmon caught in this district are shipped to Montreal and Quebec, very few being used for home consumption.

The brush weirs or fisheries are generally set in this district, for domestic use, catching mostly herring, sardines, caplin, and occasionally a few salmon. No bar-fish are ever caught in these weirs as on the south side of the St. Lawrence. The fishery laws were well observed on the St. Lawrence shore, but much illegal fishing was attempted on the Saguenay River with floating nets by proprietors of schooners and other parties roving about in small boats. As many as fourteen such illegal nets were confiscated by the patrolman guardian Wm. Mannings, but he could not detect their owners.

Mr. Catellier recommends the use of a small steam launch to properly patrol the Saguenay district, which could also be utilized for the distribution of fry and thus save a considerable amount. The total yield of this district is valued at \$32,000, an increase of \$5,000 over 1895.

INLAND DISTRICTS.

SHERBROOKE AND MEGANTIC.

Overseer John McCaw of Sherbrooke and vicinity states that Lake Aylmer, a large sheet of water in the county of Wolfe, at one time swarming with bass, doré, maskinongé, pike and whitefish, became almost depleted owing to improper fishways, illegal netting and even explosive materials, but it is now giving signs of improvement. The use of nets have been of late years somewhat checked, as a great many of them have been seized and destroyed by this officer, who says: Most of these poachers are so miserably poor that they have no money to pay the fines, and that he has been lenient with them on that account as, did he send them to jail, their families would suffer more than the culprits. He has reasoned with some of them, a few

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desisted from their nefarious practices, others promised to amend but did not do so, on the contrary repaid his kindness by destroying a splendid boat which he had to guard the lake.

River St. Francis is fed by this lake and if the dams thereon were provided with efficient fish-passes, it would be very beneficial to the lake. At one time the St. Francis was a favourite resort for salmon to spawn. Residents on the river banks between Richmond and Lake Aylmer complain that since the construction of dams, they hardly catch anything.

Lake Massawippi, in the county of Stanstead, is also a fine sheet of water, frequented by lunge, trout and whitefish, and a favourite summer resort. This lake has also been overfished, but lately a club has been organized and its members are endeavouring to protect it and restore it to its former standing.

Little Magog Lake, properly an enlargement of the Magog River, about eight miles from Sherbrooke is also becoming a summer resort. A fishing club will be organized shortly to protect its fisheries.

Brompton Lake, between the townships of Brompton and Orford, is one of the finest sporting waters in the Eastern Townships. Parties from the vicinity have been netting on the very spawning beds and have taken tons of fish therefrom. Even explosive materials have been used by poachers. He has caught two of them in the act and he hopes the lesson taught them will be beneficial.

Little Brompton Lake, a chain of ponds containing lunge and speckled trout is worthy of protection. Here also netting is carried on by well-to-do people of whom better conduct should be expected. A great many complain loudly of illegalities, but very few are willing to specify or lay the proper evidence to implicate any one in particular. The lakes in Orford and Brompton townships are alone sufficient to supply the whole of the Eastern Townships with fish food. The large amounts of money spent every season by sportsmen and tourists should suffice to interest the neighbouring community in maintaining the fisheries.

Overseer Guy Carr of the county of Compton, estimated the catch of fish at about 25,000 lbs., half of which is shipped away and the balance used for home consumption. The close seasons were fairly well observed, but he finds it almost impossible to check illegal fishing entirely. The fact that he confiscated seventeen gill-nets, one boat, and some spears, in addition to imposing a fine proves the activity of this officer. There are eight fishways all kept in good repair and order by interested parties in this division. The Sawdust Act is much abused here. Some streams are not worth protecting now as the lumber industry might suffer, but the tributaries of Massawippi Lake at least should not be contaminated by sawdust or rubbish.

MAGOG AND BROME DIVISION.

Overseer N. A. Beach who protects the east side of Lake Memphremagog reports that the catch with hook and line was an average one. This lake has become overstocked with the so-called "shad," suckers, eels, etc., since the prohibition of nets and seines, ten years ago. Resident farmers and others complain of being deprived of the privilege of using seines on certain grounds to catch these coarse fish which prey on the ova of the finer grades. Netting being allowed on the Vermont side of the lake, the Canadians naturally feel annoyed at our protecting fish for our neighbours. Some poaching was attempted and this officer seized several seines and spears.

MISSISQUOI BAY.

Overseer P. E. Luke says there seems to be considerable falling off in the catch of doré and whitefish compared with other years when seines were permitted. During the close season some of the Vermont fishermen had the narrow channel from Lake Champlain to Missisquoi Bay filled with pound, hoop and gill-nets completely

blocking it. These nets were found and confiscated by one of their officers and the licenses of the culprits cancelled. Nine-tenths of the catch of this division is shipped to New York.

RICHELIEU RIVER.

Overseer James Finley reports that most of the catch consisting chiefly of eels and coarse fish is shipped to United States. Considerable illegal fishing was carried on, as twenty-one seizures were effected by this officer.

Overseer J. O. Dion states that the water of the Richelieu River remained higher than usual, which allowed the fish to ascend the small streams to spawn. The young fry were afterwards noticed in immense quantities. Could this be continued for a few years these waters would become stocked as heretofore. Some of the fishermen, notably at St. Ours, had only a few days seining. Eels, the staple fish of this division, yielded 18,150 lbs., which are mostly shipped to United States; nearly every other kind of fish, excepting doré, shows a surplus over last year, especially pike and perch. Few infractions of the fishery laws came to his notice. A couple of individuals were discovered fishing with night lines and seines without licenses, and the respective cases duly reported.

BEAUHARNOIS DIVISION.

Overseer John Kelly reports bass, pickerel and maskinongé as more plentiful than last year, owing no doubt to the curtailment of the use of the seine and nets. Should this prohibition last a few years more, fish would again become abundant in these waters, otherwise the time will soon come when no fish will be caught with rod and line. The close season was well observed. The fishways are all kept in good repairs, and the sawdust regulations also attended to.

MONTREAL TO VERCHÈRES DIVISION.

Overseers John Morris and G. Magnan make returns of an increased catch of fish valued at \$9,700, mostly disposed of on the Montreal markets, but these officers make no remarks.

RICHELIEU COUNTY AND ST. FRANCOIS RIVER.

Overseer J. F. Picotin reports fishing poor, owing to the high water in River St. Francis. The whole catch, about 16,000 lbs. of fish, is all used for local consumption. A dam was built this year across the St. Francis above the falls, but a good fish pass was placed therein. Besides a few attempts at angling during the close time, no serious complaint reached this officer.

YAMASKA DISTRICT.

Overseer J. Charbonneau states that fishing was satisfactory for the short time devoted to it. Hook and line fishermen fared well, especially in the fall months. It would be the most profitable kind of fishing if the fish were properly protected as it is the least expensive.

Overseer D. Shoener made no report.

NICOLET DIVISION.

Overseer G. Boisvert returns an increased catch of fish consisting chiefly of shad, eels, perch, catfish and other coarse fish valued at \$4,250. More than $\frac{2}{3}$ of this yield are sold on Three Rivers markets, and the balance used at home. He experiences

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great difficulty in obtaining the individual catch from fishermen as most of them are under the impression that if the yield is small the license fees will be abolished. The principal abuse in his district is the use in secluded spots of the small meshed seine for the alleged purpose of catching bait. An officer sometimes sees these illegal seines drying on the owner's premises where he has no right to seize them. He also judiciously recommends that every licensed fishing implement should bear the same number as the license. This would enable the officer to detect illegal gear at a glance.

THREE RIVERS DIVISION.

Overseer C. Vadeboncœur states how difficult it is to get at the exact figures of the catch of fish in his district. For instance trout-fishing is carried on the numerous lakes of St. Maurice County by different residents and others who ship their catch to different localities. The same with tomcod-fishing through the ice on the St. Lawrence by residents in the vicinity of Three Rivers who do not require boats and are not ranked as fishermen.

BERTHIER, MASKINONGÉ AND MONTCALM DIVISION.

Overseer Gabriel Caron reports a slight falling off in the yield of fish as compared with previous years. The close seasons are well observed enough. Excessive netting everywhere and at all times is the worst abuse complained of. These nets not only destroy the fish eggs by moving them, but capture large quantities of immature fish which are disposed of to unscrupulous grocers, and thus a good law having for its object for the protection of fish is evaded.

TERREBONNE DIVISION.

Overseer Joseph Lauzon states that the people are beginning to realize that the fishery regulations are enacted and enforced for their benefit. The law was better respected this year than before. Anglers generally met with fair success. No violations are reported.

OTTAWA RIVER DIVISION

Overseer P. D. Chenier who has recently been appointed reports fish about as plentiful as last year, but returns a greatly decreased catch owing no doubt to a want of proper data. Fishermen complain of sawdust and rubbish being allowed to pollute the Ottawa River. When it is windy their nets become full of this debris and are thereby injured if not ruined. Mr. Chenier has been informed that the passage or entrance to Campbell's Bay becomes so shallow that ice forms almost solid to the bottom, and causes more destruction to fish life every spring than the whole catch for one year. The waters of said bay become so polluted that cattle refuse to drink it, and if holes are made through the ice an obnoxious odour emanates from them attributed to putrid fish. The passage from the bay to the river could be deepened at a comparatively small cost and thus a free outlet to fish would be established and this cause of complaint be removed. He has no contravention of the fishery laws to report.

PROVINCE OF

RETURN showing the Number and Value of Vessels and Boats engaged in the Fish of Men employed in the Fishing Industry of the County of RESTIGOUCHE SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.								
		Vessels.			Boats.			Gill-Nets.		Smelt Nets.		Seines.		Salmon, fresh, in ice.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.		Fathoms.	Value.
	<i>Bonaventure County.</i>			\$		\$			\$		\$			\$		
1	Head of Tide to Maguasha.					23	315	203	5050	5050	90	5400				82291

CARLETON SUBDIVISION

1	Maguasha and Nouvelle.					50	700	120	9000	800			7	210	80	16400
2	Carleton.					90	900	180	26000	1400			20	700	225	29700
3	Maria.					110	1300	240	48000	2100			10	350	120	36500
	Total.					250	2900	540	83000	4300			37	1260	425	82600

BONAVENTURE SUBDIVISION

1	New Richmond.					16	120	10	1200	600						
2	Black Capes.					20	140	18	2860	1740						18000
3	Capelin.					135	1600	125	6800	2760			12	300	120	
4	Bonaventure.					235	3250	280	10500	5250			56	1220	784	7000
5	New Carlisle.					35	300	35	1060	420			28	625	500	900
6	Paspebiac.					120	2100	280	1600	800			22	550	425	
	Total.					561	7510	748	24020	11570			118	2695	1829	25900

PORT DANIEL SUBDIVISION

1	Nouvelle.					40	1500	118	542	565			8	200	150	1500
2	Hopetown.					56	1200	114	980	595			8	210	260	1800
3	Shegawake.					67	680	95	880	394			2	48	60	
4	Port Daniel.					180	3500	276	3100	1905			19	430	510	41558
5	Anse aux Gascons.					183	4860	290	3600	2390			20	550	530	8726
	Total.					526	11740	893	9102	5849			57	1438	1510	53584

TOTAL FOR THE COUNTY

1	Restigouche Subdivision.					23	345	203	5050	5050	90	5400				82291
2	Carleton do.					250	2900	540	83000	4300			37	1260	425	82600
3	Bonaventure do.					561	7510	748	24020	11570			118	2695	1829	25900
4	Port Daniel do.					526	11740	893	9102	5849			57	1438	1510	53584
	Total.					1360	22495	2384	121172	26769	90	5400	212	5393	3764	244375

Marine and Fisheries—Fisheries Branch.

QUEBEC—Gulf Division.

eries, Fishing Materials, and the Kinds and Quantities of Fish, as well as the Number Bonaventure, Province of Quebec, for the Year 1896.

(Head of the Tide in the Restigouche to Maguasha).

KINDS OF FISH.													FISH PRODUCTS.			TOTAL VALUE.	Number.		
Herring, salted, brls.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, preserved, in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, cwt.	Trout, lbs.	Smelts, lbs.	Clams, brls.	Eels, brls.	Squid, brls.	Tomcod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.			Fish used as bait, brls.	Fish used as manure, brls.	$ cts.
.....	2500	3000	238843	15	60000	32,200	35 1

(Maguasha to Grand Cascapédia River).

100	1200	1	.....	.....	15	2	5	500	.....	10	6	.....	1000	10	15	18	700	4,496	00	1
400	9500	5	2544	1	8	1	2	.....	.....	8	10	.....	1200	15	10	25	1350	9,445	66	2
600	8000	10	.....	3	25	5	7	200	.....	.....	90	.....	3000	20	60	50	725	12,803	50	3
1100	18700	16	2544	4	48	8	14	700	.....	18	106	.....	5200	45	85	93	2775	26,245	16	3

(Big Cascapedia to Paspebiac Point).

60	2000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	2	500	569	00	1
70	4500	.....	.....	.....	9	.....	.....	.....	.....	5	.....	.....	.....	.....	12	3	800	4,479	80	2
800	6000	.....	22096	.....	1200	.....	.....	.....	.....	12	.....	.....	.....	.....	900	275	7000	16,545	94	3
1200	7000	.....	3408	.....	2000	6	10	.....	.....	130	.....	.....	.....	.....	1500	375	8000	22,324	62	4
150	3500	.....	.....	.....	200	.....	.....	.....	.....	12	.....	.....	.....	.....	150	60	4000	4,035	00	5
500	5500	.....	.....	.....	3900	8	100	.....	.....	250	40	.....	.....	.....	2250	525	1500	20,137	50	6
2780	28500	.....	25504	.....	6409	14	110	.....	.....	409	40	.....	.....	.....	4827	1240	21800	68,091	86	6

(Paspebiac Point to Point Macquereau).

110	.....	.....	35280	.....	295	.....	.....	.....	.....	.....	.....	.....	.....	.....	380	270	120	7,678	70	1
330	.....	.....	.....	.....	290	.....	.....	.....	.....	.....	.....	.....	.....	.....	195	320	230	3,823	00	2
310	.....	.....	13488	.....	670	.....	.....	.....	.....	.....	.....	.....	.....	.....	410	610	140	7,447	32	3
370	.....	.....	36902	.....	3280	.....	.....	50000	100	.....	.....	.....	.....	.....	850	987	695	35,070	88	4
470	.....	.....	14610	.....	2879	.....	.....	.....	.....	.....	.....	.....	.....	.....	1350	1166	450	21,375	10	5
1590	.....	.....	100280	.....	7414	.....	.....	50000	100	.....	.....	.....	.....	.....	3185	3353	1635	75,395	00	6

OF BONAVENTURE.

1100	18700	16	2500	.....	.....	.....	.....	3000	238843	.....	15	.....	60000	.....	.....	.....	.....	32,200	35	1
2780	28500	.....	2544	4	48	8	14	700	.....	18	106	.....	5200	45	85	93	2775	26,245	16	2
1590	.....	.....	25504	.....	6409	14	110	.....	.....	409	40	.....	.....	.....	4827	1240	21800	68,091	86	3
5470	47200	16	130828	4	13871	22	124	3700	288843	527	121	40	65200	45	8097	4686	26210	201,932	37	4

RETURN showing the Number and Value of Vessels and Boats engaged in the

County

GRAND RIVER SUBDIVISION

Number.	DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.					
		Vessels.			Boats.			Gill-Nets.		Seines.			
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.
	<i>Gaspé County.</i>			\$		\$			\$			\$	
1	Newport.....					152	6500	350	5900	2500	8	230	140
2	Pabos.....					40	2017	119	1188	640	6	130	115
3	Little River (West).....					16	800	45	640	220	4	120	85
4	Grand River.....					79	4400	193	2850	1300	5	150	145
5	Little River (East).....					55	1650	115	2200	1100	2	50	60
6	Cape Cove.....					102	5250	204	4640	2080	7	240	220
7	Percé and Bonaventure Island.....					172	5400	342	6380	2260	3	70	90
8	Corner of Beach.....	1	67	1000	6	15	750	30	1500	1000	8	350	300
	Totals.....	1	67	1000	6	631	26767	1398	25298	11100	43	1340	1155

GASPÉ SUBDIVISION

1	Barachois.....					160	7100	182	1800	1680	11	400	350
2	Malbaie.....					57	1800	72	1210	600	3	84	100
3	Point St. Peter.....					67	1600	92	2220	700	4	112	150
4	Chien Blanc.....					67	1550	76	1000	550	3	75	75
5	Seal Cove.....					63	1500	59	950	520			
6	Douglastown.....					90	2900	140	1780	1140	8	240	128
7	Sandy Beach.....					30	720	38	2100	2000			
8	Gaspé, North and South.....					42	450	46	3264	2400	24	960	960
9	Peninsula.....					18	350	29	1960	1650			
10	Cape Ozo.....					30	380	40	1500	1200	1	20	6
11	Little Gaspé.....					16	250	16	394	270			
12	Grande Grève to Ship Head.....					70	1470	73	1720	1070	7	180	195
13	Cap des Rosiers.....					62	1150	84	900	270	3	60	50
	Totals.....					772	21220	947	20798	14050	64	2131	2014

FOX RIVER SUBDIVISION

1	Anse à Louise and Jersey Cove.....					120	3300	129	3160	1030	3	100	75
2	Anse à Grisfonds.....					106	2550	107	2550	800	2	80	75
3	Fox River.....					215	5800	226	5500	1950	5	190	175
4	Little Cape.....					50	900	54	1300	420	1	30	30
5	Echourie and Big Cove.....					60	970	63	1050	580			
6	Pointe Jaune and Anse à Valeau.....					29	500	30	550	250	1	40	30
	Totals.....					580	14020	609	14110	5030	12	440	385

Marine and Fisheries—Fisheries Branch.

Fisheries, Fishing Materials, &c., in the Province of Quebec—Continued.
of Gaspé.

(Point Maquereau to Barachois, Malbaie.)

KINDS OF FISH.											FISH PRODUCTS.				TOTAL VALUE.		Number.
Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod tongues and sounds, brls.	Haddock, cwt.	Halibut, lbs.	Smelts, lbs.	Squid, brls.	Fish oils, galls.	Fish used as bait, brls.	Fish used as manure, brls.	\$	cts.		
4700	185			11040	7200		145		4000	200	4800	1640		41,605	60	1	
17750	72				2625			200	9000	150	2350	466		18,395	50	2	
	20			250	21248					100	1000	200		8,669	72	3	
5800	122		100	5408	7400	12	55	200	17000	500	5300	1000		42,570	62	4	
					3500					100	1000	250		16,925	00	5	
1100	200			1000	19200			50		300	8350	1800		66,373	00	6	
	192			1030	13348			71		2400				81,311	82	7	
20325	15			8479	1100			300		50	900	180		11,129	56	8	
49675	806		2380	78723	50325	12	321	5400	30000	1800	35250	7536		286,980	82		

(Barachois, Malbaie, to Cap des Rosiers.)

3514	100				9000				1000		4000	1000		44,802	80	1
700	75			25100	10000						5000	1200		52,791	50	2
250	50				2300						1100	900		12,415	00	3
642	50			8304	2500						1200	800		14,445	96	4
3054	50			24624	1100						530	180		9,715	16	5
4318	100				1950						760	380		10,962	60	6
23040	40				60						30	10		5,085	00	7
43147	6								107202					14,016	50	8
22230	20				150						75	20		5,271	00	9
8640	30			3168	280						120	80		3,734	52	10
2300	20				130						75	70		1,270	00	11
7336	120				2000						750	400		11,907	20	12
...	150				1000						600	200		6,715	00	13
119171	811			61196	30470				108202		14240	5240		192,132	24	

(Cap des Rosiers to Fame Point.)

750	370	12000			3500	35	37	6600		90	3000	725	250	21,327	00	1
	300				3000	25	25	20000		80	2000	600	130	19,532	50	2
	720			17760	5650	50	65	36000		180	4000	1200	800	39,998	90	3
	200				1900	15	20	9000		40	1250	350	230	11,870	00	4
	250				1900	18	20	15500		46	1250	550	300	13,134	00	5
	120				1000	6	10	8000		25	750	250	220	6,820	00	6
750	1960	12000		17760	16950	149	177	95100		461	12250	3675	1930	112,692	40	

RETURN showing the Number and Value of Vessels, Boats and

County of

MONT LOUIS SUBDIVISION

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.							
	Vessels.			Boats.			Gill-Nets.		Trap-Nets.		Seines.		Salmon, salted, brls.	Salmon, fresh, in ice, lbs.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.			Fathoms.	Value.
<i>Gaspe County.</i>			\$		\$			\$		\$		\$		
Grand Etang and Pointe Sèche				66	1000	68	1870	850		2	80	50	3	
Big and Little Chlorydorme				57	850	52	1675	875						1900
Petite Anse and Frigate Point				58	560	50	1150	515						
Grand and Little Vallée				68	1140	74	1500	900		1	30	60	2	700
Magdalen River				20	260	26	500	200						3900
Manche d'Epée and Gros Mâle				41	305	53	655	190					4	100
Anse Pleureuse and Mont Louis				60	700	67	1075	480		2	75	50		3900
Rivière à Pierre				11	75	12	200	75						
Total				381	4890	402	8625	4085		5	185	160	9	10500

STE. ANNE DES MONTS

Glaude River to Martin River				20	345	40	685	240		1	100	200	10	1600
Ste. Anne				58	732	116	1334	695					3	6300
Cape Chatte				37	992	74	1039	576		1	40	90		
Total				115	2069	230	3058	1511		2	140	290	13	1700

MAGDALEN

Grosse Isle, Old Harry and Grand Entry				83	2500	312	910	760	3	1000	3	240	235	
Little Brig and Grand Etang				81	3060	324								
Bryon Island				100	4000	350	1100	1000						
Wolf Point, South Beach and Low Point				61	1830	235	335	400	1	175				
House Harbour	8	360	15000	80	3	150	10	445	400	1				
Grindstone					3	150	11	220	200	1	300			
Hospital and Etang du Nord				110	4900	402	1320	1200			3	250	450	
Amherst and Entry Islands	4	150	3000	28	160	6350	558	35920	30660		10	1600	2500	
Total	12	510	18000	108	601	22940	2202	40250	34620	5	1475	16	2090	3185

TOTAL FOR THE

Grand River Subdivision	1	67	1000	6	631	26767	1398	25298	11100		43	1340	1155	49675		
Gaspe do					772	21220	947	17818	14050		64	2131	2014	119171		
Fox River do					580	14020	609	14110	5030		12	440	385	750		
Magdalen River do					381	4690	402	8625	4085		5	185	160	10500		
Ste. Anne do					115	2069	230	3058	1511		2	140	290	7900		
Magdalen Islands do	12	510	18000	108	601	22940	2202	40250	34620	5	1475	16	2090	3185		
Total	13	577	19000	114	3080	91706	5788	109159	70396	5	1475	142	6326	7189	22	187996

Marine and Fisheries—Fisheries Branch.

Fishing Material, &c., Province of Quebec—Continued.

Gaspé—Concluded.

(Cape Fame to Glaude River).

KINDS OF FISH.											FISH PRODUCTS.			TOTAL VALUE.					
Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, preserved, in cans, lbs.	Cod, dried, cwt.	Cod, tongues and sounds, brls.	Haddock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Clams, brls.	Eels, brls.	Squid, brls.		Fish oils, galls.	Seal skins, number.	Fish used as bait, brls.	Fish used as manure, brls.	\$	cts.
100					1650	3 2			2900					1000		500	30	9,398	00
75					950	3 2			1500					500		250	38	5,766	50
90					650				4600					400		200	20	4,280	00
380					1300	3 3		800	4000					850		450	300	9,407	00
100					250				400					100		20	100	2,515	00
225					325	2 2			1400					150		25	40	2,836	50
210					725	2 2			3300					500		250	100	5,962	50
40					150				600					80		20	20	987	00
1220					6000	14		800	18700					3580		1715	648	41,152	50

(Glaude River to Cape Chatte).

235					315			200	250					320		63	54	3,249	50
590					280			400	750					290		56	126	5,601	00
880					70			200						215		13	120	4,460	50
1705					665			800	1000					825		132	300	13,311	00

ISLANDS.

5080			950	291117										10	21			3390	1130	3200		84,744	88	
150			850	7680																300		14,100	20	
900			1020	82692															1500	500	900		32,481	88
3300			615	105670	250									5					255	50	1500		41,818	30
1400			25		50														3610	1200	100		9,969	00
1100				45408	350														900	250	800		14,754	62
2900			1580	104264	1255									110	75				2250	400	1675		60,604	46
2145			1778	111244	3087			300						175	100				4800	1100	1660		72,720	16
16975			6818	748075	4987			300						300	196				16705	4630	10135		331,193	50

COUNTY OF GASPÉ.

806		2380		78723	50325	12	321			5400	30000			1800	35250			7536				286,980	82		
811				61196	30470						108202				14240				5240				192,132	24	
1960	12000			17760	16950	149	177			95100				461	12250				3675	1930			112,692	40	
1220					6000	14				800	18700				3580				1715	648			41,152	50	
1705					665					800	1000				825					132	300			13,311	00
16975			6818	748075	4987			300						300	196				16705	4630	10135		331,193	50	
23477	12000	2380	6818	905754	109397	175	798	1600	120200	138202	300	196	2261	82850	4630	28433	2878					977,462	46		

RETURN showing the Number and Value of Vessels and Boats engaged in the
County of
GODBOUT SUBDIVISION

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.						Salmon, salted, brls.		
	Vessels.			Boats.			Gill-Nets.	Trap-Nets.	Seines.						
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.		Fathoms.	Value.
<i>Saguenay County.</i>															
Manicouagan to Jambons	3	60	900	8	270	5400	223	6500	6500	1	200	9	500	500	10

MOISIE SUBDIVISION

Jambons and Ste. Marguerite	2	48	1000	5	11	540	21	1475	1220	..	..	2	207	350	..
Seven Islands	1	53	1200	4	35	2250	66	1300	800	..	..	4	140	190	..
Moisie and Pigou	1	13	250	4	32	1600	64	5530	4780	..	..	6	215	320	..
Totals	4	114	2450	13	78	4390	151	8305	6800	..	..	12	562	860	..

MINGAN SUBDIVISION

River aux Grains and Chaloupe	1	12	300	2	20	1150	45	..	..	..	..	3	96	200	..
Sheldrake .....	..	..	..	..	52	2050	87	500	300	2	600	5	240	275	4
Thunder River	1	60	1000	4	55	2200	130	500	300	2	600	2	150	160	16
Dock Ridge Point and Jupitagan .....	..	..	..	..	56	2480	173	350	200	..	..	4	130	205	15
Magpie .....	..	..	..	..	89	4450	175	300	150	..	..	3	95	150	..
St. Johns River .....	..	..	..	..	85	4500	250	1500	1500	..	..	5	150	180	..
Long Point, Mingan and Romaine .....	..	..	..	..	26	1000	61	900	750	..	..	5	150	180	52
Esquimaux	13	635	7800	71	100	1500	250	400	200	3	800	15	1000	750	..
La Corneille .....	..	..	..	..	2	75	2	200	100	..	..	..	..	..	23
Totals	15	707	9100	77	485	19405	1173	4650	3500	7	2000	42	2011	2100	110

NATASHQUAN SUBDIVISION

Watsheeshoo, Nabisippi and Agwanus .....	..	..	..	..	28	1036	60	850	275	..	..	4	150	75	59
Ile à Michon .....	..	..	..	..	1	45	1	100	50	..	..	..	..	..	9
Natashquan	4	88	2000	22	35	1950	85	2000	595	..	..	5	225	250	23
Kegashka to Coacoachoo .....	..	..	..	..	15	750	20	1300	650	..	..	3	120	60	23
Totals	4	88	2000	22	79	3781	166	4250	1570	..	..	12	495	385	114

ST. AUGUSTIN SUBDIVISION

St. Mary's Islands and Wolf Bay .....	..	..	..	..	10	400	14	750	400	..	..	2	80	40	4
Harrington .....	..	..	..	..	40	1600	60	800	400	6	1200	4	160	100	4
Whale Head West .....	..	..	..	..	35	1400	55	700	350	5	1000	3	300	300	10
Mutton Bay .....	..	..	..	..	50	2000	75	800	500	7	1400	3	250	200	12
Meccatina .....	..	..	..	..	30	1200	40	2000	2000	4	800	3	250	200	8
St. Augustin and Whale Head East .....	..	..	..	..	25	1000	50	750	400	4	800	1	40	40	6
L'anse à Portage et Canso .....	..	..	..	..	6	240	10	500	200	..	..	..	..	..	6
Chicatica .....	..	..	..	..	3	100	5	200	100	1	100	1	40	20	..
Totals .....	..	..	..	..	199	7940	309	6500	4350	27	5300	17	1120	900	50

Marine and Fisheries—Fisheries Branch.

Fisheries, Fishing Materials, &c., in the Province of Quebec—Continued.

Saguenay.

(Manicouagan to Jambons).

KINDS OF FISH.														FISH PRODUCTS.				TOTAL VALUE.	
Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod tongues and sounds, brls.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Clams, brls.	Squid, brls.	Coarse and mixed fish, brls.	Fish oils, galls.	Seal skin, No.	Fish used as bait, brls.	Fish used as manure, brls.		\$	cts.
77624	897	28000	1500	1	2256	1849	8	2400	4890	4600	...	20	35	4809	971	192	176	33,418	99

(Jambons to Pigou).

7248	63	...	...	...	...	225	...	300	1100	...	50	...	15	190	22	90	...	3,419	10
20814	52	...	...	...	...	800	...	...	2202	...	72	...	...	845	70	232	...	9,350	50
195060	...	...	...	...	...	745	4	1000	15500	...	50	...	...	894	96	328	...	45,274	10
223122	115	...	...	...	...	1770	4	1300	18802	...	172	...	15	1929	188	650	...	58,043	70

(Pigou to Watsheeshoo).

...	...	...	...	...	...	815	2	...	2800	...	38	...	...	820	10	276	...	4,912	00
...	50	...	...	...	...	3250	...	...	700	...	40	10	...	3000	...	1000	30	17,939	00
...	...	...	...	...	...	2000	...	...	800	...	35	...	...	1500	...	700	50	11,186	00
...	...	...	...	...	...	2820	...	...	800	...	25	...	...	2100	...	800	...	15,175	00
...	...	...	...	...	...	4000	...	...	1000	...	10	...	...	3500	...	1000	100	21,960	00
3000	60	...	...	...	...	5220	...	...	2000	...	10	...	...	4600	...	1200	75	41,587	50
70900	...	...	...	...	...	1500	...	...	1500	...	...	...	...	1360	120	500	...	9,176	00
...	260	...	...	...	...	5000	...	...	3000	...	300	...	...	10000	2000	1200	...	33,770	00
...	...	...	...	...	...	...	...	...	...	...	...	...	...	300	100	...	...	613	00
73900	370	...	...	...	...	24605	2	...	12600	...	498	30	...	27180	2230	6676	255	156,318	50

(Watsheeshoo to Coacoashoo).

...	...	...	...	...	...	2160	1750	...	...	200	...	...	...	1250	...	110	...	9,806	40
...	...	...	...	...	...	...	70	...	...	...	...	...	...	50	...	5	...	486	50
56700	130	...	...	...	...	1440	4300	...	1400	...	...	...	...	5200	790	245	...	35,419	60
...	...	...	...	...	...	30800	1350	...	2000	...	...	...	...	1750	230	200	...	12,242	50
56700	130	...	...	...	...	34400	7470	...	2000	1600	...	...	...	8250	1020	560	...	57,955	00

(Coacoashoo to Chicatica).

...	25	...	...	...	...	200	...	...	...	...	...	...	...	1150	350	100	...	2,124	00
...	...	...	...	...	...	2750	...	...	...	...	...	...	...	2150	50	750	...	14,486	50
...	21	...	...	...	...	1800	...	...	...	...	...	...	...	2000	175	450	...	10,048	25
...	128	...	...	...	...	2000	...	...	...	...	...	...	...	2000	80	500	...	11,418	00
...	396	...	...	...	...	750	...	...	...	...	...	...	...	3000	800	200	...	7,785	00
...	20	...	...	...	17280	250	...	...	...	...	...	...	...	600	130	75	...	4,245	20
...	...	...	...	...	...	60	...	...	...	...	...	...	...	40	...	10	...	397	00
...	254	...	...	...	...	200	...	...	...	...	...	...	...	150	...	50	...	2,178	00
...	844	...	...	...	17280	8010	...	...	...	...	...	...	...	11090	1585	2135	...	52,681	95

RETURN showing the Number and Value of Vessels, Boats and

County of

BONNE ESPÉRANCE SUBDIVISION

DISTRICTS.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.						Salmon, salted, brls.		
	Vessels.			Boats.			Gill-Nets.		Trap-Nets.		Seines.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.		Fathoms.	Value.
<i>Saguenay County.</i>															
Nabitippi and Bull Cove			\$		4	200	4	600	300			1	30	30	
Rocky Bay and Dog Islands and Old Fort					34	1600	54	2200	1100	14	2400	5	170	310	9
Bonne Espérance					60	3600	115	2600	1300	8	2400	8	680	1560	14
Pidgeon Island and Stick Point	1	54	1000	8	12	1000	20	1000	500	4	1000	4	400	900	6
Salmon Bay					40	2000	80	1000	500	6	1000	6	600	1200	3
Little Fishery to Belles Amours					18	1000	36	1000	500	5	1000	4	90	220	7
Bras d'Or and Long Point					30	1500	60	4000	2000	6	1200	4	200	400	2
Greenly Island and Blancs Sablons					45	2200	110	1200	500	2	640	7	640	1280	2
Totals	1	54	1000	8	243	13100	479	13600	6700	45	9640	39	2810	5800	43

ANTICOSTI

Fox Bay and Salmon Bay					23	920	22	800	400			1	200	75	
Mauzerolle to Macdonald's Cove					18	720	36	1000	500			2	300	150	
English Bay					20	1000	38	750	370						
Strawberry Cove					22	440	33	500	250			1	150	70	
Shallop Creek and Goose Point					15	175	20	100	100						
Cormorant Point and South Point					18	270	25	200	150						
Totals					116	3525	174	3350	1770			4	650	295	

TOTAL FOR THE COUNTY

Subdivisions.	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Fathoms.	Value.	Salmon, salted, brls.
Godbout	3	60	900	8	270	5400	223	6500	6500	1	200	9	500	500	10
Moisie	4	114	2450	13	78	4390	151	8305	6800			12	562	860	
Mingan	15	707	9100	77	485	19405	1173	4650	3500	7	2000	42	2011	2100	110
Natashquan	4	88	2000	22	79	3781	166	4250	1370			12	495	385	114
St. Augustin					199	7940	309	6500	4350	27	5300	17	1120	900	50
Bonne Espérance	1	54	1000	8	243	13100	479	13600	6700	45	9640	39	2810	5800	43
Anticosti					116	3525	174	3350	1770			4	650	295	
Totals	27	1023	15450	128	1470	57541	2675	47155	31190	80	17140	135	8148	10840	327

Marine and Fisheries—Fisheries Branch.

Fishing Material, &c., Province of Quebec—Continued.

Saguenay—Continued.

(Chicatica to Blancs Sablons).

KINDS OF FISH.											FISH PRODUCTS.				TOTAL VALUE.				
Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Mackerel, salted, brls.	Lobsters, preserved in cans, lbs.	Cod, dried, cwt.	Cod tongues and sounds.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Clams, brls.	Squid, brls.	Coarse and mixed fish, brls.	Fish oils, galls.	Seal skins, No.	Fish used as bait, brls.	Fish used as manure, brls.	\$	cts.
	20					20								40	10	10		223	50
	100					1600								1400	200	470		9,309	00
	100					5800								3060	20	1950		30,948	00
						1500								1090	30	370		7,874	50
	20					4000								3000	30	1500		21,625	50
	60					800								800	100	600		5,327	00
	100					2500								3000	400	600		14,332	00
	50					4100								4000	400	1020		22,337	00
	450					20320								16390	1190	6520		111,976	50

ISLAND.

	100				29904	200								500	130	100	50	6,074	06
	300					900								700		250		6,055	00
	80					450								300		200	200	2,905	00
	100					575								500	20	300	200	3,812	50
					28800									60	20	200		4,381	00
					9600											150		1,569	00
	580				68304	2125								2060	170	1200	450	24,796	56

OF SAGUENAY.

77624	897	28000	1500	1	2256	1849	82400	4890	4600	20	35	4809	971	192	176	33,418	99	
223122	115					1770	41300	18802		172	15	1929	188	650		58,043	70	
73900	370					24605	2	12600		438	30	27180	2230	6676	255	156,318	50	
56700	130				34400	7470		2000	1600			8250	1020	560		57,955	00	
	844				17280	8010						11090	1585	2135		52,681	95	
	450				20320	20320						16390	1190	6520		111,976	50	
	580				68304	2125						2060	170	1200	450	24,796	56	
431346	3386	28000	1500	1	122240	66149	145700	37892	4600	610	50	50	71708	7354	17933	881	495,191	20

RECAPITULATION.

Showing the Number and Value of Vessels, Boats and Fishing Material, &c., in the Gulf Division, for the Year 1896.

TOTAL FOR THE GULF DIVISION--PROVINCE OF QUEBEC.

Districts.	FISHING VESSELS AND BOATS.						FISHING MATERIAL.						KINDS OF FISH.							
	Vessels.			Boats.			Gill-Nets.		Trap-Nets.		Seines.		Salmon, fresh in ice, lbs.	Herring, salted, brls.	Herring, fresh or frozen, lbs.	Herring, smoked, lbs.	Number.			
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Value.	Number.	Value.	Number.						Value.		
1 County of Bonaventure	13	577	19000	114	3080	91706	22495	1366	22495	2384	121172	26769	90	5400	212	5383	3764	47200	1	
2 do Gaspé	27	1023	15450	128	1470	57541	70396	5	1475	142	6326	7189	22	187996	23477	12000	2380	2380	2	
3 do Saguenay	40	1600	34450	242	5910	171742	128355	175	24015	489	19867	21793	349	863717	32333	40000	51080	1500	3	
Grand totals																				

Marine and Fisheries—Fisheries Branch.

RECAPITULATION.
 Showing the Number and Value of Vessels, Boats and Fishing Material, &c., in the Gulf Division, for the Year 1896.

TOTAL FOR THE GULF DIVISION—PROVINCE OF QUEBEC.

Districts.	KINDS OF FISH.													FISH PRODUCTS.				TOTAL VALUE.	Number.		
	Mackerel, salted, brls.	Lobsters, preserved, in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Cod tongues and sounds, brls.	Haddock, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Clams, brls.	Mels, brls.	Squid, brls.	Tom cod or frost fish, lbs.	Coarse and mixed fish, brls.	Fish oils, galls.	Seal skins, No.	Fish used as bait, brls.			Fish used as manure, brls.	\$	cbs.
1 County of Bonaventure	16	130828	4	13871	22	124	3700	..	..	..	..	..	..	..	8097	..	4686	26210	201,932	37	1
2 do Gaspé	6318	905754	..	108397	175	798	1600	120200	138202	300	136	2261	..	..	82850	4630	28433	2878	977,462	46	2
3 do Saguenay . . . . .	..	122240	..	68149	14	..	5700	37892	4690	..	50	..	..	..	71708	7354	17933	881	495,191	20	3
Grand totals	6835	1158822	4	189417	211	922	11000	158092	431645	1437	317	2351	65200	95	162655	11984	51052	29969	1,674,586	03	..

511 Number.

STATEMENT showing Yield and Value of the Fisheries of the Gulf Division, P.Q.,
for the Season of 1896.

Kinds of Fish, &c.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, salted	Brls. 349	16	00	5,584	00
do fresh, in ice	Lbs. 863,717		20	172,743	40
Herring, salted	Brls. 32,333	4	50	145,498	50
do fresh, in ice	Lbs. 40,000	0	01	400	00
do smoked	" 51,080	0	02	1,021	60
Mackerel, salted	Brls. 6,835	14	00	95,690	00
Lobsters, canned	Lbs. 1,158,822	0	14	162,235	00
do fresh	Tons. 4	75	00	300	00
Cod, salted	Cwt. 189,417	4	50	852,376	50
do tongues and sounds	Brls. 211	10	00	2,110	00
Haddock, salted	Cwt. 922	3	50	3,227	00
Trout	Lbs. 11,000	0	10	1,100	00
Halibut	" 158,092	0	10	15,809	20
Smelts	" 431,645	0	05	21,582	25
Clams	Brls. 1,437	5	00	7,185	00
Bels	" 317	10	00	3,170	00
Squid	" 2,351	4	00	9,404	00
Tommy cods	Lbs. 65,200	0	05	3,260	00
Coarse and mixed fish	Brls. 95	3	00	285	00
Fish oil	Galls. 162,655	0	40	65,062	00
Seal skins	Pieces. 11,984	1	25	14,980	00
Fish used for bait	Brls. 51,052	1	50	76,578	00
do as manure	" 29,969	0	50	14,984	50
Total				1,674,585	35
Total value in 1896				1,674,586	03
do 1895				1,518,829	43
Increase in 1896				155,756	60

Marine and Fisheries—Fisheries Branch.

STATEMENT showing Number of Men, with Quantity and Value of Material employed
in the Gulf Division Fisheries, Season of 1896.

Description.	Value.
	\$ cts.
40 vessels of 1,600 tons, manned by 242 men.....	34,450 00
5,910 boats, fished by 10,847 men.....	171,742 00
277,486 fathoms of gill-nets.....	128,355 00
175 cod trap and smelt-bag nets.....	24,015 00
489 seines of 19,867 fathoms.....	21,793 00
87 lobster canneries, employing 2,380 hands.....	39,705 00
94,551 lobster traps with trawl lines, buoys, &c.....	63,126 00
157 freezers and ice-houses.....	10,390 00
767 smoke and fishhouses.....	152,925 00
180 piers and wharfs (private).....	43,150 00
814 trawl-lines for cod.....	6,356 00
Total value.....	696,007_00

PROVINCE OF QUEBEC—EXCLUSIVE

RETURN of the Number and Value of Fishing Boats and Nets, Number of Men, St. Lawrence River from Cape Chatte

Number.	FISHING MATERIAL.								Salmon, lbs.
	Boats.			Gill-Nets.			Brush or Eel Weirs.		
	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.	
		\$				\$		\$	
1	Capucins	12	120	14	12	250	120		
2	Mechins	39	390	50	60	1200	600		5075
3	Grosse Roche	12	120	17	16	330	160		700
4	Ste. Felicité	46	460	65	48	975	480	4	80
5	Matane	11	110	15	16	330	160	9	180
6	Rivière Blanche	15	200	20	19	300	290	2	40
7	Sandy Bay	21	315	40	21	210	400	1	20
8	Métis	1	15	8				5	100
9	Ste. Flavie and Ste. Luce	8	120	24	3	30	60	18	360
10	Ste. Anne	3	45	15				12	240
11	Rimouski	4	40	8				4	80
12	Rimouski to Trois Pistoles	30	540	78	5	188	130	31	1050
13	Témiscouata County	20	2775	70				51	4750
14	St. André			37				22	150
15	Kamouraska			14				10	600
16	St. Denis			18	9	540	180	16	540
17	Rivière Ouelle			48	26	2930	590	44	900
18	Ste. Anne			27				24	642
19	St. Roch			30				30	1500
20	St. Jean			40				40	2800
21	L'Islet			30				30	2000
22	L'Isle aux Grues			20				20	2000
23	Cap St. Ignace			13				13	730
24	Montmagny	2	35	23				23	1800
25	Berthier	4	36	22				19	3240
26	St. Valier	6	160	6				2	2200
27	St. Michel	5	150	5				5	2800
28	Beaumont	9	250	9				4	2050
29	Lévis	10	320	10				6	3010
30	Inland waters in the above districts								
	Totals	258	6201	776	235	7283	3170	445	33862
	Values		\$						24815
									4963

Marine and Fisheries—Fisheries Branch.

OF THE GULF DIVISION—Continued.

together with the Yield, Value and Kinds of Fish, &c., on the south shore of the to Point Lévis, during the year 1896.

KINDS OF FISH.											VALUE.		Number.	
Shad, lbs.	Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Pickered, lbs.	Sturgeon, lbs.	Eels, lbs.	Sardines, brls.	Cattfish, lbs.	Mixed and coarse fish, lbs.	Halibut, lbs.	\$		cts.
.....	217	6000	.....	.....	.....	.....	.....	.....	4800	4000	400	1,272	50	1
.....	854	20600	.....	700	.....	.....	.....	.....	3100	6000	500	5,512	00	2
.....	145	3000	.....	.....	.....	.....	.....	.....	.....	.....	.....	852	50	3
.....	900	23000	.....	100	.....	.....	.....	40	1500	6000	1150	4,845	00	4
.....	164	11600	.....	10000	.....	.....	600	120	.....	.....	.....	†3,566	00	5
.....	380	1200	.....	200	.....	.....	.....	.....	150	.....	500	1,807	00	6
.....	1530	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,885	00	7
.....	1000	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	4,690	00	8
.....	2400	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	11,070	00	9
.....	2925	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	13,357	50	10
.....	3000	960	.....	60000	.....	.....	.....	.....	.....	.....	.....	10,575	00	11
.....	8120	300	1584600	.....	.....	.....	8200	78	.....	3700	.....	35,502	20	12
.....	11500	244	66200	1000	.....	2120	1950	.....	.....	.....	.....	3,970	00	13
.....	300	420	.....	.....	.....	6950	5760	*677	.....	16000	.....	*9,776	10	14
.....	10230	300	.....	.....	.....	210	1700	1170	.....	72000	.....	6,366	30	15
.....	4500	2	.....	.....	.....	1250	5770	400	.....	3600	.....	2,043	70	16
.....	500	300	.....	.....	.....	2000	111820	29	.....	8200	.....	†9,420	20	17
.....	500	12	.....	.....	.....	3750	26290	.....	.....	3600	.....	1,888	90	18
.....	.....	.....	.....	.....	.....	.....	21150	.....	.....	16000	.....	1,429	00	19
.....	.....	.....	.....	.....	.....	.....	19050	.....	.....	14000	.....	1,283	00	20
.....	.....	.....	.....	.....	.....	.....	16250	.....	.....	10000	.....	1,075	00	21
.....	.....	.....	.....	.....	.....	.....	31360	.....	.....	2800	.....	1,909	60	22
.....	.....	.....	.....	.....	.....	.....	8100	.....	.....	3000	.....	554	50	23
.....	2000	.....	200	.....	.....	450	8100	.....	.....	3000	.....	554	50	23
.....	5890	.....	3050	.....	1500	2300	10490	.....	.....	50000	.....	1,738	40	24
.....	3700	.....	6050	.....	450	2645	56400	.....	.....	2400	.....	4,440	15	25
.....	7200	.....	6200	.....	950	7200	35000	.....	.....	3600	.....	3,381	50	26
.....	18470	.....	2380	.....	555	3033	45200	.....	.....	3000	.....	3,603	80	27
.....	13500	.....	2300	.....	830	2365	24000	.....	.....	2000	.....	2,991	95	28
.....	.....	.....	2310	.....	825	900	30200	.....	.....	4000	.....	3,023	05	29
.....	.....	.....	.....	10000	.....	.....	.....	.....	.....	.....	.....	1,000	00	30
89410	12953	1716200	22490	82000	5110	35173	459290	2554	9550	233900	2550	.....	.....	.....
5365	58288	34324	1799	8200	256	1759	27557	7662	191	2339	255	159,829	85	.....

* No. 14. Including 99,200 boxes of sardines preserved in oil, \$4,960.

† In No. 5 including 8,000 lbs. Tom cods valued at \$400.

‡ No 17. Including 63 belugas (white whales), \$1,512.

RETURN of the Number of Fishermen, Value of Vessels, Boats, and Nets as well from Quebec to Bersimis, in the Province

Number.	DISTRICTS.	BOATS.			FISHING MATERIAL.				
		Number.	Value.	Men.	Gill-Nets.			Brush or Eel-Weirs.	
					Number.	Fathoms.	Value.	Number.	Value.
	<i>Island of Orleans.</i>		\$				\$	\$	
1	St. Laurent			14				14	3306
2	St. Jean			17				17	2330
3	St. François			27				27	2375
4	St. Famille			15				15	1800
5	St. Pierre			9				9	1500
6	St. Pétronille			1				1	200
	<i>North Coast.</i>								
7	Ange Gardien et Château Richer			10				10	950
8	St. Anne de Beaupré			5				5	250
9	St. Joachim			23				23	2200
10	Charlevoix County			125	4	380	90	120	960
	<i>Saguenay Division.</i>								
11	St. Firmin	4	245	5				4	80
12	Tadoussac	6	225	8	3	430	260	1	25
13	Bergeronnes	3	60	3	3	350	230		
14	Bon Désir	2	20	2	1	50	30		
15	Escoumains	8	120	8	5	480	280	3	75
16	Sault au Mouton	4	80	4				6	150
17	Mille Vaches	4	80	4	1	80	48	4	100
18	Portneuf	4	80	4	3	300	180	5	125
19	Sault au Cochon	1	20	1	1	100	60		
20	Islets Jérémie	3	60	3	4	300	150	2	50
21	Bersimis	2	40	2	1	80	48	1	30
22	Inland Waters								
23	Lake St. John District			125				1	30
	Totals	41	1030	415	26	2550	1376	267	16500
	Values	\$							

*Estimated. No. 23, include 90,000 lbs Ouananiche and 10,000 lbs. pike.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number extending from Quebec to Upper Ottawa in the

Number.	DISTRICTS.	FISHING MATERIAL.												
		Boats.			Gill-Nets.			Seines.			Hoop-nets or verveux.		Brush or Eels Weirs.	
		Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
	¢				¢			¢		¢		¢		
1	Sherbrooke and Megantic	(Angling and trolling.)												
2	Magog and Brome	do												
3	Missisquoi Bay	13	146	44			16	1200	785					
4	Richelieu River	102	915	140			30	620	493	68	6870	9	20000	
5	Châteauguay and Laprairie	4	60	30			5	60	50					
6	Beauharnois	60	1050	140	60	720	700	31	1510	990	4	60		
7	Montreal, Chambly and Verchères	119	1070	150			34	1620	825	56	80			
8	Co. Richelieu and St. Francis River	67	500	65			20	300	300	15	45	2	50	
9	Co. Yamaska and River	44	275	120	10	115	45	24	275	200	120	450	6	60
10	Co. Nicolet	43	480	42	1	15	3	16	380	280	8	75	30	70
11	Three Rivers	5	100	10			7	70	50					
12	Berthier to Montcalm						20	400	160	27	68			
13	Terrebonne	160	960	230			22	270	210	14	21			
14	Lake Two Mountains	18	150	20	68	700	100							
15	Isle Perrot and Soulanges	6	60	18	20	250	175							
16	Co. Argenteuil	16	160	16	60	600	340				2	10		
17	Ottawa River fronting on Counties Ottawa and Pontiac.	95	1500	110	203	4250	600							
18	Gatineau Lakes	(Angling and trolling.)												
	Totals	752	7426	1135	422	6650	1963	225	6705	4343	314	7679	47	20180
	Values	\$												

Marine and Fishes—Fisheries Branch.

of Men, together with the Yield, Value and Kinds of Fish, &c., within the District
Province of Quebec, during the Year 1896.

KINDS OF FISH.												VALUE.		Number.
Shad, lbs.	Whitefish, lbs.	Trout, lbs.	Bass, lbs.	Pickereel, lbs.	Pike, lbs.	Maskinongé, lbs.	Sturgeon, lbs.	Eels, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and Ccarse fish, lbs.	\$	cts.	
.....	3200	60000	8000	31325	31875	2800	509	1000	2500	2000	48000	11,389	00	1
.....	6500	35400	21000	23500	2000	.....	.....	2500	39000	.....	23000	8,795	00	2
.....	6300	.....	.....	19760	.....	.....	.....	.....	.....	.....	76600	3,024	00	3
.....	.....	.....	3480	4660	7400	.....	1100	46050	9930	.....	96330	5,934	90	4
1000	.....	.....	500	700	1200	.....	2000	500	600	400	10000	571	00	5
.....	.....	.....	7100	14550	18200	11140	6100	16050	19100	16850	6150	5,235	90	6
3000	1000	.....	5000	7900	7000	3200	8680	48650	47400	5600	158000	9,730	80	7
1400	.....	100	2500	8000	2900	800	1000	16740	.....	.....	36800	2,687	40	8
.....	800	.....	2780	11375	10810	5900	4065	20480	400	.....	154750	6,329	35	9
27800	4230	.....	1640	2075	2210	920	5800	19500	6260	6380	.....	4,240	45	10
5400	1800	1300	300	2500	3400	200	4000	.....	.....	.....	5000	†2,569	00	11
.....	40350	50000	.....	5500	7500	1100	16000	15000	21000	.....	125000	13,934	00	12
6350	.....	45000	4170	6200	7050	1200	1000	56200	6150	.....	35200	10,269	60	13
.....	.....	.....	3000	10000	13500	5000	9500	2500	.....	.....	40000	3,235	00	14
.....	.....	.....	2900	3950	1950	2700	2850	1400	1450	.....	11650	1,220	50	15
1000	1500	900	800	6500	13500	1500	18200	1250	2050	28000	12000	3,452	50	16
.....	.....	.....	7100	38220	29200	12130	16050	10700	750	14950	61540	7,824	10	17
.....	10500	98100	14650	10600	.....	.....	.....	.....	.....	.....	.....	12,352	00	18
45950	76180	290800	84920	207315	159695	48590	96845	258520	156590	74180	900020	.....	.....	.....
2757	6094	29080	6794	10365	7985	2915	5811	15511	4698	1484	18000	112,794	50	.....

†NOTE.—In No. 11 add 2,600 bushels of Tom-cods, valued at \$1,300.

RECAPITULATION

Of the Yield and Value of the Inland Fisheries of the Province of Quebec
(exclusive of the Gulf Division) for 1896.

Kinds of Fish.	Price.		Quantity.	Value.	
	\$	cts.		\$	cts.
Salmon.....	Lbs.	0 20	171,139	34,227	80
Shad.....	"	0 06	150,160	9,009	60
Herring, salted.....	Brls.	4 50	13,146	59,157	00
do fresh.....	Lbs.	0 02	1,737,700	34,754	00
Whitefish.....	"	0 08	132,927	10,634	16
Trout.....	"	0 10	483,300	48,330	00
Pickarel.....	"	0 05	268,945	13,447	25
Sturgeon.....	"	0 06	136,618	7,799	35
Bass.....	"	0 08	119,445	10,248	10
Maskinongé.....	"	0 06	48,590	2,915	40
Pike.....	"	0 05	169,695	8,484	75
Eels.....	"	0 06	897,550	53,853	00
Sardines.....	Brls.	3 00	2,802	8,406	00
do preserved in oil.....	Boxes.	0 05	99,200	4,960	00
Perch.....	Lbs.	0 03	156,590	4,697	70
Catfish.....	"	0 02	83,730	1,674	60
Halibut.....	"	0 10	2,550	255	00
Ouananiche.....	"	0 06	90,000	5,400	00
Tom cod.....	Bushels	0 50	2,600	1,700	00
do.....	Lbs.		8,000		
Belugas.....	No.		222	5,328	00
Mixed and coarse fish.....	Lbs.	0 02	1,688,720	25,887	40
Total for 1896.....				351,169	11
do 1895.....				349,091	10
Increase.....				2,078	01

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RECAPITULATION

Of the Yield and Value of Fisheries in the whole Province of Quebec, for 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Salmon, pickled	Brls. 349	16	00	5,584	00
do fresh, in ice	Lbs. 1,034,856	0	20	206,971	20
Herring, salted	Brls. 45,479	4	50	204,655	50
do fresh	Lbs. 1,777,700	.....	.....	35,154	00
do smoked	" 51,080	0	02	1,021	00
Mackerel, salted	Brls. 6,835	14	00	95,690	00
Lobsters, canned	Lbs. 1,158,822	0	14	162,235	00
do fresh	Tons. 4	75	00	300	00
Cod, dried	Cwt. 189,417	4	50	852,376	50
do tongues and sounds	Brls. 211	10	00	2,110	00
Haddock	Cwt. 922	3	50	3,227	00
Halibut	Lbs. 160,642	0	10	16,064	20
Trout	" 494,300	0	10	49,430	00
Smelts	" 431,645	0	05	21,582	25
Eels, salted	Brls. 317	10	00	3,170	00
do	Lbs. 897,550	0	06	53,853	00
Shad	" 150,160	0	06	9,009	60
Sturgeon	" 136,618	0	06	7,799	35
Sardines,	Brls. 2,802	3	00	8,406	00
do preserved in oil	Boxes. 99,200	0	05	4,960	00
Whitefish	Lbs. 132,927	0	08	10,634	16
Maskinongé	" 48,590	0	06	2,915	40
Bass	" 119,465	0	08	10,241	10
Pickrel	" 268,945	0	05	13,447	25
Pike	" 169,695	0	05	8,484	75
Ouananiche	" 90,000	0	06	5,400	00
Perch	" 156,590	0	03	4,697	70
Squid	Brls. 2,351	4	00	9,404	00
Catfish	Lbs. 83,730	0	02	1,674	60
Clams	Brls. 1,437	5	00	7,185	00
Tom cod or frost fish .....	.....	.....	.....	4,960	00
Coarse and mixed fish	Lbs. 1,707,720	.....	.....	26,172	40
Seal skins	No. 11,984	1	25	14,980	00
Belugas, white whales	" 222	.....	.....	5,328	00
Fish oils	Galls. 162,655	0	40	65,062	00
Fish as bait	Brls. 51,052	1	50	76,578	00
Fish as manure	" 29,969	0	50	14,984	50
Total for 1896 .....	.....	.....	.....	2,025,754	46
do 1895 .....	.....	.....	.....	1,867,920	53
Increase .....	.....	.....	.....	157,833	93

STATEMENT

OF the Number and Value of Fishing Boats, Nets and other Fishing Material used in the Inland Waters of **Quebec** (exclusive of the Gulf Division), for 1896.

Articles.	Total.
	\$ cts.
1,051 fishing boats (2,326 men).....	14,657 00
683 gill-nets (16,483 fathoms).....	6,509 00
225 seines (6,705 fathoms).....	4,343 00
314 hoop-nets (verveux).....	7,679 00
759 brush and eel weirs.....	70,542 00
Total.....	103,730 00

RECAPITULATION

OF all Fishing Gear employed in the whole **Province of Quebec** in 1896.

Articles.	Value.	Total.
	\$ cts.	\$ cts.
40 vessels, 1,600 tons (242 men).....	34,450 00	
6,961 boats (13,173 men).....	186,399 00	
293,969 fathoms of gill-nets.....	134,864 00	
714 seines (26,572 fathoms).....	26,136 00	
175 cod traps, and smelt nets.....	24,015 00	
314 hoop-nets.....	7,679 00	
759 brush and eel weirs.....	70,542 00	484,085 00
87 lobster canneries (2,380 hands).....	39,705 00	
94,551 do traps, lines, &c.....	63,126 00	102,831 00
157 freezers and ice-houses.....	10,390 00	
767 smoke-houses and fish-houses.....	152,925 00	
180 piers and wharves.....	43,150 00	
814 trawl lines for cod.....	6,356 00	212,821 00
Total.....		799,737 00

APPENDIX No. 7.

ONTARIO.

SYNOPSIS OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE
OF ONTARIO, FOR THE YEAR 1896.

LAKE OF THE WOODS DIVISION.

Overseer M. Kyle, recently appointed in charge of this division, states that the fisheries were prosecuted with even more activity than usual, there being fifty pound-nets more than in 1895, and although fish were not as plentiful the total result is in excess of the preceding year. The exceptionally high water had a tendency to cause the fish to migrate from their usual feeding grounds to others, which under ordinary conditions would not have been available. The quantity of caviare prepared and shipped to New York thence to Europe, was somewhat less than last year. About 75 per cent of the whole catch of fish, consisting chiefly of sturgeon, whitefish and pickerel, valued at \$143,000, is exported to United States markets and the balance shipped to Eastern Canada. Some cases of illegal fishing were attended to, and resulted in the confiscation of twenty-one gill-nets and 4,500 lbs. of fish. This happened in Lakes Manitou and Sandy. Mr. Kyle recently examined the only fish-way in his district, that of the Keewatin Power Co., on the Winnipeg River, and found it in good order.

LAKE SUPERIOR.

Overseer D. F. Macdonell, who has charge of the upper part of Lake Superior returns about the same quantity of fish as last year, chiefly whitefish and salmon trout, valued at over \$100,000.

Overseer T. H. Elliott reports an increased catch of fish in the lower part of Lake Superior, which he ascribes to a more vigorous prosecution of the fishing industry. One firm alone admitted having handled 400,000 lbs. of fish more than last year. With few exceptions the close seasons were well observed. One party who was caught fishing during the month of November, was fined and had his nets confiscated. This part of the lake also yielded over \$100,000 worth of fish mostly salmon-trout and whitefish, making an aggregate value of over \$200,000, about the same as last year.

LAKE HURON.

North Channel of Lake Huron, including Manitoulin Island.

Mr. Elliott, who has also charge of this division, reports a shortage in the catch of fish especially in the vicinity of Killarney where fishermen did not even make wages. Excepting some two hundred barrels of fish, the whole catch is shipped fresh to United States markets. Seining, trap-netting and the small mesh in pound-nets are the chief abuses complained of. Seining was illegally carried on especially in the vicinity of Killarney. Some of these poachers boast that they can seine or use nets even when a cruiser is within ten miles. The numerous islands and deep bays of that coast afford them safe hiding places. The mesh of pound-nets should not be less than four inches in extension and that of gill-nets five inches. This measure,

if adopted, might prove detrimental to the fishermen for three or four years, but in the end it would turn out to their advantage. All licensed boats, tugs and gear should be numbered according to licenses. This would greatly facilitate the labour of fishery officers in detecting illegalities. There are no fish-ways here at present, but three or four could be advantageously placed in this district. The total value of fisheries of this part of Lake Huron is reckoned at \$247,730, being a surplus of \$43,000 over the previous one.

GEORGIAN BAY.

Overseer F. J. Smith reports a decline in the fisheries of that part of Georgian Bay owing to a smaller number of boats engaged in this industry. The large yield of pickerel is attributed to hook fishing through the ice. Owing to the demand for these fish, this new industry was pushed with great vigour during the winter months. With few exceptions the close seasons were well adhered to. Illegal seining and netting were still carried on but not to such an extent as last year. Only four prosecutions for illegalities took place during the season. The total yield of this division is made up at \$82,700, a shortage of \$17,500, as compared with the previous one.

Overseer J. Donaldson states that the fish run during May, June and July was much better than last year. Nearly one million pounds of salmon-trout alone were shipped to Buffalo and Detroit from this division as well as 90 per cent of the whole catch. A large quantity of immature fish passed through Collingwood this summer which must have been caught in small meshed nets outside of this division. The close seasons for fish were fairly observed. The whole catch is estimated at \$126,000, being an increase of about 50 per cent over the previous yield.

Overseer R. Edmonstone states that whitefish are decreasing on the south shore of the bay, salmon-trout show an increased yield, but were late in coming on the shoals. Fishermen are complaining of the loose crushed bark stripped off the logs while being towed across to the United States. This nuisance not only damages their nets, but injures the fishing grounds.

Mr. Edmonstone assisted Captain Pearson of the "Dolphin" to seize twenty-two gill-nets in his and the neighbouring district. The total catch is valued at \$25,000.

Overseer Isaac Lennox ascribes the increase in the catch of trout in his district to a larger number of licensees fishing for them. There is a considerable falling off in pickerel. The Buffalo Fish Company alone handled over two million pounds of fish, shipping more than half to Buffalo. He also complains that many immature whitefish and trout were shipped through Wiarton and he advocates a regulation making it an offence to capture any of either kind of less than 2½ lbs. in weight. He helped Captain Pearson to seize and destroy some trap-nets and trout-nets, the latter being set within the Cape Croker Indians limits contrary to licenses. The yield of this division is valued at \$40,000.

The total value of the fisheries of Georgian Bay from French River to Cabot's Head is computed at \$273,900, about the same as last year.

LAKE HURON CONTINUED.

(From Cape Hurd to Point Edward.)

Overseer Charles Briggs reports a decrease in nearly every kind of fish except whitefish which shows a considerable improvement. The number of fishing boats was less than last year, and several fishermen are now only using small fishing rigs who used to fish more extensively. About 70 per cent of the whole catch, valued

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at \$70,000, is exported and the balance used in the vicinity. Complaints are heard that bark stripped from logs and ground by friction while being towed across the lake is often washed ashore, injuring both nets and fish. Wherever this bark is found dead fish are to be seen. The close seasons were well observed. This officer has several parties at different points to watch and to keep him posted of any illegalities they might discover. During the month of November he is constantly on the move himself up and down his division. Some illegal fishing was carried on by parties coming from other districts to fish for herring in the fall in his division where shelter is of easy access, and several confiscations were the result. Saw-mills are visited whenever an opportunity offers, and the law seems well respected in that way.

Overseer Hugh McFayden states that fishing on the Saugeen River was the poorest for years. The dry weather kept so long that the water became very low and the speckled trout, (the only kind of fish caught here) sought refuge under logs and stones from the numerous anglers camping on the river banks. He estimates the quantity of that game little fish at 15,000 lbs.

Overseer H. W. Ball states that the falling off in the fisheries of this division is partly ascribed to scarcity of fish, but chiefly because tugs from Goderich were not allowed to fish south of said port as usual. Neither illegal fishing nor contravention of the sawdust regulation came to his notice. Mr. Ball is of opinion that confining the limits of tugs or boats to a specified area is unfair, and he recommends that they be allowed to roam anywhere from their port, provided they could lift their nets and return the same day. He urges the adoption of a close season for herring, and recommends that all fall fishing should cease on 31st of October. The privilege of taking herring during the close season for trout and whitefish give poachers a favourable opportunity to evade the law. Herring, which twenty-five years ago filled Lake Huron is now getting scarce. The decline of herring also means the falling off of trout, as the former affords food for the latter. This officer recommends the prohibition of fall fishing, for a few years at least, as well as the adoption of a larger mesh. Eighty-seven per cent of the whole catch valued at \$43,000, is exported and the balance used for home consumption.

Overseer H. B. Quarry reports the fishing operations of his district as satisfactory. Had the weather been more favourable, the aggregate yield would have exceeded that of 1875. The improvement noticed in salmon-trout is attributed to the supply of fry from the hatcheries. Good catches of herring were affected. Only two fines were imposed for illegal fishing in this division. Mr. Quarry states that the pound-nets of his division are very much exposed to the heavy gales prevailing on that part of the coast, which not only damage but often destroy them. For the above reason, fishermen would like to see the fee on pound-net licenses reduced. About one-third of the whole catch of fish valued at \$14,700 is used in Canada, the remainder is exported to the United States.

Overseer J. C. Pollock states that he has difficulty in obtaining reliable data of the yield of fish in his division. He believes the catch, such as given, greatly underestimated. Several pound-net fishermen who had rented their gear on shares were greatly disappointed when the owner took them away early in July to the Michigan side, where he expected better returns. This induce them to secure twine and prepare nets of their own for next season and thus become independent of foreign capital. The total yield of this district is valued at \$28,800, and that of that part of Lake Huron, south of Cape Hurd at \$158,600, while the total value of the whole lake including the north Channel and Georgian Bay is reckoned at \$680,276, hardly \$18,000 less than last year.

LAKE ST. CLAIR DIVISION.

Overseer Joseph Boismier remarks that whitefish were more plentiful than last year, both in Lake St. Clair and Detroit River, excepting from Fighting Island to Lake St. Clair, where none were caught. Pickerel also show a fair increase, due to the open season. Large quantities of sturgeon were also captured, but they were mostly of small size. Numerous set lines were used to capture sturgeon, some even without licenses. Bass and maskinonge both show serious signs of diminution.

Overseer C. W. Raymond says that excepting sturgeon, which the Indians say were scarce, the fisheries of Mitchell's Bay gave an average yield, even better than in 1895. The anglers, however, claim that bass is decreasing and they blame the use of seines, which injures the spawn. He issued 78 angling permits to foreigners. This officer favours the use of hoop-nets to capture coarse fish which are so destructive to the finer grades of fish, especially young bass. As Mitchell's Bay is a fine natural spawning ground he would recommend the prohibition of the seine entirely therein.

Thames River.

Overseer Peter McCann states that rod fishing in the Thames River was good. At first, large quantities of coarse fish were caught in the spring, then bass fishing was continued till the end of the season. He says that carp have been caught at different places in the river, and judging from their size and number, they will soon prove an unwelcome visitor to our waters. The thirteen fish-ways of this division were kept in good repairs and are pronounced by all parties to be an entire success. Several complaints of illegalities, upon investigation, proved comparatively trifling.

The total value of the Thames River fisheries is computed at \$10,750, and that of the whole Lake St. Clair including Detroit River at \$42,000.

LAKE ERIE DIVISION.

Overseer J. E. Quick remarks that he has especially watched the black bass in the Pelee Island during its spawning season and come to the conclusion that it spawns from the 15th of May to the 10th July. He found none ready to spawn before the 15th May, and of three opened on the 10th July, two had not yet spawned. He has no complaints against any fishermen of his division. The yield is valued at \$8,000.

Overseer J. K. Laird returns a decreased catch of fish chiefly herring 2,400,000 lbs., pickerel 130,000 lbs., and pike 115,000 lbs. It was about 1st June before all pound-nets were fishing and the heavy gales on the 5th November put a stop to any further attempts of exposing nets. Fishermen complain of being compelled to observe the close season for pickerel while the citizens on the other side of the border fish for them at all times. The whole yield is valued at \$90,000, a shortage of over 25 per cent as compared with the previous catch.

Overseer Wm. Freeland states the falling off in the catch is ascribed to the fact that few fishermen began operations until after the expiration of the pickerel close season (15th May). Fishing remained light until the latter part of October. Here also the storm of the 5th November practically closed the season's fishing. He reports the drowning of two fishermen at Port Bruce. The close season was fairly well observed by our fishermen. The staple fish of this division are herring, 700,000 lbs., and pickerel, 418,000 lbs. The total yield is valued at about \$50,000.

Overseer D. Sharp returns an average catch of fish in his division, although he remarks that pound net fishing was not a success. Fish were late coming on the shores, and the mighty gales of October destroyed the nets to such an extent, that

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it ended the fall fishing. The gill-net fishermen, who went out 80 or 90 feet deep, met with good success, catching mostly blue-black pickerel. Mr. Sharp recommends that a clause, compelling the pound-net fishermen to return to the water alive all immature fish found in their pounds, be inserted in their licenses. The total yield of fish in this division is valued at \$35,300.

Overseer W. F. Croome states that the catch of fish in Grand River was about the same as last year and is all used for local consumption. The mill owners are careful not to pollute the streams with saw-dust and debris, although a few manufactures allow colouring matter to escape, but not in sufficient quantity to injure fish life. However, he is of opinion that the sewage of Brantford should not be permitted to flow into the Grand River. There may be no immediate danger, but with the extension of the system it might, in the near future, seriously affect fish life. This sewage should at least go through filtering beds before escaping into the water. The eleven fish-ways in this division have all been inspected and found in good state of repair. The close seasons were fairly well observed and any infractions that came under his notice were thoroughly investigated. Several parties were fined through the energy of the local Fish and Game Club which rendered valuable services in enforcing the fishing regulations. Mr. Croome suggests the advisability of shortening the close season and of allowing no fishing whatever during said time on all inland streams.

The total catch of fish from the whole of Lake Erie is valued at \$241,200, a deficit of 20 per cent as compared with last year.

LAKE ONTARIO.

Overseer F. Kerr whose district includes the east end of Lake Erie and the west end of Lake Ontario linked by the famous Niagara River, reports that the condition of the fishermen of his division is most favourable, the increase of salmon-trout and whitefish gives hope to those who follow that branch of the industry. Larger quantities of the blue-back herring were caught, but prices ruled lower than last year, thus placing fish within the reach of all classes. These herrings were so plentiful that fishermen could not handle them properly and were compelled to curtail their nets to limit the quantity to the demand. These fish are all smoked and thus more easily disposed of on the markets. They were abundant at every fishing station along Lake Ontario except at Niagara where the falling off could not be accounted for. The run of immature herring at Queenston was immense and no doubt the fishing-traps there slaughtered a great many. So much so, that he recommends the abandonment of this mode of fishing, which he considers very detrimental to the species. On the Lake Erie portion of his district, herring fishing was poor, although a few good individual hauls were made; this was neither continuous nor general. Herring seem to remain more on the United States shore last season. Cisco-herring have almost disappeared and are no more expected by fishermen who now consider them as a thing of the past. Whitefish and salmon-trout were caught in large quantities, especially at Grimsby and Winona. The fact that immense quantities of young whitefish are caught in herring gill-nets proves that they are abundant and that if the supply of the young fish was not disturbed they would shortly become as numerous as formerly. Certain regulations should be enacted to give them due protection. Sturgeon fishing either at Fort Erie or at Niagara was inferior to that of 1895. These large fish are mostly caught now with baited hooks on set lines. They were noticed at nearly every fishing stations on Lake Ontario, and a few were captured even as far down as Burlington Beach, where they had not been observed for years. Sturgeon are becoming more and more valuable as a table fish and are as much sought after as any other kind. Perch, pike and other coarse fish appeared to be as plentiful as ever. Perch should be protected during its spawning season as it is fast becoming a valuable edible fish. Mr. Kerr spent a good deal of time watching the United States poachers on the Niagara River, three men were arrested and fined and a boat and seine seized at Navy Island; at Queens-

ton three parties were fined for fishing without permits and their boat confiscated. At Fort Erie three men were arrested and fined for catching bait illegally, their boats being also seized. Besides these a few illegal nets were taken in Burlington Bay and their owners fined. Only 26 angling permits were issued to foreign tourists. With the assistance of the Fish and Game Protector of New York State, he broke up several poaching parties, and between them they have succeeded in checking seining altogether in this international stream. He recommends the refusal of the privilege to the machine traps usually set at Queenston, as they are injurious to herring.

Overseer Wm. Sargent notices a considerable improvement in the yield of herring. Some very large captures were made during November and December, and had prices remained as good as in 1895, the yield would have been still larger. Angling for bass was satisfactory and some fine specimens were caught. A few illegal nets were seized and destroyed in Twelve and Sixteen Mile Creeks, and although he could not discover the owners, he found no other since. There are no fishways in this district and they are not needed.

Overseer James Stanley reports a surplus in the yield of trout and whitefish, but herring almost a failure, which fact he cannot account for. The gill-net fishermen claim the seine destroys or injures the feeding grounds of the fish. This officer must share in their belief as he recommends the prohibition of the seine in Lake Ontario. Fishing for coarse fish in Presqu'ile Bay was not as successful as former years.

Overseer J. Redmond is pleased to report the increase of the finer grades of fish around Prince Edward County. Whitefish and trout are certainly becoming more plentiful, and the old fishermen have not given up hopes of seeing the good old time of large catches of fish return. They are of opinion that to the distribution of fry from our hatcheries is due the improvement noticed. The close season have been well observed. Three hoop-nets and several gill nets were seized during the summer for illegalities. The total yield of this division is valued at about \$20,000.

Overseer W. P. Clarke returns a small surplus in the whole yield of fish of Bay of Quinté. The quantity of whitefish taken was not quite so large as last year, as no-seining was allowed, otherwise it would have been much larger. He states that to the planting of fry in the Bay is attributed the increase in the supply of fish. About the three-fourths of the catch is shipped to the United States and the remainder used at home. He has little trouble with the licensed fishermen, but sometimes poachers are met running to the spawning grounds, but he could not convict any. The mill-owners also comply faithfully with the regulations, respecting saw-dust. He recommends that all licensed implement should be so marked either by numbers or otherwise to enable the officer to detect unlicensed gear. Customs officers should be instructed to give foreign anglers and tourists the proper directions and save our officers considerable unnecessary trouble. The total yield of this district is valued at \$16,800.

Overseer James McGlynn reports the fishing operations around Wolfe Island about the same as in the previous season. Coarse fish were plentiful in the spring but scarce in the fall. The low water in this district somewhat affected the fisheries. Whitefish were as abundant as usual but scarcely any salmon-trout were to be seen; the high wind and low water caused them to seek deep water. Bass seemed plentiful in the beginning of the season, but anglers became so numerous that they thinned them out pretty well before the Autumn. Ninety per cent of these sportsmen bring their own food and leave no money in Canada.

Overseer E. H. Sills reports a slight increase over last year's catch ascribed to a more vigorous prosecution of the industry. Low wages and low prices for agricultural products have caused many farmers to add fishing to increase their revenue. He has no abuses to complain of. The various close seasons were well observed. There are no fishways in this district.

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FRONTENAC, LEEDS AND LANARK.

Overseer John Purdy for the Kingston district returns a fair catch consisting chiefly of pike and catfish, but makes no remarks.

Overseer Geo. Lake states that less fish were taken in his division than last year owing to a smaller number of persons seeking them. The close seasons were generally well observed. One party was however convicted of illegal fishing and duly fined. The mill-owners have also complied with the regulations. The only fish-way in this division is kept in good working order. Another fish-ladder should be placed at the foot of Bob's Lake. This officer would favour the granting of a few hoop-nets in some of those lakes to capture as many coarse fish as possible, which are now detrimental to the propagation of the finer grades frequenting those waters.

Overseer H. R. Purcell says that the fish are only caught for domestic use in his division. Anglers report fair bass fishing. Several complaints of illegalities, upon investigation, proved groundless.

Overseer R. A. Gilbert also reports hook and line fishing as fairly successful. No netting of any kind is permitted in this division. The close seasons and saw-dust regulations were fairly respected. A great number of tourists visit those lakes every summer.

Overseer Robt. Poole thinks that the season's fishing operations compare favourably with previous ones. The increase in the capture of sturgeon is due to the greater number of set-lines being permitted in that vicinity. Bass and pike are caught by summer visitors during July and August. The sturgeon is shipped to New York. All unlicensed gear found in use was confiscated by this officer. He favours the issue of hoop-nets to reduce the supply of coarse fish as bull-heads, catfish, eels, etc., and thereby improving the condition of the game fish.

Overseer J. G. Wallace states that he heard no complaints from anglers of the scarcity of any kinds of fish, and he believes the catch to be quite up to the average. Several small nets were confiscated during the summer, but he thinks they were fished mostly for domestic use by the settlers.

PARRY SOUND AND MUSKOKA.

Overseer G. R. Steele visited as much as possible the different lakes and streams of his division as well as the principal fishing resorts. He is of opinion that the close seasons and other fishery laws were generally complied with and observed. Settlers complain of being refused the privilege of fishing for herring with small nets for their own use. As these fish, which are plentiful in most of those waters, cannot be captured otherwise than with nets, Mr. Steele would favour the use of small nets for that purpose. In visiting saw-mills, he noticed that certain owners while not exactly throwing the saw-dust in the streams deposited it so near the edge of water that some of it would be washed in by the freshets. Consequently all parties were notified to desist from a practice which might be conducive to evil results.

Overseer E. Forsyth states that fish are still plentiful and there has been a slight increase in the quantity of fish taken during the past season, ascribed to the fact that people now generally resort more to fish for food than formerly. He complains of no abuses in his district and no penalties were imposed. He recommends a change in the close season for salmon-trout to begin about the 15th October, as by the first November they have partly spawned in that locality.

PETERBOROUGH DIVISION.

Overseer G. W. Fitzgerald reports that although fishing was better in some localities than others, it was generally more satisfactory than in 1895. Eight different prosecutions for illegalities resulted in as many convictions. There is no more trouble from mill owners respecting the rubbish of their mills. He reports that the different guardians under his charge performed their duties to his satisfaction.

Overseer D. Breeze states that this has been one of the best fishing seasons ever known on the Otonabee River and district. The quantity of maskinonge and bass taken was enormous. This he attributes to the better observance of fishery regulations, especially the saw-dust Act. The mill-owners now endeavour to keep the debris from the streams. The residents on the river banks are now commencing to render assistance in the protection of fish, and finding out that it is in their interest to do so.

He seized three nets and imposed a couple of fines. One party who resisted was fined twenty dollars and costs. This officer's canoe was purposely damaged with spears. Mr. Breeze thinks that the close season for maskinongé should be identical in Otonabee River to that of Rice Lake. If a party be found with maskinongé in his boat, he undoubtedly would claim to have caught it in the lake. There are several dams and more being built in this division which should be provided with fish-passes. The Otonabee between Peterborough and Lakefield with its gravel bottom would be a capital spawning ground for bass.

There is one class of poacher which he finds almost impossible to properly watch and that is the frog catcher. He is out in the creeks and marshes almost every night from May till fall sometimes with a jack-light and then again with a reflector, and it is said, that when no one is near he will not scruple to kill maskinongé and hide them on shore until he can ship them to the United States with his frogs.

SIMCOE DISTRICT.

Overseer Wm. McDermot is pleased to state that the fishery laws have been more strictly observed this season than ever before since he was an officer. The fact that he has not a single conviction to report speaks well for the better observance of the different regulations. The visit of the Dominion Police a couple of years ago had a salutary effect and he would like to receive another such visit from them. The mill-owners evince a commendable spirit in observing the laws respecting saw-dust and fish-ways and they now have a complete chain of fish-passes on the Nottawasaga and Boyne Rivers and their tributaries. All kinds of fish seem as plentiful as ever. This is specially noticed in the increase of speckled trout in small streams, and that of perch and catfish in the Holland River.

LAKE SCUGOG DIVISION.

Overseer A. Bradshaw reports a large catch of maskinongé and bass, (nearly 200,000 lbs.), which he considers less than that of 1895. The low water prevailing during the summer months, prevented trolling over the weedy beds. The law was fairly well observed, the only two violators who came before him were duly fined and reported to the department at the time. A good fish-way is urgently required at Lindsay's dam as the old one is useless. The figures and other information given by him are gathered from fishermen, dealers, farmers residing on water fronts as well as based upon his own personal observation.

WELLINGTON COUNTY AND VICINITY.

Overseer D. Coleman has charge of parts of Rivers Credit and Nottawasaga and their tributaries. The former crosses the Township of Caledon and the latter the Township of Mono. The country through which these streams flow is mostly cleared

Marine and Fisheries—Fisheries Branch.

up, with the exception of the lands in the immediate vicinity of the banks which are often steep and otherwise unfit for cultivation. The beds of the streams are mostly gravelly, their banks skirted with bushes, and logs or fallen trees strewn here and there, all affording excellent cover and protection to brook or speckled trout which are the principal species of these waters. Until quite recently no attention was ever paid to trout protection. They were fished for at all times of the year with every device that the ingenuity of the fisherman could suggest. Sections of the streams once noted resorts for this game fish would soon become depleted. It is not many years ago that parties were known to visit these beautiful natural spawning grounds and capture trout by the pailful during their spawning time. However a better state of affairs is now appearing; fishing out of season is stopped, illegal appliances are strictly prohibited, and altogether such protection is given to trout that a marked increase is noticeable which he estimates at fifty per cent. A remarkable interest is now taken in the propagation and protection of speckled trout throughout this district. Two private hatcheries have been established and are doing a lucrative business, and often the ponds and sections of streams are preserved and protected by the owners of such establishments, thus adding protection to the fish. He reports against giving permits to capture trout out of season for stocking purposes as immense numbers of young trout are thus transplanted to private ponds. He would like to see the close season begin on the 1st instead of the 15th September.

ONT

RETURN of the Number and Value of Vessels, Boats and Fishing Material, and Number Ontario, for

Number.	DISTRICTS.	FISHING MATERIAL.											
		Tugs or Vessels.			Boats.			Gill-Nets.			Pound-Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.	Number.	Value.
	<i>Lake of the Woods.</i>			\$		\$				\$			
1	Rainy River District.....	11	714	17050	38	81	8760	151	151	24000	1620	127	30150
	<i>Lake Superior.</i>												
2	Inland Waters, Thunder Bay District— Whitefish, Arrow, Lac des Mille Lacs, Northern Light, and other lakes.....					20	2100	40		16000	3100		
3	Port Arthur.....	4	115	8500	20	8	1600	16		7000	1750	28	4200
4	Nepigon.....					5	1000	10		4700	1175		
5	Rosport.....	2	32	1600	8	8	1450	16		6500	1650	5	1000
6	Jackfish.....					1	175	2		900	250		
7	Port Caldwell.....	2	37	2700	10					2200	1300	6	1200
8	Peninsula Harbour.....					1	200	2		1000	350	5	1000
9	Caribou Island.....					4	900	8	240	11000	900		
10	Michipicoten Island.....					4	900	8	250	12000	1000	2	300
11	Otter Head.....					4	600	8	250	12000	1200		
12	Pilot Harbour.....					3	300	6	49	1000	800		
13	Dog River.....					4	500	8	70	10000	1250		
14	Michipicoten River.....					2	300	4	42	6000	600		
15	Little Gros Cap.....					3	700	6	63	9000	1000		
16	Indian Harbour.....					3	500	6	49	7000	1000		
17	Gargantua.....					2	200	4	35	5000	600	5	1000
18	Lizard Islands.....	3	300	17000	27	5	1000	10	350	50000	6000	5	2000
19	Point Manaise.....					2	250	4	35	5000	600		
20	Batchewana.....					3	500	6	63	9000	800		
21	Goulais Bay.....					5	300	10	21	3000	300		
22	Gros Cap.....					7	350	14	29	3500	350		
	Totals.....	11	484	29800	65	94	13825	188	1546	181800	25975	56	10700
	Values.....\$												

Marine and Fisheries—Fisheries Branch.

ARIO.

of Men employed, &c., with the Kinds and Quantities of Fish in the Province of the Year 1896.

KINDS OF FISH.												VALUE.		Number.	
Herring, fresh, lbs.	Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Pickereel, lbs.	Pike, lbs.	Maskinongé, lbs.	Sturgeon, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	Caviare, lbs.	Bladders, lbs.	\$		cts.
		552860	75490		372215	66180	1390	849480	29280	84580	53020	1050	143,110	35	1
11000	150	26000	18000		14500	7000							4,885	00	2
2500	25	220000	235000	315	4700			22000					47,635	00	3
2530	95	42000	30000	110	2400			1200					7,977	00	4
	11	87500	93000	160	4700			3970					19,399	10	5
	6	9000	11200	20									2,150	00	6
		27000	51000	800				2000					15,440	00	7
		13700	11500	38	2300			2700					2,903	00	8
			117800	151									13,290	00	9
		10000	111600	60									12,560	00	10
		5500	88000	26									9,500	00	11
		9000	20000										2,720	00	12
		28000	21400										4,380	00	13
		10700	14500										2,306	00	14
		66900	43900					400					9,766	00	15
		19300	30000	18									4,724	00	16
		39000	24200		2100			4600					5,921	00	17
		99400	201500	150									29,602	00	18
		15600	18700										3,118	00	19
		17900	17600										3,192	00	20
		8000	10000	2	500					2000			1,725	00	21
		10000	8000										1,600	00	22
16030	287	764500	1176900	1850	31200	7000		36870		2000					
481	2870	61160	117690	18500	1560	280		2212		40			204,793	10	

RETURN of the Number and Value of Tugs and Boats, &c., and the Quantity

Number.	DISTRICTS.	FISHING					
		Tugs or Vessels.			Boats.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.
	LAKE HURON DIVISION.			\$		\$	
	<i>North Channel, Manitoulin Island and vicinity.</i>						
1	Duck Islands.....	1	15	2000	6	1200	12
2	Green Island.....				5	1000	10
3	Burnt Island.....	2	22	5000	12	150	2
4	Misery Bay.....				1	100	2
5	Providence Bay.....				9	500	18
6	Michael's Bay.....				9	500	18
7	South Bay Mouth.....	1	15	2000	6	1500	20
8	Killarney.....				32	2300	64
9	Round Island.....				13	650	26
10	Wickwimikong.....				17	1000	34
11	Fitzwilliam Island.....				2	300	4
12	Squaw and Lonely Islands.....	3	117	13000	20	4030	48
13	Beaverstown.....				2	200	4
14	Pointe aux Grondines.....				2	100	4
15	Black Point.....				2	200	4
16	Bad and French Rivers.....				5	500	10
17	Bustard Islands.....	2	19	4000	9	3000	32
	Totals.....	9	188	26000	53	17230	312
	Values.....			\$			

Marine and Fisheries—Fisheries Branch.

and Value of Fish, &c., in the Province of Ontario—Continued.

MATERIAL.				KINDS OF FISH.							VALUE.			
Gill-Nets.		Pound Nets.		Herring, lbs.	Whitefish, lbs.	Trout, lbs.	Pickereel, lbs.	Pike, lbs.	Sturgeon, lbs.	Mixed and coarse fish, lbs.	\$	cts.	Number.	
Fathoms.	Value.	Number.	Value.											
	\$		\$											
25000	4000	9	2000	12800	55200	155730							20,373 00	1
15000	1000			20000	6500	87000							9,820 00	2
12000	1640	5	2000	50000	4000	240000	500		2300				25,983 00	3
		2	350	200	1200	8850			250				1,002 00	4
9000	500					3200							3,200 00	5
9000	500					3200							3,200 00	6
25000	3500			14700	9000	217270			500				22,918 00	7
99000	6000				227000	127000	11000	4500	1000	1250			31,675 00	8
15000	2000				56530	15236	2200						6,156 00	9
20000	1500				40000	30000	40	50	1000				6,264 00	10
4000	500				8000	12000							1,840 00	11
81900	20020				252000	343450	400						54,525 00	12
3000	200			4600	5300	960	1000	1870	1330	1600			894 60	13
2000	200				2000	2000			2000				480 00	14
2000	200				6000	12000	6000	500	1000	2000			2,100 00	15
6500	550			12500	4700	6000	6000		1000	2000			1,751 00	16
60000	3000			46000	246000	235000	185000	8000	23000	2000			55,550 00	17
388400	45310	16	4350	160800	923430	1556496	212140	14920	33380	8850				
				4824	73874	155650	10607	597	2003	177			247,731 60	

RETURN of the Number of Tugs, Vessels and Boats, and the Quantity

Number.	DISTRICTS.											
	FISHING MATERIAL.											
	Tugs or Vessels.				Boats.			Gill-Nets.		Hoop-Nets.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	
<i>Georgian Bay Division.</i>												
1	Byng Inlet	15	2500	6	6	1200	15	40000	7500	.....	.....
2	Pointe au Baril	12	3500	5	5	800	12	21000	5000	.....	.....
3	Shawanaga, Mink Island and Campbell's Rock	1	20	2500	6	11	2000	30	190000	16000	.....
4	Copperhead and Umbrella Islands	.....	.....	.....	5	600	12	20000	4000	.....	.....
5	Midland and Penetanguishene	.....	.....	.....	17	1800	40	22000	3600	6	160
6	Victoria Harbour	1	8	1000	3	15	1500	45	20000	3000	13	200
7	Waubashene	1	7	700	4	20	2300	45	40000	6000	4	100
8	Nottawasaga Bay, including Collingwood and vicinity	6	232	25000	48	21	3150	57	57000	23400
9	Meaford	3	48	9500	15	7	375	14	48000	4800
10	Owen Sound Bay and vicinity	.....	.....	.....	24	1000	32	38650	3820	.....	.....
11	Colpoy's Bay to Cabot's Head	5	110	22000	26	54	3780	110	124000	8800
Totals		19	452	66700	113	185	18505	412	620650	85920	23	460
Values		\$										

Marine and Fisheries—Fisheries Branch.

and Value of Fish, &c., Province of Ontario, 1896—*Continued.*

KINDS OF FISH.											VALUE.		Number.	
Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Herring, salted, brls.	Herring, fresh, lbs.	Bass, lbs.	Pickereel, lbs.	Pike, lbs.	Sturgeon, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	\$		cts.
.....	60000	90000	.....	.....	.....	.....	7000	.....	.....	.....	.....	14,150	00	1
.....	50000	120000	.....	.....	.....	500	10000	4000	3000	.....	.....	16,870	00	2
20	30000	20000	20	25	.....	.....	25000	2000	.....	.....	.....	6,242	50	3
.....	40000	27000	30	100	.....	.....	.....	.....	.....	.....	.....	6,650	00	4
50	35050	38000	95	910	.....	.....	52000	2000	.....	8000	.....	14,989	00	5
.....	60000	10000	.....	50	.....	.....	120000	16000	10000	40000	10000	14,265	00	6
20	10500	15000	10	70	.....	.....	101600	20700	300	22000	14300	9,607	00	7
.....	234350	991630	.....	35	77800	700	60800	3860	41600	.....	1200	126,158	90	8
.....	2000	117800	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,940	00	9
.....	2500	125900	.....	.....	8700	.....	.....	.....	.....	.....	1000	13,071	00	10
10	30350	365670	20	65	7000	.....	1000	.....	2000	.....	.....	39,967	50	11
100	554750	1921000	175	1255	93500	1200	377400	48560	56900	70000	26500	.....	
1000	44380	192100	1750	5648	2805	72	18870	1942	3414	1400	530	273,910	90	

RETURN of the Number of Tugs, Vessels and Boats, and the Quantity and Value of Fish, &c., Province of Ontario, 1896—Continued.

LAKE HURON (Proper)—Continued.

DISTRICTS.	FISHING MATERIAL.												OTHER FIXTURES USED IN FISHING.							
	Tugs or Vessels.			Boats.			Gill-Nets.		Seines.		Pound-Nets.		Hoop-Nets.		Freezers and Icehouses.		Piers and Wharfs.			
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.	Number.	Value.		
1 Cape Hurd to Southampton	5	85	15500	33	37	3500	87	113000	15150	13	1300	865								
2 Sauguené							Angling and trolling.													
3 Port Elgin to Kincardine	1	20	1500	5	3	450	7	18000	2400											
4 Port Albert to Goderich	3	85	8500	18	9	900	21	48000	8600											
5 Goderich to Blue Point	1	25	2000	6	17	1145	36	18100	1360	2	105	105								
6 Blue Point to Point Edward							25	1215												
Totals	10	215	27500	62	91	7210	176	197100	27410	15	1405	970								
Totals for Georgian Bay	19	452	66700	113	185	18505	412	620650	85920											
do North Channel	9	188	26000	53	156	17230	312	388400	45310											
Grand Totals for whole Lake Huron.	38	855	120200	228	432	42945	900	1206150	158640	15	1405	970	52	10380	23	460	42	34200	31	12800
<i>Lake St. Clair Division.</i>																				
1 River St. Clair																				
2 Lake St. Clair, including Mitchell's Bay	1	3	150	4	14	430	11	3000	100	12	1200	750								
3 Thames River																				
4 Detroit River	1	10	500	3	20	200	150			17	1920	2220	4	525	10	300				
Totals	2	13	650	7	82	2115	291	3000	100	74	5520	5120	4	525	10	300				

* 8 Dip-nets, \$20.

Marine and Fisheries—Fisheries Branch.

RETURN of the Number of Tugs, Vessels and Boats, and the Quantity and Value of Fish, &c., Province of Ontario, 1896—Continued.

LAKE HURON (Proper)—Continued.

Number.	DISTRICTS.	KINDS OF FISH.												VALUE.	Number.	
		TROUT, BRIS.	HERRING, SALTED, BRIS.	HERRING, FRESH, LBS.	WHITEFISH, LBS.	TROUT, LBS.	BASS, LBS.	PICKEREL, LBS.	PIKE, LBS.	MASKINONGE, LBS.	STURGEON, LBS.	RELS, LBS.	PERCH, LBS.			CATFISH, LBS.	MIXED AND COARSE FISH, LBS.
1	Cape Hurd to Southampton.....	250	2160	20000	130000	468200	15000	4000	2000	200	150	25000	75000	15000	70,040 00	1
2	Saugen			12000	3500	60000	4000	6000	900	1250	200	75000	46000	15000	1,500 00	2
3	Port Elgin to Kincardine			25000	8500	288400	28000	6000	900	36900	200	75000	46000	15000	8,047 00	3
4	Port Albert to Goderich.....			62050	19020	65475	110	46610	110	129210	50	730	8300	8300	35,543 00	4
5	Goderich to Blue Point.....			63380	75500	4600	30	340830	167360	400	101940	70000	8650	8650	14,681 80	5
6	Blue Point to Point Edward.....			140	2300	182430	168200	901675	32030	1210	400	101940	70000	8650	28,821 80	6
	Totals	250	2300	98500	*554750	1921000	1200	377400	48560	56900	400	101940	70000	8650	158,633 60	
	Totals for Georgian Bay.....	175	1255	160800	923430	1536496	.....	212140	14320	33380	.....	.....	.....	.....	273,910 90	
	do North Channel.....			425	3555	436730	1646700	984980	64690	257640	400	101940	70000	8650	247,731 60	
	Grand Totals for Lake Huron.....	425	3555	436730	1646700	984980	64690	257640	400	101940	70000	8650	8650	8650	680,276 10	
<i>Lake St. Clair Division.</i>																
1	River St. Clair.....			13400	2350	4150	400	130750	.....	38880	.....	7240	16400	16400	10,444 50	1
2	Lake St. Clair, including Mitchell's Bay			5500	7200	11865	54050	35400	2220	51200	.....	83400	29600	198000	15,770 60	2
3	Thames Bay .....			.....	2450	138200	13800	700	1000	600	.....	4500	147230	147230	10,745 60	3
4	Detroit River .....			.....	44000	550	550	13870	3050	1600	.....	.....	32128	32128	5,047 06	4
	Totals			16900	53550	4150	15265	336870	52250	91680	.....	90640	34100	393758	.....
	Values..... \$			507	4284	415	916	16844	2090	5501	.....	2719	682	7875	42,007 76	

NOTE.—In No. 8, add 100 bris. of salted whitefish.

RETURN of the Number and Value of Tugs and Boats, &c., and the Quantity

Number.	DISTRICTS.		FISHING MATERIAL.												
			Tugs or Vessels.			Boats.			Gill-Nets.		Seines.		Pound-Nets.		
			Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.
	<i>Lake Erie.</i>				\$			\$			\$			\$	
1	Peele Island					9	1000	18	4200	240				15	3000
2	County of Essex	2	100	9500	10	52	4700	68	1200	260				40	20000
3	County of Kent	1	4	500	3	40	3860	65	300	25	3	450	300	41	20200
4	County of Elgin	7	116	22700	35	36	3560	47	3750	575				59	19600
5	Clear Creek	5	66	8000	10	6	400	13						14	4200
6	Port Rowan					17	445	64	1400	350	16	2500	1500		
7	Normandale					11	390	25	4800	510					
8	Port Dover	3	99	6700	12	6	2375	12	5000	630				14	5600
9	Nanticooke					4	270	10	600	50				5	1450
10	Cayuga to Moulton Bay, including Grand River	2	32	4500	7	18	1080	30	9000	2500	12	1200	225		
11	Low Banks					6	60	6	2000	300					
12	Port Colborne					6	300	6	6000	600				3	2000
13	Ridgeway	1	8	1500	3	7	500	18	10000	1200					
14	Fort Erie					18	900	26	12000	1500					
15	Welland														
	Totals	21	425	53400	80	236	19840	408	60250	8740	31	4150	2025	191	76050
	Values	\$													

Marine and Fisheries—Fisheries Branch.

and Value of Fish, &c., in the Province of Ontario—*Continued.*

KINDS OF FISH.										VALUE.		Number.	
Herring, fresh, lbs.	Whitefish, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Maskinongé, lbs.	Sturgeon, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.				Caviare, lbs.	$	cts.
115330	9170	6000	18720			24100	3480	7710	42550		8,045	10	1
701200	30220	13600	60500			70200	155000		520600		46,568	60	2
2393400	23970		130790	115100		30200	59520	730	42790		89,331	10	3
701130	42960	2040	418390			33070	47700	1900	32390	735	49,834	10	4
87150	11720	200	22125	40500		9020	2480	420	850	1600	7,411	35	5
9700		7800	39120	21170	700		80820	1700	98840		8,039	20	6
54810		630	15900	1460			41490	1510			3,810	40	7
99210	2000	1300	137040	1200	300	14250	39730			3640	13,002	00	8
33926	5840	500	6110	3240	30	9070	1180	50	22600	250	3,059	48	9
30150	420	2640	13200	3000	500		8520		13000		2,422	10	10
5000		800	4000				4000		5000		618	00	11
10000		1000	6000				8000		5000		1,000	00	12
30000		3000	20000			8000	10000		3000		2,920	00	13
4000			50000	4000		20000	12000		10000		4,540	00	14
		4000	5000						5000		590	00	15
4275006	126300	43510	946895	189670	1530	217910	473920	14020	805260	5085			
128250	10104	2611	47345	7587	92	13075	14218	280	16105	1525	241,191	43	

RETURN of the Number and Value of Tugs and Boats, &c., and the Quantity

Number.	DISTRICTS.	FISHING MATERIAL.												
		Tugs or Vessels.			Boats.			Gill-Nets.		Seines.		Hoop-Nets.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Fathoms.	Value.	Number.	Value.
	<i>Lake Ontario, including Niagara River and other tributaries.</i>			§		§			§		§		§	
1	Queenstown.....				2	120	6							
2	Niagara.....				1	700	14	20000	5000					
3	Port Dalhousie.....	1	8	1800	3	500	10	20000	5000					
4	Beamsville.....				4	300	8	15000	3000					
5	Burlington Beach.....				15	1185	30	25000	5000					
6	Angling and trolling in above districts.....													
7	Counties of Halton and Peel.....				15	2300	43	49900	5000					
8	County of York.....				8	900	11	9000	1330					
9	County of Ontario.....				6	225	12	1850	225					
10	County of Northumberland and Durham.....				17	850	28	63000	1575				25	
11	Rice Lake and Trent River.....				35	770	50	Angling and trolling.					25	
12	County of Prince Edward.....	3	175	9000	12	65	2200	19800	3500	3	150	150	41	
13	Bay of Quinté.....				48	1310	78	15450	1375				86	
14	Off Lennox and Napanee River.....				50	900	87	12200	1155	1	100	80	59	
15	Wolfe Island and vicinity.....				25	650	22	3900	600				23	
	Totals.....	4	183	10800	15	302	12910	599	255100	32760	4	250	230	259
	Values.....		§											

In No. 1 add 3 trap-machines, \$1,000.

Marine and Fisheries—Fisheries Branch.

and Value of Fish, &c., in the Province of Ontario—Continued.

KINDS OF FISH.											VALUE.		Number.	
Herring, lbs.	Whitefish, lbs.	Trout, lbs.	Bass, lbs.	Pickereel, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Eels, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.	\$		cts.
40000			3000	5000					4000		6000	1,870	00	1
36000	4000	6600		50000	5000		26000		10000		20000	7,020	00	2
175000	4000	10000	1000	5000	1000		1000		10000		10000	7,480	00	3
170000	3000	12000		12000			2000		15000		10000	7,910	00	4
300000	8000	15000	4000		6000		5000	5000	25000		10000	13,170	00	5
			24000	86200	60000				95000			11,000	00	6
525000	1200	2500	1200		1100			300	600	1200	50000	17,272	00	7
21550	9150	6200			600						8800	2,198	50	8
6200	1200	100			530				400		1700	360	00	9
4000	10500	4200	500		40000	100		2000	500		10000	3,351	00	11
		3500	127000	30000	35000	114500	1000	12100	10600		113600	*21,116	00	12
30050	75000	75000	4500	4800	10000	2000	3000	5000	9000		185000	19,881	50	13
170950	10600		3200	16875	87860	1120		5535	35500	129800	113900	16,864	95	14
26600	31200	9700	1800	55600	82900		3600	17600	30000		369600	23,032	00	15
	12500			3000	82500		1000	5000	35500		55500	6,985	00	10
1505350	170350	144800	170200	268475	412510	117720	42600	52535	381100	131000	964100			
45161	13628	14480	10212	13424	16500	7063	2556	3152	11433	2620	19282	159,510	95	

* Partly Estimated.

RETURN of the Number and Value of Tugs and Boats, &c., and the Quantity

DISTRICTS.		FISHING MATERIAL.										
		Tugs or Vessels.				Boats.			Gill-Nets.		Hoop-Nets.	
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.
<i>Frontenac, Leeds and Lanark Counties.</i>			\$		\$			\$		\$		
1	Frontenac County.				20	360	90	2070	400	37	690	
2	Howe Island				5	77	5	1700	75	4	85	
3	Fronting on Leeds County.				105	3750	210		*	5	40	
4	Lakes in Leeds and Lanark.				13	260	23	40	10	33	630	
Totals					143	4447	328	3810	485	79	1445	
Values		\$										
1	†St. Lawrence River (from Brockville to Lancaster).											
2	†Prescott and Carleton Counties.											
3	†Renfrew County.											
4	†Lake Nipissing.											
5	†Parry Sound and Muskoka.											
6	†Peterborough, Otonabee and vicinity.											
7	†Victoria County and vicinity, including Lake Seugog.											
8	†Lakes Simcoe, Couchiching and vicinity, including Severn and Holland Rivers.											
9	†Wellington County and vicinity.											

† Angling and trolling.

* With set-lines and trolls.

Marine and Fisheries—Fisheries Branch.

and Value of Fish, &c., in the Province of Ontario—*Continued.*

KINDS OF FISH.												VALUE.	Number.		
Herring, fresh, lbs.	Whitefish, lbs.	Trout, lbs.	Bass, lbs.	Pickere], lbs.	Pike, lbs.	Maskinongé, lbs.	Sturgeon, lbs.	Eels, lbs.	Perch, lbs.	Catfish, lbs.	Mixed and coarse fish, lbs.			\$	cts.
8100	500	19900	4000	500	99900	.....	.....	30500	1300	112530	10700	10,867	60	1	
.....	.....	.....	500	260	8400	.....	600	350	1600	.....	5470	623	40	2	
3550	1500	3900	59500	1000	139400	.....	17000	35400	26500	23000	101000	15,936	00	3	
.....	.....	.....	7400	1000	12000	.....	.....	2150	1100	33100	72300	3,860	50	4	
11650	2000	23800	71400	2760	259700	.....	17600	68900	30500	168630	189470	.....	.....	.....
350	160	2380	4284	138	10388	.....	321	1056	4134	915	3373	31,287	50	.....
.....	.....	.....	1500	600	6000	.....	250	11200	1200	500	.....	10500	1,344	00	1
.....	400	.....	18450	7700	13100	.....	7350	1600	6900	9400	27250	49600	4,818	00	2
.....	.....	.....	1400	1700	4500	.....	.....	2000	250	560	.....	5100	602	80	3
.....	.....	.....	.....	.....	9000	.....	.....	.....	.....	.....	.....	4500	450	00	4
2500	3500	23350	20600	27700	12250	.....	3850	.....	.....	3600	3200	27700	6,758	00	5
.....	4000	59500	265000	.....	.....	.....	447000	.....	4600	2000	2000	93000	51,226	00	6
.....	.....	.....	120000	.....	.....	.....	150000	.....	5000	.....	.....	130000	19,100	00	7
25000	31000	73000	42000	17500	4200	22000	2400	.....	16000	12000	48000	17,237	00	8	
.....	.....	15500	1600	.....	.....	.....	.....	200	1000	1000	12600	1,960	00	9	

RECAPITULATION of the Number of Tugs, Boats, &c., and the Quantity and Value of Fish, &c., and other fixtures employed, in the Province of Ontario, for the Year 1896.

Number.	FISHING MATERIAL.												KINDS OF FISH.						
	Tugs or Vessels.				Boats.		Gill-Nets.		Seines.		Pound-Nets.		Hoop-Nets or Verveux.		Herring, salted, brls.	Herring, fresh, lbs.	Whitefish, brls.	Number.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.					
1	11	714	17050	38	81	8760	151	1620	24000	1620	127	30150	6	180				1	
2	11	484	29800	65	94	13825	188	25975	181800	25975	56	10700			16030	287		2	
3	38	855	120200	228	432	42945	900	1206150	158640	15	1405	970	23	460	436730	100		3	
4	1	13	650	7	82	2115	291	3000	100	74	5520	5120	4	525	16900			4	
5	21	425	53400	80	236	19840	408	60250	8740	31	4150	2025	191	76050	4275006			5	
6	4	183	10800	15	302	12910	599	255100	32760	4	250	230	3	1000	1505330			6	
7					143	4447	328	3810	485						79	1445			7
8																			8
9																			9
10																			10
11																			11
12																			12
13																			13
14																			14
15																			15
16																			16
	86	2674	231900	433	1370	104842	2865	1734110	228320	124	11325	8345	433	128805	377	7535	3555	6289	387
Totals																			

* Angling and trolling.

Marine and Fisheries—Fisheries Branch.

RECAPITULATION of the Number of Tugs, Boats, &c., and the Quantity and Value of Fish, &c., and other fixtures employed, in the Province of Ontario, for the Year 1896—Continued.

Number.	DISTRICTS.	KINDS OF FISH.												VALUE.			
		Whitefish, lbs.	Trout, lbs.	Trout, brls.	Pickarel, lbs.	Pike, lbs.	Maskinonge, lbs.	Sturgeon, lbs.	Eels, lbs.	Bas, lbs.	Perch, lbs.	Catsh, lbs.	Mixed and coarse fish, lbs.	Caviare, lbs.	Bladders, lbs.	\$	cts.
1	Lake of the Woods	552850	75490	372215	66180	1390	849480	400	33230	101940	29280	84580	53020	1050	143,111	15	1
2	Lake Superior	764500	1176900	1850	31200	7000	36870	400	33230	101940	29280	2000	2000	53020	204,793	10	2
3	Lake Huron, including Georgian Bay	1646700	4379171	425	984980	64690	257640	400	33230	101940	29280	125130	2000	53020	680,276	10	3
4	Lake St. Clair	53550	4160	336870	52250	2920	91680	15265	15265	90640	34100	393758	5085	5085	42,007	76	4
5	Lake Erie	126300	188670	946895	189670	1580	217910	43510	473920	14020	808260	964100	964100	964100	241,191	43	5
6	Lake Ontario	170850	144800	268475	412510	117720	429600	52535	170200	381100	131000	189470	189470	189470	189,510	95	6
7	Frontenac, Leeds and Lanark	2000	23800	2760	299700	5350	17600	68900	71400	305000	168630	189470	189470	189470	31,287	50	7
8	St. Lawrence River, Brockville to Lan- caster	400	600	600	6000	250	11200	1200	1500	500	10500	10500	10500	10500	1,344	00	8
9	Prescott and Carleton Counties	400	7700	1700	13100	7350	1600	6900	18450	9400	27250	48600	48600	48600	4,818	00	9
10	Renfrew County	3500	27700	27700	9000	3850	2000	250	1400	560	5100	5100	5100	5100	602	80	10
11	Lake Nipissing	4000	59500	447000	12250	447000	4600	265000	2000	3600	3200	27700	27700	27700	450	00	11
12	Parry Sound and Muskoka	3500	23850	27700	12250	3850	2000	265000	2000	3600	3200	27700	27700	27700	6,758	00	12
13	Peterborough, Otonabee and vicinity	4000	59500	447000	12250	447000	4600	265000	2000	3600	3200	27700	27700	27700	51,226	00	13
14	Victoria County and vicinity, including Lake Scouog	31000	73000	17500	4200	22000	2400	42000	16000	12000	12000	48000	48000	48000	19,100	00	14
15	Lake Simcoe, Couchiching and vicinity, including Severn and Holland Rivers	18500	5975661	2275	1101050	759360	1530980	139985	804185	1111160	492489	2945238	58105	1050	17,237	00	15
16	Wellington County and vicinity	3365160	2998595	2275	1101050	759360	1530980	139985	804185	1111160	492489	2945238	58105	1050	1,960	00	16
	Totals	3365160	5975661	2275	1101050	759360	1530980	139985	804185	1111160	492489	2945238	58105	1050	1,605,673	79	

RECAPITULATION

Of the Yield and Value of the Fisheries of the Province of Ontario, for the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Whitefish.....	Brls. 387	10	00	3,870	00
do.....	Lbs. 3,355,160	0	08	268,412	80
Trout.....	" 5,975,661	0	10	597,566	10
do.....	Brls. 2,275	10	00	22,750	00
Herring.....	" 3,555	4	50	15,997	50
do fresh.....	" 6,289,166	0	03	188,674	98
Eels.....	" 139,985	0	06	8,399	10
Sturgeon.....	" 1,530,980	0	06	91,858	80
do caviare.....	" 58,105	0	30	17,431	50
do bladders.....	" 1,050	0	80	840	00
Catfish.....	" 492,489	0	02	9,849	60
Maskinongé.....	" 759,360	0	06	45,561	60
Bass.....	" 804,155	0	06	48,249	30
Pickarel.....	" 2,998,595	0	05	149,929	75
Pike.....	" 1,101,050	0	04	44,042	00
Coarse fish.....	" 2,945,298	0	02	58,905	96
Perch.....	" 1,111,160	0	03	33,334	80
Total for 1896.....				1,605,673	79
do 1895.....				1,584,473	70
Increase.....				21,200	09

STATEMENT

Showing the Number and Value of Fishing Tugs, Boats, Nets and other Fishing Material, used in Ontario, in 1896.

Articles.	Value.
	\$
86 fishing tugs or vessels (2,674 tonnage, 433 men).....	231,900
1,370 do boats (2,865 men).....	104,842
1,734,110 fathoms of gill-nets.....	228,320
124 seines; 11,325 fathoms.....	8,345
433 pound-nets.....	128,805
377 hoop-nets.....	7,535
night-lines.....	1,530
230 freezers and ice-houses.....	711,277
92 fishing piers and wharves.....	96,030
	31,225
Total value of material.....	838,582

APPENDIX No. 8.

MANITOBA.

REPORT ON THE FISHERIES OF MANITOBA, FOR THE YEAR 1896, BY
INSPECTOR R. L. TUPPER.

SELKIRK, 1st January, 1897.

Hon. L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit to you my annual report for the year 1896, regarding the fisheries of the Province of Manitoba.

I am glad to be able to state that although the season has been more than ordinarily stormy, no wreck of any of the steamers, tugs or sailing boats engaged in the fisheries has occurred and no loss of life has taken place. Only ten commercial licenses were issued. The four fishing companies taking out licenses for 10,000 fathoms each; five owners of sail-boats for 1,400 each, and one small tug for 1,000 fathoms.

Commercial fishing commenced between the 1st and 5th of June, all the fishermen working from the harbours of Selkirk and Pony Islands, off the mouth of the Saskatchewan in the north end of the lake. Nets were set most of the time about midway, between Selkirk Island and the outlet of the lake, the entrance to the Nelson River. About the full complement of nets were used by each company as allowed. Nets in every case were strictly taken up Saturday and not reset until the following Monday. Fishing was very poor during the month of June owing to constant calm weather when the fish swim above the nets. The fishing improved in July when breezy weather caused a change, some of the hauls then were enormous, one firm lifting with less than 9,000 fathoms, 30,000 whitefish. As these fish average $3\frac{1}{2}$ lbs., the immense quantity of 105,000 lbs. was taken in one haul. The latter part of July the weather came stormy and continued more or less so during August, and an unusual loss occurred through inability to lift the nets regularly. A very large business had been done shipping fish fresh to the eastern markets, and it looked as if the complement of fish to fill the freezers to hold for sale during the winter and lenten season trade would not be had. The department was asked to extend the commercial fishing for this year until the 5th of October, the commencement of the domestic fishing close season. This was done, and on the 2nd and 3rd of September fishermen moved south to Reindeer and Swampy (or Berens) Islands, the weather continued stormy and was very cold. The companies could only use the tugs and fished during September with an average of 4,500 fathoms only. Owing to the large shipments of fresh fish made weekly during the summer, as I have already reported to you when operations ceased and the companies started for Selkirk to lay up their boats for the winter, they had about six hundred thousand pounds less fish in the freezers than they had at the same time in 1895, yet more fish were taken and marketed than during any year since 1893.

This year there have been added to the vessels engaged in the fisheries, one cold storage and passenger steamer costing \$20,500, one fishing tug costing \$5,100, and one cold storage and passenger steamer enlarged 40 feet at a cost of \$8,000, also an ammonia freezer at a cost of about \$30,000.

The experience gained in 1893 (I was only appointed inspector late in that year) was that despite the cutting down of the number of fathoms of nets allowed each company from 20,000 fathoms to 10,000 fathoms, which at first was thought a grievance—they had overstocked their market—and consequently, the fish were to a very great extent sold at a loss. The catch that year was 3,873,281 lbs. The companies in 1894 agreed to restrict the catch in order not to flood the market and they quit fishing early on obtaining 2,370,053 lbs. I had earnestly advocated shipping fresh fish in summer as had been proven possible by shipment of fresh fish I made to Commander Wakeham from the north end of Lake Winnipeg to Chicago, to the World's Fair. So in 1895 two companies commenced fishing in that manner and the catch was raised that year (1895) to 2,659,609, the extra 259,556 lbs. representing the shipments made of fresh fish. The same amount going into cold storage as the previous year. This year all the companies have gone into the shipment of fresh fish with satisfactory results. The returns are quick. Interest on outlay, insurance and storage is avoided. And if in the fluctuations of the market the price is not suitable for shipment when a shipment arrives from the lake it can be placed in the freezers and held. It is a curious fact that our market for whitefish is almost entirely in the cities situated between Montreal and Chicago, of which the great whitefish lake, Erie, is the centre, and where our fish come in competition with the fish of Lakes Huron, Michigan, Erie, and out on their own ground. I cannot understand why our market has not been sought south and south-west of us in the Prairie country where our distance of haul would be less and where whitefish are not caught. Such markets as St. Paul, Minneapolis, Sioux City, Omaha, Kansas City, and dozens of other large intervening towns should furnish us with a profitable market for all the fish we have to spare.

Our output of fish would increase largely, I am convinced, had we a market for them. As it is, full as many are caught as can profitably be sold at present, and had it not been for the summer shipments of fresh fish, which left so much less than usual in the freezers serious losses would have occurred this season. Naturally as settlement about the lakes increases more fishing is done. And now the railway is in reach of the fish of Winnipegosis—will most probably be at the lake early next year, a large increase in the output of whitefish, pickerel and pike will come from there. It will add no less than 2,011 square miles in that lake alone of available water which is known to be full of fish and where practically no fishing has hitherto been done.

In the northern part of Lake Winnipeg, where not one settler lives to disturb the waters and where the one or two small bands of Indians catch but a few fish near their homes for their own use, the commercial fishermen do not fish one-tenth of the waters or anything like it. The total number of fathoms of nets licensed is 47,600 and the season commences about June 5 and ends the 1st of September, take off 20 days lost lifting nets Saturdays and putting down Mondays and the fishing is two months ten days, the other nine months twenty days of the year, there is absolutely no fishing, and no market for more than now caught.

The number of square miles in the north end of the lake is 6,000 fully. The part north of Manitoba boundary in Keewatin being alone 4,588 square miles. Compare this with the time fishing and number of fathoms of net in Georgian Bay.

Georgian Bay, fathoms of gill-net licensed, 581,250. Time engaged fishing about five months.

Northern Lake Winnipeg, fathoms of gill-net licensed, 47,600. Time engaged fishing, two months, ten days.

In the 1894 report, Capt. Dunn reports poaching having been extensively carried on in Georgian Bay. Here there was absolutely none, so there must have been many more nets in Georgian Bay than the above shows. With all these nets the catch of whitefish and trout combined was but 2,955,600 lbs. in 1894.

This season's catch of whitefish alone in the north part of Lake Winnipeg set apart for commercial fishing was 3,270,320 lbs.

It must be remembered the season must always be short in northern Lake Winnipeg, it being in the same latitude as the Labrador coast, over 200 miles

Marine and Fisheries—Fisheries Branch.

north of the most northern point of Newfoundland. The ice never going out before the 1st of June and the harbours are frozen up in October as a rule,

The closing of the mouths of rivers for fishing, especially in the north end of the lake, at the little Saskatchewan where the whitefish resort in such numbers to spawn has proved a most wise measure. A great outcry was made at the time against the order and at the same time reducing the number of yards of net allowed each company from 20,000 fathoms to 10,000 fathoms—the following results (and it is only by results that the value of regulations can be proven—not by guessing) show:—

1892—Commercial fishing—Unrestricted fishing, mouth of Little Saskatchewan and other rivers, and Sundays up to the 5th of October:—

Number of fathoms of net.....	51,000
Pound nets.....	2
Catch.....	3,058,798 lbs.

1896—Commercial fishing—No fishing within five miles of the mouth of rivers. No fishing Sunday. Companies restricted to 10,000 fathoms each. No pound nets:—

Numbers of fathoms of nets.....	41,600
Catch.....	3,270,320 lbs.

or 212,522 lbs. more than in 1892! Can there be a better proof of the wisdom of the department, not only for the preservation of the fisheries, but for the immediate benefit of the fishermen themselves.

“An ounce of prevention is worth a pound of cure,” and the results here are so plain that he who runs may read. I am convinced more fishing might safely be allowed in the north end of the lake, but certainly would not advise its extension until a market could be found for more than what is taken now. It is not now a question of the quantity to be safely taken without depletion, it is a question of only *catching what can profitably be marketed.*

STURGEON.

A little more attention was paid to fishing for sturgeon this year, with the result of a larger catch for market. The lack of ice-houses or freezers near the fishing grounds for these fish has kept operations back as the fish seemed to have spawned out before the fishing commenced. There were only 7 kegs of caviare made from the entire catch. While the flesh of our sturgeon is held to be the finest taken anywhere, the caviare contains too much fatty matter, even if it could be taken just before the spawning commences. I am compelled to believe there are not so many of these fish in Lake Winnipeg as have been supposed, strange to say that they inhabit only one side of the lake (the east side), and are never found on the west shore with one exception. At Fisher river the Indians caught some ascending the river to spawn this past spring, the first ever seen here by them. There are none of these fish in Lakes Manitoba or Winnipegosis, though there is nothing to prevent their going up the Little Saskatchewan River. On the great Saskatchewan River, however, there are in Cedar, Cross, Moose, Indian Pear, Pine Island and other lakes and all the streams, immense quantities of sturgeon, as also in the two Playgreen lakes and all the lakes down the Nelson River to salt water.

I have been told that in tide water at the mouth of the Nelson and as far up as they can go there are very large sturgeon often weighing 400 lbs. each. Sturgeon fishing for commercial purposes with gill-nets may safely be allowed as well as in the other lakes mentioned as they are now going to waste.

DOMESTIC FISHING.

Domestic fishing has been carried on to a greater extent than formerly and the year has been fairly successful. Lake Winnipeg is two feet higher than it has been the past few years, and I attribute in a great measure the increased catch to this.

Owing to higher water the fish have been nearer shore, and as the fishing is in small boats and canoes, which could not go out far to set, they have been able to reach more fish than in the last few years.

L. Schannus, fishery officer at Fort Alexander, says: "A decrease in the catch of whitefish is observed by the Indians and others, the former enjoying the privilege of fishing during close season for their own use. I note a number of small fish were caught this fall, and no doubt they were from the Selkirk hatchery. Local fishermen are not pleased to see the hatchery closed because they had great expectations of this part of the lake being stocked with whitefish."

Pickeral were caught in great quantities through the ice and also in the fall. The increase has to be ascribed to a more vigorous prosecution of the industry. Sturgeon fishing has been carried on at two different points in this district (Brokenhead to Dog Head, east side) and was quite a success.

The close season was strictly observed; no illegal fishing came to my knowledge, as all willingly took license and used the regulation mesh. At Robinson's Mill, at Bad Throat, which was burned last summer, and the water having risen considerably some sawdust found its way into the lake—but prompt measures were taken to stop it. The fish industry is progressing in this district, with the exception of whitefish, and it is the unanimous desire of all the resident fishermen that the hatchery will be in operation next season.

1896.	Pounds.
Whitefish caught.....	47,500
Pickeral do	235,700
Pike do	63,100
Sturgeon do	110,500
Perch do	6,500
Tulibee do	59,300
Catfish do	30,000
Mixed and coarse, caught.....	2,244,200
<hr/>	
Value.....	\$19,934 00
Fathoms of net.....	30,300

It will be noticed this overseer and others note a decrease in this district. The cause is found in comparing the overseer's returns with the return for the previous year.

1895.	
Whitefish.....	51,050 lbs.
Fathoms of net.....	48,750

It will be seen that according to the overseer there were 18,450 fewer fathoms of net used in 1896 than in 1895. Yet the number of whitefish caught was only 3,550 lbs. less. I think this is proof that the fish were even more plentiful had they been fished for. Last season, however, pickeral were in great demand, and they were more sought for as is shown by comparing the two years again in the same district.

Catch of pickeral, 1895.....	197,010 lbs.
" 1896.....	235,700 "
Increase.....	38,690 "
Sturgeon also were sought for to the neglect of whitefish.	
Result, 1895.....	75,800 lbs.
" 1896.....	110,500 "
Increase.....	34,700 "
<hr/>	
Total value of all fish, 1895.....	\$ 18,441 80
" " 1896.....	19,934 00

being shallow and marshy. The catch this year has been larger than usual. All the fishing is done through the ice in winter with the exception of a few small nets by the Indians during summer for their own use—and then only in the river when 20 yards or so is set to catch a few gold eyes, catfish and an odd pike. No whitefish are caught in this district nor do they come into the Red River to spawn. Wm. Hughes, overseer for this district, reports the law well observed and the catch as follows:—

Pickereel.....	59,400 lbs.
Pike.....	164,000 "
Perch.....	34,000 "
Catfish.....	112,000 "
Mixed and coarse.....	513,000 "
	<hr/>
Value.....	\$7,036 00
Value 1895.....	5,896 50
	<hr/>
Increase.....	\$1,139 50

UPPER RED RIVER.

There is little fishing on the river except with hooks set on night lines, catfish being the largest catch, a good many gold eyes are taken, and a carp, called bass here for a better name.

Five seine nets are used in the river near Winnipeg, the catch being sold in the city each morning as taken from the nets through the previous day, the fish being held in pens on the river bank alive until disposed of. These fish are disposed of cheaply, principally to the foreign element of the city. The catch is as follows:—

Whitefish.....	200 lbs.
Sturgeon.....	3,400 "
Carp.....	16,000 "
Pickereel.....	19,000 "
Catfish.....	18,000 "
Mixed fish.....	560000 "
	<hr/>
Value.....	\$1,990 00

LAKE MANITOBA.

Totogan to Long Point.

Daniel Devlin, overseer for this division, says: "In submitting my annual report for the year 1896, I beg to state that I visited all the principal fishing grounds in my district from St. Laurent to Totogan in May, October and November, seeing that the close season was observed, also collecting license fees.

During my tour of inspection I found that the fishery regulations were observed by the fishermen.

The fishermen, who are using seines, consider that the license fees are too high, as those nets are used only about three months in the summer beginning about the 20th of May to 15th of July, and again from the 1st of September to the 15th of October, and several days of these periods they are prevented working from stormy weather. Owing to the shortness of the fishing season and the \$50.00 price of seine

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and \$25 for license and the low price paid for fish they wish me to report to you on this matter that the license may be reduced to \$15.00. The catch for this district for the season of 1896 was:—

	Pounds.
Whitefish.....	236,340
Pickereel.....	283,990
Pike.....	280,819
Tullibee.....	8,614
Salt pike.....	8,500
Mixed and coarse.....	15,000
Total value.....	\$20,147 98
Value—1895.....	12,933 03
Increase.....	7,214 95

LAKE MANITOBA—WEST SIDE. WHITE MUD TO NARROWS AND SANDY BAY.

Mr. Martineau writes as follows: "I beg to report that at different times during the year, and especially during the close season, I have visited all the fisheries and I am pleased to state that everything was in good order and condition and the fishing regulations strictly attended to, and to show the correctness of this statement I would here mention that even the Indians have given up fall fishing and are keeping the close season, not caring for fishing for the purpose of having hung fish." Mr. Martineau is Indian agent for Lake Manitoba and if other Indian agents would—as Mr. Martineau has done—try and induce the Indians to observe the close season and cease hanging fish in the spawning season it would be better for the Indians and their families in the future. The practice is no longer necessary.

Mr. Martineau further says: "In the past fishing was carried on only in winter, but this year ice-houses and freezers were built and a trial for summer fishing was effected and proved to be successful in so much as after expenses were paid the fishermen had a small profit and altogether the industry has proved of great help to them during the summer months when they could not obtain work elsewhere—and was of benefit to newcomers and settlers in general." The settlers would willingly welcome commercial fishing in the north end of Lake Manitoba where there are no settlers, and from the Narrows southerly where there are settlers kept for domestic fishing. Again Mr. Martineau says: "All the fishermen agree that the close season is too long and that the close season for whitefish should be say from the 1st day of October to the 10th day of November, which would cover the spawning season of the fish yearly, and they earnestly hope you will support them in such a fair request and urge upon the Minister of Marine and Fisheries the necessity of the change asked for, and they intend to send in a large petition to that effect shortly."

Catch—1896.	Pounds.
Whitefish.....	400,500
Pickereel.....	110,050
Pike.....	219,000
Tullibee.....	57,950
Mixed and coarse.....	234,300
Value.....	\$31,788 00
Value—1895.....	7,500 00

This great increase in this district is caused solely by the more vigorous prosecution of the fishing owing to the building of the freezer at Westbourne and the summer fishing, which for the first time has been carried on five miles out in the lake, in summer. The allowing 500 yards of net instead of 300 yards makes it possible for three or four men in a large boat to fish profitably.

FAIRFORD, LAKE ST. MARTIN AND LITTLE SASKATCHEWAN.

Mr. Martineau has acted as overseer in this district in addition to his own since the death of the late overseer Mr. Wood, and I would wish here to place on record the great pains and care Mr. Martineau has taken in the fishery work on Lake Manitoba, and I would respectfully suggest that the late Mr. Wood's district be permanently added to that of Mr. Martineau with a temporary guardian at Fairford during the close season for whitefish. The catch in this district was:—

Whitefish.....	45,000 lbs.
Pickereel.....	10,000 "
Pike.....	50,000 "
Tullibee ..	13,000 "
Coarse and mixed.....	50,000 "
Value.....	\$4,440 00

LAKES DAUPHIN AND WINNIPEGOOSIS AND WATER HEN RIVER.

J. H. Adams, overseer, says:—"The catch this year was 462,000 lbs., valued at \$761,750. The quantity sold in Canada and United States was 65·36 per cent of the whole catch. The larger catch this year is principally due to the construction of the Dauphin Railway and the advance of settlement in this district. I have reason to believe that the close seasons were fairly observed. Hereafter with a view to increase the development of our fisheries in this district, I beg to recommend that commercial licenses in the southern half of Lake Winnipegosis be granted to fishermen." I cannot agree with this officer's recommendation. There are many settlers going in about the southern end of this lake, enough to do all the fishing required there. If a proposition for commercial fishing were entertained it should be at the least restricted to that part of the lake lying north of Birch Island. This lake is practically unfished as yet, and as the railway will in all probability be carried to the lake next year a large amount of fishing may be looked for. It is yet a question as to the number of whitefish in the lake and this can only be found out by actual test and exploration.

The lake for a western lake is fairly deep, being deeper than Lake Manitoba, and presumably whitefish are plentiful in the northern part. It is proved they are so in the part south of Birch Island. There can be no question of the value and I might say exhaustless quantities of the spring spawning species of fishes in the lake did I not know the word "exhaustless" never can properly apply to any of our waters. Lake Winnipegosis is the drainage basin for the Riding, Duck and Porcupine Mountains and sharing with the Carrot River the drainage of Pasquia Hills. Numberless streams run through the valleys and gulches of these mountains and every one of these streams is spawning ground in the spring for millions of pike, pickerel and suckers. Such lakes as Dauphin, Swan and Red Deer also being immense spawning beds. There is, I estimate, a greater area of spawning ground tributary to this lake than all the other lakes of Manitoba twice over, and from the wooded hills and valleys more insect fish food found than in ten times the area of prairie streams. As a consequence the fish named are very numerous and of large size and in the best condition. I have seen no where else such large fat pike and pickerel.

The suckers are so numerous and it is a pity these pests could not be got rid of, although the whitefish are a smaller fish than those of Lake Manitoba, the fishermen are using 6 inch extension measure gill-nets as in a smaller net the suckers gill, and being a strong fish and a great struggler in a net, they break the nets unless they have room to go through. The whitefish are smaller and darker than Lake Winnipeg whitefish and have not the sudden rise back of the head so prominent in those fish. They resemble the fish of Lake Manitoba though in a few brought in I noticed one

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both as to colour and shape identical with the Lake Winnipeg fish, and it may be that some of the fish annually going up the Little Saskatchewan go on through Waterhen river to spawn in Winnipegosis :—

The area of Winnipegosis (square miles).....	2,011
Lake Dauphin	387
Swan and Pelican lakes	123
Red Deer lake	150
Total sq. miles.....	2,671
Height above sea	828 ft.
" Lake Winnipeg.....	118 ft.

Mr. Adams reports the catch this year as follows :—

Whitefish	221,000 lbs.
Pickereel	37,500 "
Pike	59,000 "
Perch	10,000 "
Mixed and coarse.....	135,000 "
Value 1896	\$7,617 50
" 1895.....	6,010 00
Increase	\$1,607 00

SOUTHERN MANITOBA.

Edmund Crayston, the fishery officer for this district, writes :— "This report includes the catch in Rock, Swan, Louise and Pelican lakes. I think the number of fish is increasing—both in number and size. There has been no wholesale slaughter among them with spears and forks for several years, that is why they are increasing. The close season has been pretty well observed in this section this year. The catch for 1896 was :—

Pike.....	80,000 lbs.
Mixed and coarse fish.....	20,000 "
Value.....	\$3,000 00
Increase of fish caught over 1895.....	20,000 lbs.

There have been some American farmers coming over the border for a days rod and line fishing in these lakes, but as our settlers do not object, they being neighbours, on reference to the department last year regarding it they have been allowed to fish as a courtesy.

In conclusion I beg to say that the utmost care must be taken to maintain the fishing in these shallow lakes, to encourage settlement, the settlers not to live by fishing alone but as a means of getting a part living the first years of settlement, and keeping commercial fishing to the parts of the waters uninhabited.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

R. LATOUCHE TUPPER,

Inspector.

M A N I

RETURN of the Number and Value of Vessels, Boats and Fishing Material, the District extending from Manitoba

Number.	LOCALITY.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIAL.						
		Vessels or Tugs.			Boats.			Gill-Nets.		Freezers and Icehouses.		Piers and Wharves.		
		Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Value.
			\$		\$			\$	\$		\$		\$	
1	Commercial fishing, Lake Winnipeg	12	1606 60	104100	58	23	3450	181	47600	8600	22	86000	13	5100
2	Lower part of Red River and Lake Winnipeg to Willow Point, west, and to Brokenhead, east					47	530	63	9150	835				
3	Lake Winnipeg, east side Brokenhead to Doghead					173	1730	204	30300	3030	1	600	1	20
4	Lake Winnipeg, west side (Gimli District) Willow Point to Doghead					140	1835	200	48700	4870	14	1500		
5	Upper Red River District					5	50	10						
6	Southern Manitoba													
7	South Lake, Manitoba, Totogan to Long Point					23	230	44	22000	1100				
8	Little Saskatchewan and Lake St. Martin					55	675	110	13200	1320				
9	The Narrows Ebb and Flow Lake, and west side Lake Manitoba					144	2335	247	28950	2312	9	5800	2	150
10	Lakes Winnipegosis, Dauphin and Waterhen					61	408	130	10800	1080				
11	Doghead, north, east and west sides of Lake Winnipeg	1	25 00	1200	6	4	555	61	17500	1750				
	Totals	13	1631 60	105300	64	675	11798	1250	228200	24897	46	93900	16	5270

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TOBAGO.

Number of Men employed, &c., with the Kinds and Quantities of Fish, in the and Keewatin, for the Year 1896.

Seines.		KINDS OF FISH.									VALUE.		Number.		
		Whitefish, fresh or frozen, lbs.	Pickereel or Doré, lbs.	Pike, lbs.	Bass, lbs.	Sturgeon, lbs.	Tullibee, lbs.	Perch, lbs.	Catfish, lbs.	Mixed fish, lbs.	Home consumption, lbs.	\$		cts.	
...		3270320	94430	10576									166,560	42	1
...			59400	164000				34200	112000	51300	22306		7,483	12	2
...		47500	235700	63100		110500		6600	30000	244200	350000		26,041	00	3
...		140000	260000				230000		18000	206000			21,640	00	4
5	200	200	19000		16000	3400			18000	56000			1,970	00	5
...				80000						20000	100000		3,800	00	6
6	300	236340	383990	289319			8614			15000	70000		30,845	36	7
...		45000	10000	50000			13000			50000	106000		6,430	00	8
...		400500	110050	219000			57950			234300	356550		38,339	50	9
...		221000	37500	59000				10000		135000	250000		19,805	00	10
...		212800	208800			61848				660000	640000		39,396	40	11
11	500	4573660	1418870	934995	16000	175748	309564	50800	178000	1671800	1894856		362,310	80	

NOTE.—On line No. 1 over 1,000,000 lbs. of whitefish were shipped fresh, and the balance frozen.

RECAPITULATION

Of the Yield and Value of the Fisheries of Manitoba, for the Year 1896.

Kinds of Fish.	Quantity.	Price.		Value.	
		\$	cts.	\$	cts.
Whitefish	Lbs. 4,573,660	0	05	228,683	00
Pickarel	" 1,418,870	0	03	42,566	10
Pike	" 934,995	0	02	18,699	90
Bass	" 16,000	0	03	480	00
Sturgeon	" 175,748	0	05	8,787	40
Tullibee	" 309,564	0	02	6,191	28
Perch	" 50,800	0	01	508	00
Catfish	" 178,000	0	01	1,780	00
Mixed fish	" 1,671,800	0	01	16,718	00
Home consumption	" 1,894,856	0	02	37,897	12
Total for 1896	11,224,293			362,310	80
do 1895	9,170,048			250,776	00
Increase	2,054,245			111,534	80

STATEMENT of Fishing Material in Manitoba, for the Year 1896.

Material.	Value.	
	\$	cts.
13 fishing tugs, 1,631 tons, 64 men	105,300	00
675 do boats, 1,250 men	11,798	00
228,200 fathoms gill-nets	24,897	00
11 seines	500	00
46 freezers and ice-houses	93,900	00
16 piers and wharfs	5,270	00
Total	241,665	00

APPENDIX No. 9.

NORTH-WEST TERRITORIES.

REPORT ON THE FISHERIES OF THE NORTH-WEST TERRITORIES, FOR THE YEAR 1896, BY THE INSPECTOR G. S. DAVIDSON.

FORT QU'APPELLE, ASSA., N.-W. T., 2nd January, 1897.

HON. L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report for the past year.

Owing to the vastness of the territory and the advanced state of the season when I took office I have been able to make a personal inspection of only those districts situated in the immediate vicinity; but trust to make an extended tour in the early spring.

The regulations relating to the close season have on the whole been well observed and with the exceptions of Devil's Lake, the Saskatchewan River and white-fish in Crooked Lakes the stock of fish shows a general increase, although the catch has been larger than usual.

I am of opinion that in the far north it is impracticable and unnecessary to rigorously enforce those restrictions so vitally important to the fisheries contiguous to thickly populated districts, or commercial centres. Many of the lakes are surrounded by *muskegs*, twenty and thirty miles in extent and totally unapproachable except during the fall and winter months, it being necessary to leave early owing to the impassable nature of the country at other seasons of the year.

I am indebted for some valuable information regarding the brook-trout in the Macleod and Kootenay districts to the courtesy of Major Steel and Inspector Casey who sent me a box of trout caught on 9th October last, which arrived in good order. They were with spawn and in prime condition.

Inspector Casey informs me that from his own experience and that of sportsmen in the neighbourhood they are to be found with spawn during all months of the year, and recommends that the close season should be established from the first formation of the ice in the creeks until the break up in the spring.

I hope soon to have some further information anent the lake fish of these waters, those in many of the fish being unable to reach the lakes for spawning.

There is abundant evidence that all these western streams are teeming with trout, speckled, hog-backed, and bull; eighty to one hundred being an ordinary day's catch with a rod and line. And should, now that the mining wealth of these districts is attracting so much attention, prove an alluring feature to the tourist and the sportsman.

Your officers have received much assistance in the discharge of their duties and much valuable information from time to time from the members of the North-west Mounted Police whom we invariably find both able and willing to afford courteous and efficient service.

EDMONTON DISTRICT.

W. D. Matheson, overseer in this division, reports an especially large catch in several of the lakes, owing to the settlers having been permitted to fish during the close season, the larger portion having been then taken, and recommends that

the close season be enforced and a policeman be placed in charge in preference to appointing local guardians. There is already a police detachment stationed at "The Landing" and a constable might be sent from thence to those points requiring special care.

LAC LA BICHE.

The catch in this lake has been larger than usual. Eighty per cent of the forty residents find employment with the Hudson's Bay Co. during the summer, and can catch fish during the winter if so inclined; it is therefore recommended that the close season be rigorously enforced.

BEAVER LAKE, NORTH.

At this lake matters are in a similar condition to these at Lac La Biche.

WHITEFISH LAKE.

This lake is under the management of Mr. John Ross, of Saddle Lake. The close season has been well observed, both Mr. Ross and the Revd. E. B. Glass, using their influence to secure such observance.

BEAVER LAKE, SOUTH.

There is a large amount of coarse fish in this lake, and the late Mr. Gilchrist directed that little attention should be given to it; there have, however, been several complaints regarding the destruction of fish during the close season, which were unfortunately received too late for any action to be taken in the matter.

LAKE ST. ANNE.

The fish in this lake are of a better quality than those in the lakes on the north side of the river.

Owing to the poverty of the settlers free permits were issued for domestic fishing, but no fish have been allowed to be marketed.

There was a guardian appointed during the close season of forty days, and all the regulations were observed.

WHITE WHALE LAKE.

The fish are reported to be too numerous in this lake and the quality consequently inferior to those in Lake St. Anne. Indians and Half-breeds have been travelling from one lake to another, it is therefore recommended that free permits be issued to the settlers with a view to reducing the number of fish, and the residents be restricted to fishing on their respective lakes.

The Half-breeds strictly observed the regulations, but Paul's band of Indians were allowed fish during the close season.

LAKE LANOU.

Whitefish and coarse fish are very numerous in this lake, but there are no settlers in the vicinity. The fishing has been carried on by Indians from River Qui Barre Agency.

DEVIL'S LAKE.

The stock of fish here has been steadily on the increase owing to the fact that there are only three settlers and one Indian with net.

The regulations have been well observed.

Marine and Fisheries—Fisheries Branch.

PIGEON LAKE.

This is a magnificent sheet of water abounding in whitefish, pike, pickerel, and a considerable number of coarse fish; it is unquestionably the best fishing lake in this large and important district, as is evidenced from the fact that although the number of boats and canoes is much less than of those employed on other lakes the catch is much greater than the combined take of any other four.

Owing to the existence of a considerable amount of jealousy the settlers exercise a reciprocal watch over each other and to a great extent act as their own guardians. Domestic licenses have however been abused by turning them to commercial purposes, and, Mr. Matheson recommends that the fees for licenses to white men on this particular lake be raised without allowing nets of a larger capacity; this he is of opinion would tend to check the abuse.

BAPTISTE LAKE.

This lake is situated about twelve miles south-west of Athabaska Landing and contains only tullibee.

Great destruction of fish is reported to have taken place during the past two years; Mr. Matheson points out the facility with which this lake might be guarded from "The Landing," and foretells a speedy extinction of the fish unless some such steps are taken in the immediate future.

PRINCE ALBERT DISTRICT.

Fishery Overseer R. S. Cook, reports the regulations well observed in this district, no fines having been imposed, and only three nets seized.

The catch in Red Deer, Little Trout, Big Trout, Montreal and Pelican lakes are turning out exceedingly well, 343,000 lbs. of fresh fish having been shipped to the United States markets during the past year. One fisherman with 300 yards of net caught five tons of fish in fifteen days. A marked contrast to this is to be found in the lakes to the north-west of Prince Albert where for no apparent cause the fisheries are rapidly giving out; there is also a scarcity of rabbits in this locality which causes a heavier demand for fish amongst the native population.

The fisheries on the Saskatchewan also turned out a complete failure and the Saskatchewan Fish Co. has sustained a heavy loss in connection with sturgeon fishing.

Free permits were issued to the number of 143 to Half-breeds and Indians, and revenue (for license fees) amounting to \$192.00 was collected during the year.

LONG LAKE DISTRICT.

Fishery Overseer John Foster reports the close season to have been well observed by both white men and Indians, and there were no fines inflicted and no confiscations made.

For twelve years the waters of those lakes have been annually lowering one foot, but during the year past they have, in consequence of the large rainfall, risen about a foot. There being abundance of food the catch of whitefish has been larger than usual; but the take of pike and coarse fish has not been so great. This is, in the opinion of Mr. Foster, to be attributed to the fact that the fishing has been done in deeper water.

CROOKED LAKE DISTRICT.

Fishery Guardian Gerald Fitzgerald reports a fair catch of all fish except whitefish, which have almost disappeared from the lakes of this district, there being none in Crooked Lake, and only a few old ones in Round Lake, the presence of these being accounted for by the fact that there has been less small net fishing in the latter than in the former.

The placing of whitefish fry in these lakes would be of very material benefit to the settlers, being worth at least three times as much as mullet.

QU'APPELLE DISTRICT.

Fishery Guardian John Leader, jr., reports a rigid enforcement of the fishery regulations, to which fact may be attributed the universally plentiful supply of fish of all kinds.

KATEPWE LAKE.

In this lake the greater part of the fishing is done during the spring and autumn months in shallow water.

A supply of whitefish fry was placed in the lake some four years ago, and that fish is now particularly plentiful, being as great as at any time during the past twelve years.

There were 5 gill-nets, 3 spears and 2 ice lines seized during the year.

MISSION LAKE.

This lake has a good supply of pike, pickerel, tullibee, perch and suckers, and the catch of whitefish was larger than that of last year.

PASQUA LAKE.

A considerable increase in fish of all kinds is noted in this lake. A large number were killed by an electric storm in July last.

Only one licensed fisherman operated here this year.

WYOWASUNG LAKE.

This is the chief spawning ground for pike, pickerel and buffalo fish.

QU'APPELLE LAKE.

This is the principal fishing lake of the district; it was stocked with whitefish fry at the same time as Katepwe Lake, and the supply is abundant.

MACLEOD DISTRICT.

Fishery Guardian I. W. Short reports the laws regulating the close season and illegal netting and spearing to be observed and enforced.

All the dams are provided with fish-ways.

Mr. Short corroborates the statement of Inspector Carey, that trout are to be found with spawn at any time during the open season.

All the rivers, streams and lakes of this district abound in salmon-trout, pike, grayling, bull-trout and river-trout (or cut-throat), the latter appear to be very different from the ordinary brook-trout.

There are no fish exported from this neighbourhood and very little sold; the settler generally fishing for sport and consuming what he catches. An Indian may occasionally be seen offering fish for sale and the price is about 25 cts. for 3½ or 4 lbs.

MOOSE-MOUNTAIN LAKES.

These lakes, three in number, have until the recent appointment of Guardian W. V. Hill received no care. The regulations are reported to be now well observed, M. Hill being unable to find any one committing a breach of the law.

Marine and Fisheries—Fisheries Branch.

The lakes have a depth of water varying from ten to forty feet, and the bottom is largely composed of gravel.

One of the lakes situated on White Bear Indian Reserve has been almost entirely fished out, and it would be a great benefit to the settlers to have it stocked with fry. The only fish now found are pike and pickerel.

CANNINGTON LAKE.

This is a larger body of water and is well stocked with pickerel, pike and suckers.

BATTLEFORD DISTRICT.

As reported to the Department, I found it necessary to suspend the guardian of this district, and pending a reappointment I am without any report from this very important post; but I trust during my proposed visit in the spring to put matters straight.

CUMBERLAND HOUSE DISTRICT.

I have received no returns from this district.

PAS DISTRICT.

No returns received.

Herewith I append a statement of the fish caught and boats employed, nets used, etc., on the various lakes.

I have the honour to be, Sir,

Your obedient servant,

G. S. DAVIDSON,

Inspector.

NORTH-WEST TERRITORIES.

RETURN of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and Boats, &c., the Quantity and Value of Fish, in the District of Prince Albert, Saskatchewan Territory, for the Year 1896.

Number.	DISTRICTS.	FISHING MATERIAL.								
		Tugs.			Boats.			Gill-Nets.		
		Number.	Value	Men.	Number.	Value.	Men.	Number.	Fathoms.	Value.
		\$		\$				\$		
1	Saskatchewan River.....	1	1,200	3	20	250	25	75	750	350
2	Green Lake.....				15	150	20	100	3,000	500
3	Assiniboine and others.....				15	150	20	70	2,000	325
4	Montreal, Red Deer, Trout, Sturgeon, Candle, &c.....				20	250	25	350	12,000	1,400
	Total.....	1	1,200	3	70	800	90	595	17,750	2,575

RETURN showing the Kinds of Fish in the District of Prince Albert, Saskatchewan Territory, for the Year 1896.

Number.	DISTRICTS.	KINDS OF FISH.						VALUE.	
		Whitefish, lbs.	Trout, lbs.	Pickeral, lbs.	Pike, lbs.	Sturgeon, lbs.	Tullibee, lbs.		Gold Eyes, lbs.
								\$ cts.	
1	Beaver River.....	48000		20000	100000				5,000 00
2	Green Lake.....	12000							600 00
3	Assinibota Lake.....	24000			50000				2,200 00
4	Devils Lake.....	9000			1000				470 00
5	Big Whitefish and other small lakes.....	18000			5000				1,000 00
6	Montreal Lake.....								
7	Red Deer Lake.....								
8	Little Trout Lake.....								
9	Big Trout Lake.....	*213000	80000	15000	35000				15,800 00
10	Pelican Lake.....	†20000	8000		12000				1,640 00
11	Bittern Lake.....								
12	Dog Lake.....								
13	Candle Lake.....								
14	Saskatchewan River.....			1000	4000	42000	500	1200	2,232 00
15	Lakes South of South Saskatchewan River.....			1500	5000				145 00
	Total.....	344000	88000	37500	212000	42000	500	1200	29,087 00

The catch at Stanley, Ile à la Crose and other lakes in the far north not included.
 *Fresh fish exported to the United States markets. †Used for home consumption.

Marine and Fisheries—Fisheries Branch.

RETURN of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and Boats, the Quantity and Value of Fish in the District of Edmonton, Alberta, for the Year 1896.

Number.	DISTRICTS.				FISHING MATERIALS.						KINDS OF FISH.					VALUE. \$ cts.	Number.
	Boats.		Gill-Nets.		Number.	Men.	Fathoms.	Value.	Whitefish, lbs.	Pike, lbs.	Tullibee, lbs.	Mixed and coarse fish, lbs.	Pike, lbs.	Tullibee, lbs.	Mixed and coarse fish, lbs.		
	Number.	Value.	Number.	Value.													
1	Lac La Biche	50	750	200	5000	600	135000	5000	5000	5000	5000	5000	5000	5000	5000	4,500 00	1
2	Whitesfish Lake on Indian Reserve.	8	120	10	650	78	38000	1500	1500	1500	1500	1000	1000	1000	1000	1,215 00	2
3	Beaver Lake near Lake La Biche	20	300	60	1500	180	32000	1500	1500	1500	1500	1000	1000	1000	1000	1,035 00	3
4	Beaver Lake south of river	18	180	30	750	90	100000	3000	3000	3000	3000	8000	8000	8000	8000	2,100 00	4
5	Lac St. Anne	10	50	35	875	105	16000	1000	1000	1000	1000	1500	1500	1500	1500	795 00	5
6	White Whale Lake	4	40	20	500	60	8000	500	500	500	500	3000	3000	3000	3000	330 00	6
7	Lake Lannon	1	5	3	75	9	500	200	200	200	200	300	300	300	300	30 00	7
8	Devils' Lake	1	300	200	5000	600	480000	1000	1000	1000	1000	7000	7000	7000	7000	14,730 00	8
9	Pigeon Lake	30	300	200	5000	600	480000	1000	1000	1000	1000	7000	7000	7000	7000	14,730 00	9
	Totals	141	1745	574	14350	1722	809500	75200	75200	75200	13000	36800	36800	36800	36800	28,065 00	

* Caught during close season by means of pitch-forks, etc., see Reports.

RETURN of the Number of Fishermen, Tonnage and Value of Tugs, Vessels and Boats, &c., the Quantity and Value of Fish, in the District of Prince Albert, Saskatchewan Territory, for the Year 1896.

Number.	DISTRICTS.		FISHING MATERIALS.						KINDS OF FISH.								VALUE.					
	Number.	Value.	Tugs.		Boats.		Gill-Nets.		Whitefish, lbs.	Trout, lbs.	Pickarel, lbs.	Pike, lbs.	Sturgeon, lbs.	Perch, lbs.	Tullibee, lbs.	Mixed and coarse fish, lbs.						
			Number.	Men.	Number.	Value.	Men.	Number.										Fathoms.	Value.			
			\$		\$		\$											\$				
1	Crooked Lake	1	1200	3	70	800	90	595	17750	266	3500	9400	16700	100	1800	100	11500	65000	15000	12000	95000	3,140 00
2	Moose Mountain	2	100	3	105	28	140	3600	560	62200	10000	5000	9700	1000	1800	100	10000	5000	15000	12000	30000	700 00
3	Long Lake	3	105	7	105	28	140	3600	560	62200	9700	10000	1000	1800	100	10000	5000	15000	12000	95000	3,801 00	
4	Eagle Quill Lake	4	243	10	243	12	64	1550	266	3500	9400	16700	100	1800	100	10000	5000	15000	12000	95000	1,275 00	
5	Qu'Appelle Lakes	5	800	70	800	90	595	17750	266	3500	9400	16700	100	1800	100	10000	5000	15000	12000	95000	29,087 00	
6	Prince Albert	6	1200	3	141	1745	150	574	14350	1722	4000000	2000000	1000000	50000	50000	2000000	2000000	1000000	50000	50000	2000000	42,637 00
7	Edmonton	7	1200	3	231	2993	283	1393	38435	5343	5221100	88000	2079100	1389050	92000	15000	43900	2184500	383,232 00			
8	Cumberland and other districts (Estimated)	8	1200	3	231	2993	283	1393	38435	5343	5221100	88000	2079100	1389050	92000	15000	43900	2184500	383,232 00			
	Total		12000	3	231	2993	283	1393	38435	5343	5221100	88000	2079100	1389050	92000	15000	43900	2184500	383,232 00			

Marine and Fisheries—Fisheries Branch.

RECAPITULATION

Of the Yield and Value of Fisheries in the North-west Territories for the Year 1896.

Kinds of Fish.	Quantity.	Value.
		\$ cts.
Whitefish	5,221,100	261,055 00
Trout	88,000	4,400 00
Pickeral	2,079,100	62,373 00
Pike	1,389,050	27,781 00
Sturgeon	92,000	4,600 00
Perch	15,000	300 00
Tullibee	43,900	878 00
Coarse and mixed fish	2,184,500	21,845 00
Totals	11,112,650	383,232 00
do for 1895		501,690 00
Decrease		118,458 00

STATEMENT of Fishing Materials in the North-west Territories, 1896.

1 fishing tug (3 men)	\$1,200
231 fishing boats (233 men)	2,993
38,435 fathoms of gill-nets	5,343
1 freezer	2,000
Total	\$11,536

RECAPITULATION

Of the Yield and Value of the Fisheries of Manitoba and the North-west Territories, 1896.

Kinds of Fish.	Quantity.	Value.
	Lbs.	\$ cts.
Whitefish	9,794,760	489,738 00
Pickeral	3,497,970	104,939 10
Pike	2,324,045	46,480 90
Sturgeon	266,748	13,387 40
Bass	16,000	480 00
Trout	88,000	4,400 00
Tullibee	353,464	7,069 28
Perch	65,800	808 00
Catfish	178,000	1,780 00
Mixed fish	3,856,300	38,563 00
Home consumption	1,894,856	37,897 12
Total		745,542 80
do for 1895		752,466 00
Decrease		6,923 20

RECAPITULATION

Of the Fishing Material used in Manitoba and the North-west Territories.

Material.	Value.
	\$ cts.
14 fishing tugs (1,655 tonnage) (67 men).....	106,500 00
906 do boats (1,533 men).....	14,791 00
266,635 fathoms of gill-nets.....	30,240 00
11 seines.....	500 00
47 freezers.....	95,900 00
16 fishing piers and wharfs.....	5,270 00
Total	253,201 00

Marine and Fisheries—Fisheries Branch.

APPENDIX No. 10.

BRITISH COLUMBIA.

ANNUAL REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR 1896, BY INSPECTOR JOHN McNAB.

NEW WESTMINSTER, 14th January, 1897.

Honourable L. H. DAVIES,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual statistical, tabulated report touching the quantities, and values, of the products of the fisheries of British Columbia, for the year 1896.

The season was a prosperous one,—the output of canned salmon for the province, was the largest in the history of the industry, and that of the Fraser River, the third largest on record, notwithstanding that it was what is known by cannery men and fishermen as an “off” year.

As shown in the appended tabulated statement A,—the pack of the Fraser River was 375,344 cases, or 18,016,544 1 lb. cans, and that of the whole province, 621,938 cases, or 29,858,056 cans of 1 lb. each; the largest previous pack was that of 1893, which amounted to 29,169,908 1 lb. cans, or 683,148 cans less than in 1896.

The halibut and sturgeon fishing industries are being conducted on a more satisfactory basis than formerly, the first named industry is capable of unlimited expansion, the catch during the year amounted to 2,276,556 lbs. 1,926,956 lbs. of which was exported to eastern markets. The catch of sturgeon for commercial purposes amounted to 380,500 lbs. dressed fish, 355,500 lbs. of which was exported to eastern markets. A large number of sturgeon are caught by settlers and Indians for domestic use, they are in greater demand each year, and the facility with which they can be caught by poachers in the lakes and sloughs,—by the use of the destructive brawl lines, renders their protection difficult, but of very great importance.

The catch of fur-seal skins for 1896 shows a large decrease, as compared with that of the previous year :—

Catch 1895.....	71,359 skins.
do 1896	55,677 do

The prices of the skins are also much less than was obtained for the 1895 catch.

The capital invested in the fisheries in 1896, was \$2,614,578, an increase of \$578,143 over that of 1895.

The number of hands employed in canning, fishing and sealing, during 1896, was 15,925, against 14,485 in the previous year.

Shad are becoming plentiful in the Fraser River, and it will be necessary for your department to formulate regulations governing their catch.

The lobsters and oysters sent to Vancouver by your department last season, reached their destination, and were planted in various suitable places in fairly good condition. I have visited three beds, and handled some of the oysters several times since they were planted; they were in good condition, and the young oysters attached to the shells were increasing in size.

The present fishery regulations give every general satisfaction, and my guardians in the different districts, reported that they were fairly well observed.

I have, sir, the honour to be,

Your obedient servant,

JOHN McNAB,

Inspector of Fisheries.

A.—SCHEDULE of Salmon Canneries in British Columbia, Season 1896.

Owner or Agent.	Name of Cannery.	Packed in 1-lb. Cans.
<i>Fraser River.</i>		
A. Ewen & Co.	Ewens	972,720
Westham Island Packing Co.	McDonald Bros. & Co.	274,752
Lam Tung	Westminster Cannery	295,680
N. H. Bain	Pacific Coast	428,544
Walter Morris	Federation	703,776
Malcomb & Windsor	Malcomb & Windsor	1,081,248
Costello & McMorren	Star	585,600
Fisherman's Canning Co.	Fisherman's	470,784
J. A. Hume & Co.	J. A. Hume	312,000
Bon Accord Fishing Co.	Sea Island	580,000
Short & Squire	Imperial	520,440
Hennessy & Alexander	Canadian Pacific	483,312
Victoria Canning Co.	Delta	1,056,000
	Harlock	816,000
	Holly	480,000
	Wellington	480,000
Rowan Bros.	Terra Nova	472,960
Hobson & Co.	Atlas	289,440
J. H. Todd & Son.	Richmond	513,024
do	Beaver	541,632
Provincial Canning Co.	Provincial	271,824
Brunswick Canning Co.	Brunswick	454,560
Boutilier & Co.	Boutilier's	360,000
Fraser River Industrial Co.	Industrial	338,400
Alliance Canning Co.	Alliance	230,400
Good Murphy & Co.	Dinsmore Island	432,000
McPherson & Hickey	McPhersons	369,600
M. Costello	Fraser River	384,000
Anglo-American Canning Co.	Anglo-American	408,000
	Britannia	
	Wadhams	
H. Bell-Irving & Co.	Camu Pass	2,968,848
	British American	
	Phoenix	
P. Birrell	British Columbia	432,000
<i>Skeena River.</i>		
Carlisle Packing Co.	Carlisle	652,800
Royal Canadian Packing Co.	Royal Canadian	518,900
Victoria Canning Co.	Standard	304,000
Turner Beeton & Co.	Inverness	533,712
British Columbia Canning Co.	Windsor	504,000
Anglo-British Columbia Canning Co.	North Pacific	504,000
do	British American	576,000
Cunningham & Son	Skeena	528,000
Turner Beeton & Co.	Balmoral	576,000
<i>Naas River.</i>		
Federation Canning Co.	Naas Harbour	
do	Mill Bay	703,152
<i>Rivers Inlet.</i>		
Brunswick Canning Co.	Brunswick	840,000
H. Bell-Irving & Co.	Good Hope	1,440,000
British Columbia Canning Co.	Victoria	631,968
do	Rivers Inlet	1,267,536
Victoria Canning Co.	Wannock	979,200
<i>Low's Inlet.</i>		
Cunningham & Rhude	Low Inlet	499,200

Marine and Fisheries—Fisheries Branch.

A.—SCHEDULE of Salmon Canneries in British Columbia, Season 1896—*Concluded*

Owner or Agent.	Name of Cannery.	Packed in 1-lb. Cans.
<i>Namu Harbour.</i>		
R. Drains	Namu	199,200
<i>Alert Bay.</i>		
A. S. Spencer	Alert Bay	137,184
<i>West Coast.</i>		
Clayoquot Fishing Co. ....	.....	239,760
West Coast Packing Co .....	.....	2,400
RECAPITULATION.		
Fraser River, 375,344 cases, equal to		18,016,544
Northern Coast, 241,549 do		11,594,352
West Coast, 5,045 do		242,160
Grand total ...	621,938	29,853,056

B.—REPORT of Catch, &c., of British Columbia Sealing Fleet, Season 1896.

Vessels.	Tons.	CREWS.				PARTICULARS OF CATCH.				Total.	Remarks.	
		Whites.	Indians.	Boats.	Canoes.	B. C. Coast.	Japan Coast.	Copper Islands.	Behring Sea.			
Ada	91	6	20	1	10				723	723		
Agnes Macdonald	107	25		10			545		282	827		
Ainoko	75	6	12	2	6	428			139	567	Seized in Behring Sea on the 5th August.	
Allie J. Algar	75	23		9			659	48	411	1,118		
Amateur	18		16		8	109				109		
Annie E. Moore	113	8	34	2	16	431			1,088	1,519		
Annie E. Paint	82	26		12			815		225	1,040		
Arietis	86	25		9			1,034		438	1,472	Seized in Behring Sea on 10th August.	
Aurora	41	20		6			325	35	77	437		
Beatrice (Shanghai)	66	6	26	2	13	381			532	913	Seized in Behring Sea on 5th August.	
Beatrice	49	6	11	2	6	363			92	455		
Boreal	37	23		7			327		305	632		
Carlotta G. Cox	76	25		9			1,222		234	1,456		
Carrie, C. W.	92	9	31	2	16	169			903	1,072		
Casco	63	22		7			808	202		1,010		
C. D. Rand	51	6	27	2	13				569	569		
City of San Diego	46	6	22	1	11	213			400	613		
Diana	59	18		6			997	95		1,092		
Director	87	23		7			893	183		1,076		
Dolphin	72	8	26	3	13	502			607	1,109		
Dora Seiward	93	10	32	2	16	377			826	1,203		
Doris	60	6	25	1	12				662	662		
E. B. Marvin	96	23		11			836		251	1,087		
Favourite	80	6	33	2	16	824			1,049	1,873		
Fawn	59	9	26	2	13	429			614	1,043		
Fisher Maid	21		9		4	63				63		
Florence M. Smith	99	27		11			602		271	873		
Fortuna	97	24		7			534	174		708		
Geneva	92	26		8			499	451		950		
Ida Etta	69	22		9			650	13	370	1,033		
Kate	58	7	25	2	12	204			318	522	Foundered on sea with 207 skins.	
Katharine	81	20		6			215			215		
Killermey	18	4	12	1	6	100				100		
Labrador	25	7	10	2	5	91			308	399		
Lebby	92	8	28	2	14	502			593	1,095		
Mary Ellen	63	6	24	3	11				536	536		
Mary Taylor	43	19		6			383		137	520		
Mascot	40	6	16	2	7		192		416	609		
Maud S.	97	10	20	3	11				602	602		
Mermanid	73	25		8			940		345	1,285		
Minnie	46	6	20	2	10	486			484	970		
Ocean Belle	83	18	13	3	10		584		316	900		
Ocean Rover	55	7	18	2	9				602	602		
Oscar and Hattie	82	9	28	3	14	353			589	942		
Osprey	40	8	10	3	5				200	200		
Otto	86	9	25	2	12		719		501	1,220		
Pachwillis	20		20		10	152				152		
Penelope	70	6	25	2	12	458			894	1,352		
Pioneer	66	24		7			849	44	375	1,268		
Sadie Turpel	56	9	20	4	8		582		281	863		
San Jose	31	7	18	2	10	230			605	835		
Sapphire	109	9	40	3	18	418			1,002	1,420		
Saucy Lass	38	6	22	1	11	471			555	1,026		
Selma	21	3	10	1	5				185	185		
South Bend	21	4	10	1	5	70			359	429		
Teresa	63	10	15	2	9		231		483	714		
Triumph	98	14	23	5	12		606	20	750	1,376		
Umbrina	99	25		10			742	41	298	1,081		
Venture	48	6	16	2	8	269			442	711		
Vera	60	22		7			572		264	836		
Victoria	63	8	22	2	11	164			901	1,065		
Viva	92	26		7			607		70	677	Seized 24th August.	
Walter L. Rich	76	8	27	2	13	93			399	492		
Zillah May	66	9	22	3	11				821	821		
Total	4,222	809	889	263	442	8,350	17,968	1,306	25,700	53,324		
		Indian canoe-catch on the				B. C. coast					2,353	
		Grand total									55,677	

Marine and Fisheries—Fisheries Branch.

C.—RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Number of Men engaged in the Fisheries, Quantity and Value of Fishing Materials, Kinds and Quantities of Fish, &c., in the Province of British Columbia, for the Year 1896.

Number.	VESSELS AND BOATS EMPLOYED.						FISHING MATERIALS.						KINDS OF FISH AND FISH PRODUCTS.									
	Vessels.			Boats.			Gill-Nets.		Seines.		Sturgeon Lines and Nets.		Salmon, bris.		Salmon, fresh, lbs.		Salmon, smoked, lbs.		Salmon, in cans.		Sturgeon, lbs.	
	Number.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Value of Scaws.	Value.	Fathoms.	Value.	Fathoms.	Value.	Fathoms.	Value.	Fathoms.	Value.	Value.	Value.
	Number.	\$	Men.	Number.	\$	Men.	Fathoms.	\$	Fathoms.	\$	\$	\$	Fathoms.	\$	Fathoms.	\$	Fathoms.	\$	Fathoms.	\$	\$	\$
1	43	193390	115	2621	124030	9607	396900	295425	2000	3000	14566	7012	793	902595	8000	18016514	355500	1				
2	4	21000	14	372	11160	1532	75000	56250	310	465	1000	1000	120	10500	5000	5295888	...	2				
3	7	30700	20	460	13940	1760	115025	89250	1450	2175	3025	50	500	150000	750	5595312	...	3				
4	5	2865	11	95	2850	410	21700	16275	...	...	1000	100	200	10000	10600	703152	...	4				
5	...	...	...	25	3750	110	3000	3000	250	375	1000	1000	50	1500	2000	...	...	5				
6	...	...	...	20	2000	60	1200	1200	300	450	300	300	50	25000	600	...	...	6				
7	...	...	...	20	800	45	1500	1000	350	475	...	3000	50	100000	5000	...	...	7				
8	60	12000	180	60	3600	120	3000	2000	4000	6000	...	4000	150	25000	7500	...	...	8				
9	6	1800	18	25	1200	60	200	1500	1000	1500	...	200	500	5000	2500	...	...	9				
10	4	4750	15	20	800	150	2000	1500	680	1360	...	200	500	5000	2500	...	...	10				
	129	266415	373	3718	164130	13854	618325	464400	10340	15800	19591	15912	2413	1229595	41350	29853056	330600	Totals				

Marine and Fisheries—Fisheries Branch.

D.—RECAPITULATION

OF the Yield and Value of the Fisheries of British Columbia, for the Year 1896.

Kinds of Fish.	Quantity.	Price.	Value.
		\$ cts.	\$ cts.
Salmon, in one pound cans	Lbs. 29,853,056	0 10	2,985,305 60
do fresh	" 1,229,595		122,959 50
do salted	Brls. 2,413	10 00	24,130 00
do smoked	Lbs. 41,350		10,337 50
Sturgeon, fresh, dressed	" 380,500	0 05	19,025 00
Halibut, fresh	" 2,276,556	0 05	113,827 80
Herring, fresh	" 191,000	0 03	5,730 00
do smoked	" 21,050	0 10	2,105 00
do salted	Brls. 1,000	5 00	5,000 00
Oolachans, fresh	Lbs. 360,000	0 05	18,000 00
do smoked	" 9,500	0 10	950 00
do salted	Brls. 1,060	10 00	10,600 00
Trout, fresh	Lbs. 64,500	0 10	6,450 00
Fish, assorted and mixed	" 425,400	0 05	21,270 00
Smelts, fresh	" 55,000	0 05	2,750 00
Codfish, fresh	" 287,200	0 05	14,360 00
Skill, salted	Brls. 70	10 00	700 00
Fur-seal skins	No. 55,677	9 00	501,093 00
Hair-seal skins	" 3,700	0 75	2,775 00
Sea otter	" 23	175 00	4,025 00
Clams	Bush. 8,000		6,000 00
Mussels	"		480 00
Oysters			4,800 00
Clams, canned in one pound can	16,944	0 15	2,541 60
Crabs			18,000 00
Abelonies			600 00
Shrimps and prawns			4,000 00
Caviare	Lbs. 2,780	0 30	834 00
Isinglass			750 00
Fish oil	Galls. 61,500		24,600 00
Estimate of fish consumed in the province, and not included in the above			250,000 00
Total			4,183,999 00

E.—CAPITAL invested in Fisheries, and Fishing Material, in British Columbia, including the Fur-seal Fleet, Boats, &c., for the Year 1896.

Material.	Value.	Total.
	\$	\$
59 salmon canneries, complete	20,000	1,180,000
12 oil factories		38,000
4 freezers and cold storage		30,000
6 salteries		3,000
129 vessels		266,415
3,718 boats employed in fishing		164,130
618,325 fathoms of gill-nets		464,400
10,340 do seines		15,800
Scows and flat boats		19,591
Halibut and sturgeon fishing gear		15,912
		2,197,248
64 vessels employed in fur-sealing	379,980	
263 boats do do	26,300	
442 canoes do do	11,050	
		417,330
Grand total		2,614,578
Hands employed in boat fishing, curing and canning fish.....	13,854	
do fishing vessels	373	
Sailors and hunters in sealing fleet (white).....	809	
do do (Indians).....	889	
		15,925

APPENDIX No. II.

FISH CULTURE,

1897.

REPORT BY PROFESSOR EDWARD E. PRINCE, COMMISSIONER AND
GENERAL INRPECTOR OF FISHERIES FOR THE DOMINION
OF CANADA, FOR THE YEAR 1897.

To the Honourable Sir LOUIS H. DAVIES, K.C.M.G., &c. &c.
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to present my annual report upon the work of fish-culture carried on in the department's hatcheries during the year 1897. The particulars of this work are given in the individual reports, which follow, of the officers in charge of the various establishments devoted to the artificial propagation of fish, and it is only necessary to point out that the very satisfactory condition of things, which I have been able to report for several seasons past, has been fully maintained during the year. By reference to the table on page 244 it will be seen that the number of fry successfully hatched of the various species, salmon, whitefish, lake-trout and lobsters is highly satisfactory, in view of the unavoidable fluctuations which of necessity occur in operations of this nature. It is to be remembered that two of the hatcheries, for special reasons, were not operated, while certain adverse circumstances in other hatcheries prevented the accomplishment of results such as I have in recent reports been able to announce.

In all fish-culture operations it is to be expected that from year to year fluctuations will occur. Thus in dry seasons the parent-fish are unable in many cases to reach their accustomed spawning grounds until so late a date that it becomes very difficult to secure them in ample numbers. Last season on the Fraser River there appeared to be a danger, due to this cause, of shortage in the supply of sockeye salmon eggs, as the water in Morris Creek (Harrison River) was very low. The inspector for the province reported that the creek was reduced to a series of shallow pools with gravel bars, rendering it impossible for the spawning fish to get to their accustomed haunts until very late in October, when the rainfall raised the water to its usual height. As a rule supplies of eggs are readily obtained at the end of September and early in October, but when the season is abnormally late the business of egg-collecting becomes hazardous and unsatisfactory. Fluctuations also occur in the abundance of parent-lobsters on the Atlantic coast and the Bay View lobster hatchery is in some seasons supplied with great difficulty. Last year spawning lobsters were by no means so plentiful as in the preceding season, though the quantity of eggs (about 100,000,000) obtained was ample, it was far below the supply of the previous season. The officer in charge of this hatchery referred in his report to the presence of ice, and the heavy gales which prevented the hauling of the traps, and it was not possible therefore to secure as many egg-bearing lobsters as before, but this year the scarcity of breeding lobsters is due to some cause which is not very apparent. It appears that while lobsters appeared to be very numerous on the usual fishing grounds, yet on those areas upon which the hatchery mainly relies for its quota of eggs, berried lobsters were very scarce. The local pack of

lobsters was, as a matter of fact, in excess of 1896, yet lobsters bearing eggs were very scarce during the whole season of 1897, and when the close time commenced there were less than 100,000,000 eggs in the hatching jars. This quantity is of course very large, but the fry planted were about ten per cent less in quantity than in 1896 and about forty-five per cent of the quantity planted in 1894 and 1895. It is possible that the continued capture of female lobsters season after season for canning purposes and for shipment alive is unduly diminishing their numbers as compared with the male lobsters. This is very possible as it is mainly the female lobsters that resort to the inshore shallows in order to take advantage of the warmer water to be found there. The eggs hatch out more favourably in shallow than in deeper water, and an excessive number of such berried lobsters bearing ripe eggs must of necessity be taken. If the males remain in deeper water during the months of June, July and August, it is possible also that large numbers of females which have not yet exuded their eggs, do so also, and the fishing operations now being carried on more extensively than formerly at greater depths, will destroy vast numbers of females, which unless carefully examined would be regarded as males. It is interesting to note that lobsters appeared to run much later than usual in the Straits of Northumberland (off Pictou County) and the fry hatched out of the eggs in the hatchery jars at a later date than in previous seasons.

As the table below demonstrates the operations carried on during the year have been highly satisfactory, and the output of fry is one which reflects credit upon the efficiency and industry of the officers in the various provinces who have this work in charge.

The following table shows the location of each hatchery, the quantities of fry distributed and the number of eggs shipped to other hatcheries either in an early state of incubation or in an advanced (semi-hatched) condition. The species of fish is specified in each case:—

No.	Name of Hatchery,	Number of Fry put out of Hatchery.	Number of advanced Eggs sent to other Hatcheries.	Number of advanced Eggs received from other Hatcheries.	Description of Fish.
1	Fraser River, B.C....	5,928,000	84,000		Sockeye salmon.
2	Sydney, N.S.	496,000		500,000	Atlantic salmon.
3	Bedford, N.S.	1,450,000		300,000	do
	do	4,000,000		4,000,000	Whitefish.
4	Dunk River, P. E. I.		Not in operation		
5	St. John River, N. B.	900,000			Atlantic salmon,
	do	455,000		500,000	Great lake trout.
	do	2,800,000		3,000,000	Whitefish.
6	Miramichi, N. B.	1,558,000	500,000	500,000	Atlantic salmon.
7	Restigouche, Que.	2,100,000	750,000		do
8	Gaspé, Que.	1,100,000			do
9	Tadoussac, Que.	3,272,000			do
10	Magog, Que.	3,000,000		3,000,000	Whitefish.
	do	1,500,000		1,500,000	Great lake trout.
11	Newcastle, Ont.	1,500,000	2,500,000		do
	do	2,700,000			Whitefish.
12	Sandwich, Ont.	72,000,000	15,000,000		do
13	Ottawa, Ont.	2,920,000		3,000,000	do
	do	1,180,000		1,200,000	Great lake trout.
14	Bay View, N.S.	90,000,000			Lobsters.
15	Selkirk, Man.		Not in operation		Whitefish.
	Totals.	198,859,000	18,834,000	17,500,000	

At the Miramichi hatchery it may be noted that a new departure has been made, and a batch of 30,000 brook trout (*Salvelinus fontinalis*) obtained with the co-operation of the provincial (New Brunswick) fishery authorities. The hatching

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of brook trout has never been carried on to any extent in the department's hatcheries for the reason that these fish are regarded mainly as game fish and of less value therefore from a commercial standpoint:

The additional table which follows shows the total number of all the kinds of fry hatched and distributed from the several hatcheries since operations were commenced in each. This table has been compiled for the twenty-four years up to and including 1897.

STATEMENT showing the Places where, and the Years in which, the several Fish Establishment, annually, since they

YEAR.	ONTARIO.			QUEBEC.			
	Newcastle.	Sandwich.	Ottawa.	Magog.	Tadousac.	Gaspé.	Restigouche.
	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1 1868-73..	1,070,000						
2 1874....	350,000						100,000
3 1875....	650,000				60,000	110,000	600,000
4 1876....	700,000	8,000,000			150,000	50,000	300,000
5 1877....	1,300,000	8,000,000			1,180,000	1,051,000	600,000
6 1878....	2,605,000	20,000,000			707,000	650,000	1,015,000
7 1879....	2,602,700	12,000,000			1,250,000	1,597,000	1,470,000
8 1880....	1,923,000	13,500,000			1,155,000	730,000	1,500,000
9 1881....	3,300,000	16,000,000		200,000	334,000	500,000	740,000
10 1882....	4,841,000	44,000,000		975,000	660,000	530,000	1,400,000
11 1883....	6,053,000	72,000,000		250,000	995,000	520,000	300,000
12 1884....	8,800,000	37,000,000		100,000	985,000	859,000	940,000
13 1885....	5,700,000	68,000,000		300,000	720,000	290,000	660,000
14 1886....	6,451,000	57,000,000		1,400,000	1,627,000	576,000	1,380,000
15 1887....	5,130,000	56,500,000		675,000	900,000	630,000	1,500,000
16 1888....	8,076,000	56,000,000		3,475,000	850,000	800,000	1,720,000
17 1889....	5,346,500	21,000,000		2,800,000	1,600,000	450,000	1,280,000
18 1890....	7,736,000	52,000,000	5,733,000	2,875,000	1,700,000	806,000	2,396,000
19 1891....	7,807,500	75,000,000	7,043,000	3,050,000	1,300,000	1,000,000	1,750,000
20 1892....	4,823,500	44,500,000	4,909,000	2,400,000	624,000	965,000	1,240,000
21 1893....	9,835,000	68,000,000	6,208,000	3,600,000	2,060,000	910,000	883,000
22 1894....	6,000,000	47,000,000	4,480,000	2,035,000	1,975,000	850,000	1,080,000
23 1895....	6,000,000	73,000,000	3,210,000	3,350,000	2,060,000	675,000	2,885,000
24 1896....	5,200,000	61,000,000	3,950,000	3,400,000	2,500,000	300,000	1,250,000
25 1897....	4,200,000	72,000,000	4,100,000	4,500,000	3,272,000	1,100,000	2,100,000
Totals..	117,000,200	981,500,000	39,633,000	35,385,000	28,600,000	15,949,000	29,089,000

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Hatcheries have been erected; also the number of Fry distributed from each were built, including the year 1897.

NEW BRUNSWICK.		NOVA SCOTIA.			P. E. ISLAND.	BRITISH COLUMBIA.	MANITOBA	TOTALS.
Miramichi.	St. John River.	Bedford.	Sydney.	Bay View Lobster Hatchery.	Dunk River.	Fraser River.	Saskirk.	
Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
60,000								1,070,000
150,000								510,000
60,000		395,000						1,570,000
320,000		1,000,000						9,655,000
665,000		1,400,000						13,451,000
1,025,000		1,740,000						27,042,000
805,000	170,600	730,000			500,000			21,684,100
770,000	50,000	680,000			375,000			21,013,700
640,000	588,000	850,000	315,000		1,060,000			22,949,000
925,000	72,600	800,000	659,000		1,210,000			55,805,500
795,000	811,000	1,000,000	853,000		1,000,000			83,784,600
900,000	155,000	670,000	772,000		1,100,000	1,800,000		53,143,000
945,000	2,181,000	960,000	1,179,000		400,000	2,625,000		81,067,000
900,000	2,479,000	4,230,000	1,415,000		500,000	4,414,000		76,724,000
1,290,000	4,142,000	4,390,000	1,559,000			5,807,000		79,273,000
850,000	3,570,000	3,850,000	2,034,500			4,419,000		88,109,000
1,022,600	3,492,000	3,860,000	1,953,000			6,640,000		47,699,000
1,503,000	3,165,000	2,550,000	1,000,000	7,000,000		6,640,000		90,213,000
1,310,000	2,378,000	2,620,000	690,000	63,500,000		3,603,800		115,771,800
975,000	3,299,000	3,180,000		153,600,000		6,000,000		135,959,500
1,010,000	4,096,000	3,805,000	288,000	160,000,000		5,764,000		258,314,000
1,200,000	4,060,000	3,815,000	195,000	168,200,000		7,800,000	14,500,000	254,919,000
1,430,000	4,068,000	4,225,000	243,500	100,000,000		6,390,000	19,000,000	294,040,000
1,558,000	4,155,000	5,450,000	496,000	90,000,000		10,393,000	4,500,000	202,959,500
						5,928,000		198,859,000
21,108,000	42,912,200	52,200,000	13,652,000	742,300,000	6,145,000	71,583,800	38,000,000	2,235,586,200

The above totals show the number of fry or young fish actually hatched and distributed from the several hatcheries carried on under the department; but there are annually transferred from certain of the hatcheries newly spawned ova and advanced or semi-hatched eggs to other hatcheries. The hatchery at Bay View, N.S., is devoted wholly to lobster hatching.

I have had occasion to point out in a previous report that a stricter surveillance over the expenditure in the various hatcheries has been carried out. The results of the fish-culture operations have been far larger during the last four or five years than in any previous period, while with the exercise of greater economy there has been a considerable saving effected. In these efforts to reduce the expenditure, while at the same time the efficiency of work has not been allowed to decline, the co-operation of the officers in this service has been readily obtained and the results as is shown by the tables above referred to, and by the several reports of the officers in charge.

I have the honour to be,

Your obedient servant,

EDWARD E. PRINCE.

NEW WESTMINSTER, 1st December, 1897.

To Professor E. E. PRINCE,
Commissioner of Fisheries for Canada,
Ottawa.

SIR,—I have the honour to submit my report for the season of 1897, of operations in connection with the Fraser River fish hatchery.

On the 7th of January 84,000, semi-hatched Salmon Eggs (*O. nerka*) were shipped to Honolulu Hawaii, in charge of Mr. Armstrong, of that place. From information received from Mr. Armstrong, after his arrival there, it appears, that although the eggs reached there destination in fairly good condition, yet they all perished before being placed in hatchery troughs. This result of a new and interesting experiment is very disappointing.

During the months of March and April, young salmon (*O. nerka*) were distributed from the Hatchery, and planted as follows:—

On March 8, Harrison River	2,628,000
do 29, Pit Lake	568,533
April 7, Harrison River	1,300,467
do 15, do	1,431,000
	<hr/>
	5,928,000

Making with the semi-hatched eggs a grand total output of 6,012,000.

On the 27th September, I sent Wm. Roxburgh, foreman, with two men, and the necessary supply of material, for building traps to capture parent salmon, and securing and shipping Ova, to Morris Creek, Harrison River, and on the 3rd of October I received at the hatchery. 1,186,000 Ova.

On the 5th, October	988,000	“
do 10th, do	704,000	“
do 13th, do	1,296,000	“
do 15th, do	1,152,000	“
do 18th, do	1,136,000	“
	<hr/>	

Making a total of 6,472,000

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On the 18th I went to Morris Creek, when the last shipment of Ova was made, and closed the work there for the season.

The eggs are in fine condition, and I anticipate a successful season's operations.

The boats and plant are being taken care of at the hatchery, and the trays will be lacquered, so as to prevent damage by rust.

I have the honour to be, sir,

Your obedient servant,

JOHN McNAB,

Inspector of Fisheries, and Officer in Charge of the F. R. F. H.

NORTH SYDNEY, C.B., 1st December, 1897.

Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa, Ont.

SIR,—I beg herewith to submit my annual report on the operations of the fish hatchery located at Sydney, for the present year:—

On the 24th of March last I received at the hatchery from Mr. Sheasgreen, of Miramichi, N.B. hatchery, 500,000 salmon ova in excellent condition. These ova were carefully placed in the troughs and successfully hatched out, and on the 4th of June I began liberating the young fry in the principal waters in Cape Breton. During the hatching process only a very small percentage of the eggs were found bad. The following are the counties, names of rivers and quantity of fry liberated in each river:—

Cape Breton County.

Trout River, Mira	35,000
East Bay River.....	25,000
Forks and Sydney Rivers.....	30,000
	90,000

Victoria County.

North River, St. Anns.....	50,000
Clyburne River, Ingonish	40,000
North River, (Aspy Bay).....	90,000
Middle River	20,000
	200,000

Inverness County.

Margaree Rivers.....	140,000
River Dennis.....	30,000
	170,000

Richmond County.

River Tom, Red Islands.....	36,000
	496,000

Total

The utmost care was exercised by myself and assistants in removing the fry to the rivers, and in liberating them in the most suitable places where they would be free from molestation by other fish. I had occasion to visit both the Middle and Margaree Rivers some thirty days afterwards, and I observed large schools of the young salmon in these rivers quite at home and full of vitality. In stocking the rivers above named I kept in view the drain on these rivers by gill-net fishermen for commercial purposes. Take for instance the adjacent sea coast and tidal waters of the Margaree River. In the season of 1896 there were 26,500 pounds of fresh salmon taken from those waters by gill-net fishermen and exported in ice. This present season the statistics will reveal, I have no doubt, a larger catch. Thus it will be seen the necessity of not only protecting the parent fish in the spawning season when they are ascending to the upper waters, but of stocking the rivers with fry from the hatchery.

Before the hatchery under my supervision can be again operated it will be necessary to have some extensive repairs made.

In a special report to the department, I gave an estimate of the cost of these repairs. I pointed out in that report the absolute necessity of the repairs being made before the hatchery is again operated. The department, however, informs me that it is unlikely that the hatchery can be supplied from abroad with ova for next season. If such is the case the repairs are not urgent.

Yet it is unfortunate that a supply of ova from the New Brunswick hatchery cannot be procured for next year. The ova received each year for the past three years from the neighboring province have given excellent satisfaction and the rivers stocked with the fry hatched out from this ova have each season since been literally alive with young salmon, so that practical results should be forthcoming next season, when these fish at the age of four years begin to make their appearance in the rivers which they left when one year old. The salmon fishery is becoming more important year by year in this Island. There are two establishments which now buy salmon from gill-net fishermen, freeze them and later in the season export these fish to the cities of Canada and the United States. Besides these establishments there are individual dealers who engage in the industry and buy salmon from neighbouring gill-net fishermen and export the fish in ice during the fishing season. Thus it will be seen the growing importance of this branch of the fishery and the necessity of keeping up the supply by stocking the rivers.

I have the honour to be, sir,

Your obedient servant,

A. C. BERTRAM,

Inspector of Fisheries.

Marine and Fisheries—Fisheries Branch.

BEDFORD, N.S., 1st Dec., 1897.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit, herewith my annual report of the work at Bedford salmon hatchery for the season of 1897.

On the 7th and 11th November, 1896, 1,300,000 salmon ova were received from the Carleton, N.B. Pond, and again on the 24th April last, 300,000 semi-hatched salmon eggs were received from the Restigouche hatchery and on the 24th March last, 4,000,000 whitefish eggs were received from the Sandwich Ont. hatchery.

All of the above shipments were received in excellent condition, were hatched out early in the season, and planted between the 16th April and 12th June into the waters herein named.

Salmon.

Nino Mile River, Halifax Co.....	20,000
Pennant do do	60,000
Moose do Annapolis Co.....	180,000
Annapolis do do	125,000
Millville do do	125,000
Lahave do King's Co.....	125,000
Gaspereaux do do	125,000
Bear do Digby Co.....	80,000
Stewiacke do Colchester Co	125,000
West do Pictou Co.....	125,000
East do do	180,000
Caribou do do	60,000
Sackville do Westmorland Co N.B.....	60,000
Gaspereaux do do	60,000
Total	1,450,000

Whitefish.

Sandy Lake, Halifax Co	1,400,000
Williams Lake, do	1,400,000
Paradise Lake, Annapolis Co.	1,200,000
Total	4,000,000

It was my intention to plant a quantity of whitefish in the lakes of Cape Breton, Ainsley and Lake à Law, but was prevented from doing so on account of the roads being quite impassable and the steamers not running on the Bras d'Or Lake when the fish were ready for distribution.

The interior of the hatchery has been painted, the walls tinted, and the ceiling whitened, repairs made to the waste pipes and drains, new fascia boards and spouts placed all around the building, saddle boards put on, and the roof repaired where required, but as the roof is over 20 years old, it will require to be newly shingled in another year.

The work shop and storehouse has been newly shingled and is now in fair order.

I found it necessary to make two new floor troughs. The nursing troughs have been patched with tin and coated with paraffine varnish, so that they will probably last a while longer, but before long new ones must be constructed.

I am, sir, your obedient servant,

ALFRED OGDEN.

RAPIDE DES FEMMES ST. JOHN RIVER,
FISH HATCHERY, N. B., 1st December, 1897.

Professor EDWARD E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—In accordance with the rules of the department, and in compliance with your instructions: I beg leave to submit herewith my annual report of the operations done and performed at the Dominion Fish Hatchery under my supervision for the year now soon about to close.

As I have already in a former report referred to the operation of stripping the parent salmon in the Carleton pond, last autumn, it may not be necessary for me again to make any further report thereon; suffice it for me to repeat, that last November, there were placed upon the troughs in this establishment about eleven hundred thousand vivified salmon eggs: and in the month of March an additional supply was received from Sandwich, and Newcastle, Ontario, consisting in 3,000,000 whitefish and 500,000 salmon trout eggs, all of which did fairly well during the period of incubation, and hatched out a good percentage of live fry in the spring, and in due time they were planted in the following named rivers and lakes.

DISTRIBUTION OF WHITEFISH FRY.

Harvy Lake, York County.....	320,000
Bald head Lake do	320,000
Lake George do	320,000
Lake Yohoe do	320,000
Oromocto Lake do	320,000
Foster Lake, Charlotte County	320,000
Long Lake, Victoria do	320,000
Private Waters	240,000
	2,800,000

DISTRIBUTION OF SALMON-TROUT FRY.

Latimore Lake, St. John County.....	40,000
Blackall's do do	40,000
Dick's do Kings do	40,000
Pleasant do do	40,000
Buttler's do do	40,000
Smith's do do	40,000
Magaguadavic Lake, York County.....	30,000
Dumphy's Lake do do	30,000
Shogomoc Lake do do	30,000
Long Lake, Victoria do do	60,000
Lawrence, Mass., U. S.....	15,000
Turned out at the hatchery	50,000
	455,000

DISTRIBUTION OF SEA SALMON.

Tobique River, Victoria County.....	100,000
Salmon do do do	130,000
St. John do do do	350,000
St. Croix do Charlotte do	200,000
Spruce Lake, St. John.....	80,000
Loch Alva, Queen's.....	40,000
	900,000

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RECAPITULATION.

Whitefish fry distributed..	2,800,000
Salmon-trout do	455,000
Sea salmon do	900,000
Total number of fry distributed.	4,155,000

It is most gratifying to me, and will no doubt be pleasing to you to know that the above large number of tender young fry were planted in the several waters herein designated without any appreciable loss, particularly when we consider the extremely long distance they had to be conveyed, you will very easily conceive the amount of care and attention it requires to be in a position to report such gratifying results of the years operations.

INCREASE OF FISH IN OUR WATERS.

It is now pretty generally conceded by all parties, but especially by the sportsmen that artificial fish culture, has not merely kept up the supply, but has caused a marked increase in the number of fish in our rivers and lakes, but to properly establish this fact, good protection is absolutely necessary, a thing, with the exception of the Tobique River, which has been somewhat neglected within his county. All of the foregoing brief report is most respectfully submitted.

I am, sir,

Your obedient servant,

CHAS. M. McCLUSKEY,
Officer in Charge.

MIRAMICHI HATCHERY, SOUTH Esk, N.B., 1st Dec., 1897.

PROF. E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report upon the operations in connection with the Miramichi Fish Hatchery during the past year.

As stated in my last annual report, there was 1,648,000 native Miramichi salmon ova placed in this hatchery in the autumn of 1896. In addition to this number 280,000 ova were transferred from the Carleton Pond at St. John by Mr. Alex. Mowatts, making a total of 1,926,000 ova in this hatchery at the time of making my last report.

The 280,000 St. John salmon ova, although apparently in fair condition when placed in this hatchery, were utterly worthless, and became a total loss early in March, or just about the time that the embryo should begin to show active signs of life. I am of the opinion that this loss was caused by the rough passage they unavoidably received when they were being transferred from the railway to this hatchery. The roads were frozen very hard and rough at the time, and in all probability this rough passage rendered the ova worthless, although they did not all die immediately after being placed in the hatching troughs. The small loss usually experienced at this hatchery goes to show that these ova must have been injured in this way or in some other manner unknown to me previous to the time they were received here.

During the month of March, 500,000 Miramichi salmon ova were transferred in a healthy condition to the hatchery at Sydney, Cape Breton. These were replaced later on by 500,000 from the Restigouche Hatchery. The total loss during the

period of hatching, exclusive of the St. John ova mentioned above, amounted to only 90,000, leaving a balance of 1,058,000 Miramichi salmon fry and 500,000 Restigouche fry to be planted in the following streams:—

	Miramichi fry.	Restigouche.
North-west Miramichi.....	360,000	350,000
Main South-west Miramichi.....	150,000	50,000
Little South-west Miramichi.....	300,000	75,000
Sevogle River.....	150,000	.....
Renous River.....	75,000	.....
Stewart's Brook.....	23,000	.....
	<hr/>	<hr/>
Totals.....	1,058,000	500,000
	<hr/>	<hr/>

The fry were invariably planted in a healthy condition and on the best available planting grounds. 300,000 Restigouche fry were planted in the headwaters of the North-west Miramichi, near the Falls. This number is included in the above statement.

After the distribution of fry was completed, the work of putting all appliances in connection with the hatchery in thorough repair, was commenced. The supply pipes, which were considerably injured by the heavy frosts of the previous winter, near where they enter the supply tank in the hatching room, were repaired. The large scow used for towing purposes while procuring parent fish, was thoroughly overhauled and repaired, and several small scows for carrying the parent salmon from the fishing stations to the retaining pond, were built. The retaining pond was dredged and enlarged to nearly double its former size and is now fully capable of containing 600 fish. The interior of the hatchery was thoroughly cleaned and the troughs and trays varnished throughout.

CAPTURE OF PARENT FISH.

During the month of July, I was called upon to report, whether or not it would be possible to supply the St. John and Sydney hatcheries with ova from these rivers this year, as the Carleton pond was not in operation, and feeling confident that this could be accomplished if sufficient netting was put in operation, I answered in the affirmative. But later on instructions were received to proceed with the usual number of nets, and to use every exertion to procure as many fish as possible in order to assist in some measure in supplying the shortage of ova. As soon as these instructions were received and all necessary arrangements made, the work of procuring fish was commenced. Two set nets were put in operation—one on the North-west Miramichi River and another on the Little South-west Miramichi—and in addition to these, seining was carried on continually above the point where the set nets were situated. The operation on both rivers was very successful and satisfactory. The first fish were taken on September 14th. The total number of fish taken from that date until the nets were taken up on October 28th, was 455. Of this number, 305 were taken by means of the seine and set net on the North-west Miramichi, and the remaining 150 were taken in the set net on the Little South-west. The total number consisted of 280 females and 175 males. If the department had authorized the placing of nets on two of the other branches of this river, I have no doubt but that nearly double the number of fish could have been obtained.

COLLECTION OF OVA.

As the fish were in a strong, healthy condition when placed in the retaining pond, there was no loss met with this season. The majority of the female fish were large and gave a good yield of ova. The first fish were stripped on October 18th and the work continued at intervals until November 16th. The greater number of fish were not manipulated until after November 2nd. The total number of ova

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procured was 2,020,000, showing an average yield to each fish of slightly over 7,200 eggs. This is the largest number of ova ever obtained at this hatchery in any one season since it was put in operation. Probably as many could have been obtained last year, but it was not considered necessary, as nearly all the other hatcheries were supplied and this one cannot accommodate over 1,500,000 with safety. Moreover the nets were kept in operation nearly two weeks later this season in order to get as many fish as possible to supply the St. John Hatchery. In accordance with instructions received I transferred 603,000 ova immediately after spawning to that hatchery. These ova were transported in good condition—leaving a balance of 1,417,000 in this hatchery at the present date.

During the month of August, I had considerable correspondence with D. G. Smith, Esq. Provincial Commissioner of Fisheries, regarding the matter of procuring a small supply of trout for breeding purposes. He assumed the undertaking of procuring the parent fish and succeeded in securing and placing forty large healthy fish in an inclosure in the stream that supplies this hatchery, where they remained until ready for manipulation. Mr. Smith obtained the fish in Bartibogue River by means of a small seine, and carried them from there to the hatchery, a distance of about 25 miles, in the large cans that we use for distributing salmon fry. Despite this long journey in comparatively small quarters, the fish were in splendid condition at time of manipulation. There were 25 females and 15 males from which I collected 30,000 ova, showing the average to each fish to be 1,200 eggs. These ova were placed in the hatchery immediately after being taken from the fish, and are progressing favourably up to the present with scarcely any loss. If this experiment is continued another year a more suitable inclosure will have to be provided for keeping the parent fish in after they are netted, until spawning time. This can be easily arranged at a small cost, as there is ample space in the retaining pond in which the parent salmon are inclosed.

In conclusion I may say that the hatchery and all appliances in connection therewith are in good condition and that no large outlay will be required during the coming year in order to keep everything in good running order. The past years operations have been very satisfactory and successful, and there is every reason to look for continued success in future.

Submitting all for your consideration.

I am, sir, your obedient servant,
ISAAC SHEASGREEN,
Officer in Charge.

RESTIGOUCHE HATCHERY, 1st Dec., 1897.

Prof. E. E. PRINCE,
 Dominion Commissioner of Fisheries,
 Ottawa.

SIR,—I beg to transmit herewith my 15th annual report upon the operations of the Restigouche Hatchery as conducted under my charge.

Three millions of eggs were laid down in the hatchery troughs in autumn of 1896, 750,000 of these were transported to the Miramichi and Bedford hatcheries in the semi-eyed stage during the month of April. The balance of the fry being distributed in the Restigouche and tributaries as follows:—

Kedgwick 70 miles from Hatchery.	250,000
Main Rest River between Hatchery and Kedgwick.....	800,000
Upsalquitch River.....	490,000
Metapedia do	550,000
Escuminac do	10,000
	2,100,000

Grand total semi-hatched eggs and fry, bred in hatchery 1897, 2,850,000. I have heard fishermen, guardians and scowmen say, the young fry were to be seen in great numbers along the various reaches of the river, where they had been artificially planted a short time previous. The young parr (two years old) on their emigration to the sea were never more numerous than they were this year. So much was this the case, they very often became a nuisance to the angler, and a great many are destroyed in this way.

The hatchery was thoroughly renovated during the past summer. All the trays and troughs washed, and re-varnished, and all decayed troughs re-placed with new ones and the institution put in proper condition for the reception of the ova this Autumn.

GOVERNMENT NETS AT HEAD OF TIDE.

The re-construction of the retaining pond began on the 15th of May, and although much damage was done to the plant caused by the great ice flow, the pond was made ready for the reception of the parent fish by 1st of June, and the two government nets immediately placed in fishing order, as soon as time would permit.

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Below will be found a detailed statement of the numbers of fish caught, and dates upon which the nets were lifted and fished. These figures are taken from the two daily diaries which were kept, and can be relied upon as being correct.

Date.	Murray Island. Government Nets.	Pitts Creek. Government Nets.	Remarks.
June 4			Nets first set.
do 5	3		Never get any fish from Saturday night until Tuesday morning.
do 6	0		
do 7	0		
do 8	0		
do 9	7		
do 10	13		
do 11	7		
do 12	5		
do 13	0		Sunday.
do 14	0		
do 15	15		
do 16	4		
do 17	15	4	
do 18	7	5	
do 19	8	2	
do 20	0	5	Sunday no fish until Tuesday morning.
do 21	0	0	
do 22	25	9	
do 23	8	8	
do 24	9	7	
do 25	7	9	
do 26	22	0	
do 27	0	0	Sunday.
do 28	0	0	
do 29	27	4	
do 30	10	6	
July 1	9	5	
do 2	13	0	
do 3	14	5	
do 4	0	0	Sunday.
do 5	0	0	
do 6	0	2	
do 7	19	0	
do 8	0	2	
do 9	6	0	
do 10	2	0	
do 11	0	0	Sunday nets lifted
do 12	0	0	
do 13	7	0	
do 14	5	4	
do 15	0	0	
do 16	8	1	
do 17	3	1	
do 18	0	0	Sunday.
do 19	0	0	
do 20	0	0	
do 21	0	0	
do 22	0	0	
do 23	3	0	
do 24	1	0	
do 25	0	0	Sunday.
do 26	0	0	
do 27	2	0	
do 28	1	0	
do 29	0	0	
do 30	2	0	
do 31	2	0	
Total	289	78	Total... 367

It will be observed from the above table the nets are not set from Saturday night until Monday morning, and as no fish enter the small mesh nets in day time it only leaves five days in each week for actual fishing of the nets, which are regularly lifted each day when there are fish in them notwithstanding certain reports to the contrary. A loss of a few fish as usual occurred from the fungi growth after being deposited in the pond. So soon as it is discovered that an injured fish will not recover it is removed from the pond. In pure salt water ponds the fungus is killed in its first stage—but at Restigouche it is entirely fresh water where the fish are confined, and a few will be lost.

The gathering together of the fish and separating each sex into the divisions began on the 18th of October, and stripping on the 20th; 322 fish were manipulated, 182 females and 140 males; yielding—1,500,000 eggs. A large number of the female fish were under the ordinary size. I should say they were four year old salmon reproducing their species for the first time. Thus the average number of eggs per female was somewhat reduced. The eggs were carefully packed in the hatching trays at the pond, and safely conveyed to the hatchery by water, and deposited in the troughs in very fine condition. The manipulation of the fish continued up to 1st of November all yielding eggs, and were again returned to the river in good condition.

NEW PLANT REQUIRED ANOTHER YEAR.

The institution with all its equipment is in very fair condition, some slight repairs however will be necessary for another year. A few more new troughs and two new distributing crates for the fry, and perhaps a new supply pipe will be wanted.

TIDE HEAD POND.

A few new nets and a couple more pontoons with another fishing canoe, and 500 net stakes will be necessary. Total cost about \$100. This plant will be required for next spring's operations.

GENERAL REMARKS.

Canadian and United States newspapers made considerable reference to the poor run of salmon in the Restigouche this year. While it was an off year to a certain extent, there were some very good catches made, and upon the whole the anglers should be well satisfied. The following are a few of the scores made which by chance came under my notice, viz. :—

Mr. Frank Thompson and party in two weeks captured 50 salmon; J. S. Kennedy and party, Brandy Brook, 45; Messrs. Mitchell and Ayer, (not club members,) 87, Mr. Ayer, in one day, 12; Mr. Dawson's private waters produced 70; Mr. Leech and party on the Upsalquitch, 100 in two weeks, many weighing 25 pounds. Such large fish in the Upsalquitch is undoubtedly the direct result of the hatchery. I might instance many more good scores, but the above is sufficient evidence to show that there was a fair run of fish in the rivers, and all the guardians report a good showing of breeding fish on all the bars and shallows this fall.

When all the nets and all the angling is taken into consideration, one might well pause and ask how the balance of nature or salmon supply is to be maintained. It is no unusual occurrence to find 100 anglers scattered over the Restigouche and its tributaries at one time; each wanting eight fish per day, the limit fixed by the club. The fish are pursued to the very head waters of the streams even the Kedgwick and Patapedia were leased and fished this year.

Then there are nets upon nets extending 200 miles along the coast. The best catches of Restigouche salmon are now generally made at Green Point, on the Gulf outside the mouth of the Baie de Chaleurs. A few years ago there was not a

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net within miles of this place. In addition to this, should some disturbing element such as an immense ice flow, as there was last year to change and upset the natural channels of the rivers and spawning beds, and crush millions of the one and two year old fish; again it has been clearly demonstrated that other larger fish and even the seals prey upon and break up schools of salmon in the sea, scattering them and entirely changing their course. This year the seals even followed the salmon forty miles up the river, and were seen quite late in the summer killing salmon in the pools. Is it any wonder then there would be an off year occasionally?

And now that angling has become such an extensive pursuit and the commercial value of salmon has reached such a high figure, being largely exported in the frozen state to the European markets, the question arises, what steps can best be taken to meet and offset these destructive devices conserve a most valuable fishery?

I would then urge such co-operation as may appear best, of Dominion and Provincial officers with the club guardians in the inland waters of the Restigouche, to maintain a better system of guardianship, as a certain amount of poaching is done on the heads of the rivers each year. I would also suggest that the output of fry from the hatchery be increased, as there is abundant evidence upon all sides that the hatchery has been the main factor of increasing and keeping up a uniform supply of salmon in the Restigouche and its tributaries during the past 10 years. I am also convinced it would be a wise policy to encourage the capture of trout and eels in the Restigouche at all times, as they are very destructive to the salmon.

Unless the above reforms are carried out, and if angling and netting go on without restriction, I fear the salmon fishery will decline in the future.

I am, sir,

Your obedient servant,

ALEX. MOWAT,
Officer in Charge.

GASPÉ HATCHERY, PROVINCE OF QUEBEC,
GASPÉ BASIN, 1st December, 1897.

Prof. EDWARD E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit the annual report on the operations at Gaspé Fish Hatchery, for the year 1897. The ova remained in a healthy condition during the time of hatching. A loss of only forty thousand during the winter months being reported.

DISTRIBUTION.

Distribution commenced on June 10th and was completed July 13th. The fry were planted on the different grounds in a very healthy condition, as far up the river as possible. The fry were conveyed from the hatchery in canoes, and on account of slow means of transport much longer time was taken than would otherwise have been the case. Fry were distributed in the respective rivers, as follows:—

Dartmouth River.....	600,000
York "	200,000
St. John "	300,000
Total.....	1,100,000

REMARKS.

In connection with the hatchery, I may say that the necessary repairs were carried on as usual, until orders were received to cease work for this season. The interior of the building was cleaned and the work generally done.

On application for the necessary supplies, amounting to \$69 for preparation for the catching of parent fish, your department proposed that instead of securing the necessary supplies of eggs as heretofore by the capture of parent fish by the use of the trap-net, that they should be shipped from the Restigouche or Miramichi hatcheries, but as no eggs could be obtained from the places above mentioned there is no supply of eggs this winter.

In preparation for the operations next spring, I would strongly recommend that a stand of nets be purchased near the mouth of the Dartmouth River so that the required number of parent fish might be captured.

I would also recommend that the necessary repairs to the hatchery should be completed during the winter months.

I am, sir, your obedient servant,

HENRY DAVIS,

Gaspé Hatchery.

TADOUSSAC, 1st December, 1897.

Professor E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report upon the operations of the Tadoussac Hatchery.

A successful hatch of salmon fry resulted from the largest crop of eggs ever collected for the Tadoussac Hatchery in the fall of 1896, and the distribution was made as follows:—

Ste. Marguerite River.....	512,000
Baude “	560,000
Chisholm “	992,000
A Mars “	200,000
Jacques Cartier “	150,000
Murray “	40,000
Mowat's Lakes.....	768,000
Hatchery “	50,000
Total.....	3,272,000

The largest part of the salmon fry has been carried to the rivers by carters, and a small part by the Richelieu Company. It has been impossible to make any arrangement, as usual, with Mr. Sturton for the services of his tug boat “Forest.” The Murray River has only received a portion of the fry, on account of the late date of the requisition and the instructions sent to me late in the season. It is impossible to make a large distribution of fry in the Upper Saguenay River by the Richelieu boats, we lose too much time, we require a tug boat, as I have explained to the Deputy Minister on his visit to the Saguenay River last summer.

The capture of parent salmon was carried on this season with the only “Point Rouge” fishery, but it will be better to continue to keep our two government

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fisheries, to be sure of a good supply of parent salmon and in case to be in position to help other hatcheries, as the thing has been wanted last summer. The "Point Rouge" fishery took only 360 salmon, the fishing being bad all over. Of the 360 salmon 230 were females and 130 males. The 230 females gave 2,413,000 eggs, a little over 10,000 each. The spawning time was over by the 13th of November. All the parent salmon were liberated in good condition. In September, by instructions of the Deputy Minister, I went up to Lake St. John, to assist Mr. Richard Pollett, undertaking the management of a private fish hatchery for H. J. Beemer, Esq. The site of this new hatchery has been well selected, close to a fine stream of pure water. Beside the stream, a large ditch, has been cut along the side of a hill to supply the hatchery with cold water from many sources on the hill-side to be specially used in the hot season. I had occasion to visit many splendid rivers, well adapted for the breeding of sea salmon, but this is the most favourable I ever saw, the young salmon having a beautiful way of reaching the salt water by the grand discharge of the Lake St. John and the Saguenay River. Mr. H. J. Beemer has built a pretty large hatchery, in the hope of receiving a certain quantity of salmon eggs. I recommend that a good allotment be given him every year. I consider that there is no better place for the breeding of our sea salmon. By a letter from the manager of Mr. Beemer's hatchery, I think this gentleman was under the impression that the department was to give him a certain quantity of salmon eggs. Our hatchery is in good order and does not require any repairs for the present. I hope that something will be done next year for pulling down the old hatchery.

I have the honour to be, sir,

Your obedient servant,

L. N. CATELLIER,

MAGOG, 1st December, 1897.

Prof. E. E. PRINCE,
 Dominion Commissioner of Fisheries,
 Ottawa.

SIR,—I have the honour to submit my report upon the operations at the Magog Hatchery for the year 1897.

On the 19th March there were received at the hatchery 3,000,000 whitefish eggs, and 1,500,000 salmon-trout eggs, which were successfully hatched and distributed as follows :—

Salmon trout.

Massawippi Lake, County of Stanstead.....	225,000
Lake Megantic, County of Megantic.....	120,000
Orford Lake, Counties of Brome and Sherbrooke..	250,000
Brome Lake, County of Brome.....	100,000
Key Pond, County of Sherbrooke.....	125,000
Lake Magog, Counties of Brome and Stanstead.....	675,000
Spider Lake, County of Brome.....	5,000
Total.....	1,500,000

Whitefish.

Massawippi Lake, County of Stanstead.....	400,000
Lake Megantic, County of Megantic.....	200,000
Orford Lake, County of Brome and Stanstead.....	500,000
Brome Lake, County of Brome.....	250,000
Key Pond, County of Sherbrooke.....	250,000
Lake Magog, County of Brome and Stanstead.....	1,400,000
Total.....	3,000,000

The distribution of fry continued from 3rd May to 21st June, and as the eggs and fry were in splendid condition, there was practically no loss.

The water supply in this hatchery is the best, in my opinion, I have ever seen on account of its perfect purity. The instructions from the Department of Marine and Fisheries were that I should send from 10,000 to 50,000 salmon-trout fry from the Magog Hatchery to Spider Lake at the request of Mr. Lucien Huot. I was able to send only 5,000 for the following reason: all the fry in the hatchery were planted previous to receiving instructions. Very good accounts of the results of the fry planted have been received, in Lake Magog this autumn. I have seen large quantities of whitefish on the spawning beds. Certain repairs which are necessary have been reported to the department.

I have the honour to be, sir,

Your obedient servant,

ALEX. FINLAYSON.

Marine and Fisheries—Fisheries Branch.

OTTAWA, ONT., 27th Nov., 1897.

Prof. E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the operations carried on at the Ottawa Hatchery during the year, 1897.

On the 22nd November, 1896, 1,200,000 salmon-trout eggs were received from the Newcastle, Ont., Hatchery, and in March, 1897, 3,000,000 whitefish eggs were also received from the hatchery at Sandwich, Ont. The eggs from both these hatcheries were in excellent condition.

The fry hatched out strong and healthy in the months of April and May, 1897.

The work of distributing the fry was entrusted to Mr. Andrew Halkett, and Mr. J. D. Sutherland, both officials in the Fisheries Department. I am pleased to inform you that the work was done in a very satisfactory and successful manner. The fry having been deposited in the following named waters:—

WHITEFISH.

Missisquoi Bay	480,000
Clear and Carp Lakes.....	400,000
Patterson Lake.....	320,000
Lakes, No. 6 and 7, Joliette County, Que	320,000
Pine Lake.....	320,000
Charleston Lake	320,000
Otter Lake	240,000
Little "	240,000
Clear "	200,000
Lake Majors Hill Park, Ottawa.....	80,000
Total.....	2,920,000

SALMON TROUT.

Meache's Lake.....	110,000
Sloats Lake.....	100,000
Lac De Sable and Lac à La Truite, Ste. Agathe, Que...	90,000
Mississippi Lake.....	80,000
Bass Lake	60,000
Missisquoi Bay.....	60,000
Clear Lake	60,000
Doré "	60,000
Rock "	60,000
Pine "	60,000
Patterson's Lake, Ont.	60,000
Lake No. 7, Joliette County, Que.....	60,000
Source, and Smoke Lakes	60,000
St. Jovite, Que.....	60,000
Clear and Carp Lakes	60,000
St. Maurice, Que.....	50,000
Allan Lake.....	40,000
McKay's Lake	50,000
Total.....	1,180,000

The hatchery is in good order and repair for the coming season's work. Owing to the spawning season being later this fall than usual, I have not yet received the usual supply of salmon-trout eggs.

The Canadian Fisheries Exhibit and Hatchery have been visited by over 22,000 persons during the year. The aquaria, which are now being repaired and stocked with living fishes, will prove an additional source of interest to the numerous visitors to the Fisheries Exhibit and Hatchery.

I am, sir,

Your obedient servant,

JOHN WALKER,

Officer in charge of Ottawa Hatchery.

BEDFORD, N.S., 1st December, 1897.

Prof. E. E. PRINCE,
Dominion Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit my annual report on the operations at the Bay View Lobster Hatchery for 1897.

On account of the backwardness of the season, fishing did not commence until about the 15th of May, and on the 20th the first eggs were received at the hatchery. But very few were collected until the 2nd June, when the steamer "Diamond" was employed to collect from the factories around Pictou Island.

Lobsters were quite plentiful, and the pack of some of the factories was larger than that of the previous year, but for some reason unknown to me berried lobsters were scarce during the whole season, and in order to fill one half the incubators I found it necessary to seek new grounds to obtain eggs.

On the 8th June I went to Canso, carrying with me a number of boxes which I had constructed during the winter for the purpose of carrying eggs a long distance, which I distributed around among the factories there, giving the necessary instructions to the employees as to managing them, and returned to the hatchery.

On the 18th the "Diamond" went to Canso, returning on the following day with 10,000,000 eggs in splendid condition, and a much larger quantity would have been received had the traps not been broken by a violent storm which occurred at that time.

Fry first appeared in the incubators on the 17th June, distribution commenced on the 26th June, and ended on the 5th July, when 90,000,000 young lobsters were successfully planted.

Last spring, by permission from the department, I had constructed a new supply tank outside the building, which proved satisfactory.

The hatchery is in a good state of repair, except some of the waste pipes, which will require to be renewed at a trifling cost, and if the wharf receives no damages by ice during the coming winter, work may be commenced early in the spring.

This hatchery has been in operation seven years, and if any benefit is to be derived from artificial lobster culture it should be seen now, and I am pleased to learn from many of the packers and fishermen who have been anxiously watching the operations that they now see good results, and believe that lobsters planted from the hatchery have added largely to their supply

I am, sir, your obedient servant,

ALFRED OGDEN.

Marine and Fisheries—Fisheries Branch.

NEWCASTLE, 13th December, 1897.

Prof. E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I have the honour herewith to submit a report of the fish cultural operations carried on at this hatchery during the past year.

The following schedule will show the points of distribution, also the number and kinds of fry placed in each locality last spring :—

Whitefish.

Lake Ontario, at Hamilton.....	300,000
do Toronto.....	300,000
do Cobourg.....	300,000
do Newcastle.....	300,000
Bay Quinté, Picton.....	300,000
do Belleville.....	300,000
Lake Simcoe, Barrie.....	300,000
Lake Couchiching, Orillia.....	300,000
Pond at Elmvale.....	300,000
	<u>2,700,000</u>

Salmon Trout.

Georgian Bay, Collingwood.....	100,000
do do Wiarton.....	200,000
Lake Simcoe, Barrie.....	100,000
do Couchiching, Orillia.....	100,000
do Ontario, Hamilton.....	100,000
do do Toronto.....	100,000
do do Cobourg.....	100,000
do do Picton.....	100,000
do do Kingston.....	100,000
do do Newcastle.....	175,000
Bay Quinté, Belleville.....	100,000
Lake Huron, Southampton.....	100,000
Pond in Lambton County.....	25,000
Lakes, North Hastings District.....	100,000
	<u>1,500,000</u>

SCHEDULE showing total number of fry and semi-hatched eggs distributed from this hatchery during spring of 1897.

Whitefish.....	2,700,000
Salmon trout.....	1,500,000
Eyed eggs to Magog.....	2,000,000
do St. John.....	500,000
	<u>6,700,000</u>

I beg to inform you that the fry was all deposited in the different waters in the very best of condition.

In September, having received instructions from your department to proceed to Sault Ste Marie for the purpose of gathering a supply of salmon-trout spawn for this and the other hatcheries, I went there on September 15th with two assistants. I found that the fishing was all carried on about 130 miles up the lake from Sault Ste. Marie. I was therefore compelled to wait three days for the arrival of the tug before we could proceed to our destination, where we arrived on the morning of 20th. Fish were scarce, the catch not being more than half as good as last season. They were just beginning to spawn. I therefore assigned the men to their different places with a view of securing a supply, but up to the 20th of November only succeeded in collecting some 1,500,000. I saw that as the fish were getting scarce it would be impossible to get a full supply. I at once asked your department for permission to purchase and set a pound-net at Wiarton in order to secure a full supply if possible. It was set on November 3rd, and fished until December 2nd, and we succeeded in obtaining 2,350,000 eggs.

I must inform you that of the 1,500,000 ova gathered in Lake Superior, at least one half turned bad before my return home. Several causes are given for it, first, the fish were caught in gill-nets and cannot be as good for spawning purposes as fish that are caught in pound-nets; second, the water is very cold in Lake Superior, and in taking the eggs out of cold water and putting them into the warmer waters further south must certainly have a bad effect on them. The United States Hatchery officers lost their first two shipments of eggs, through the same cause.

Whereas in getting eggs at Wiarton the fish do not start to spawn for at least one month later, I would therefore suggest that your department purchase one more pound-net and set them both near Wiarton or vicinity, which, I think, would be found the most economical way of gathering spawn.

There is now laid down in this hatchery 3,109,000 salmon-trout eggs which are doing well at the present time.

In regard to repairs, a new floor on the hatching room and a new set of hatching troughs are required in order to put the hatchery in proper condition to do the work.

I have the honour to be, sir,

Your obedient servant,

JOHN KENEFICK.

SANDWICH, 14th December, 1897.

To Prof. E. E. PRINCE,
Commissioner of Fisheries,
Ottawa.

SIR,—I beg to submit my annual report of operations connected with the above hatchery during the past year:—

As stated in last year's report this hatchery contained 95,000,000 whitefish eggs, from which were turned out 87,000,000 young fry and semi-hatched eggs which were disposed of as follows:—

EYED EGGS.	
Ottawa, Ont.....	3,000,000
Newcastle, Ont.....	3,000,000
Magog, Que.....	3,000,000
Bedford, N. S.....	3,000,000
St. John, N. B.....	3,000,000
Total.....	15,000,000

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YOUNG FRY.

Point Edward, Lake Huron.....	3,000,000
Mitchell's Bay, Lake St. Clair.....	3,000,000
Peach Island, " ".....	3,000,000
Belle Isle, Detroit River.....	3,000,000
Fighting Island, Detroit River.....	5,000,000
In bay below Fighting Island.....	4,000,000
Stony Island, Detroit River.....	4,000,000
Bois Blanc Island, Detroit River.....	6,000,000
In Lake below Bois Blanc Island.....	5,000,000
Pigeon Bay, Lake Erie.....	3,000,000
Bar Point, ".....	3,000,000
Colchester, ".....	3,000,000
Kingsville, ".....	1,000,000
Leamington, ".....	1,000,000
Rondeau, ".....	1,000,000
Port Stanley, ".....	1,000,000
Hamilton, Lake Ontario.....	1,000,000
Niagara, ".....	1,000,000
Toronto, ".....	1,000,000
In river at hatchery.....	20,000,000
Total.....	72,000,000

These fry were placed in the water at the above named points in a good healthy condition.

This fall we have in the hatchery 95,000,000 whitefish eggs which are in first class condition, and from pre-ent appearances the most encouraging results are expected.

The total catch of fish this autumn was 9,476, accounted for as follows :—

Liberated	6,376
Sold	2,860
Salted.....	120
Lost	100
Hotel Dieu (Hospital).....	20
Total.....	9,476

The above figures show that a smaller number of fish were taken this fall than last. We did not require so many this year from the fact that the fish were in better condition when we caught them, as they were almost ready to spawn when taken. The fishing was very good when we finished.

The fish never were known to be so late in coming into the river. Eggs were first brought into the house on the 22nd day of November, about three weeks later than previous years. I have repaired the piers, put them in good condition and am of opinion that they will last for three years at very little expense. I have lifted the shanties on the piers this fall in charge of the lighthouse keepers of Grassy Island, Mamajuda light and Mr. Fountain, who has charge of Fighting Island. My object in this changing the custom of the last few years in this respect was solely for the purpose of saving expense.

Respectfully submitted.

I remain, sir, your obedient servant,

WM. PARKER,

Officer in Charge.

ANNEX 1.

REPORT ON OYSTER CULTURE BY THE DEPARTMENT'S EXPERT, 1897.

OTTAWA, 31st December, 1897.

To the Honourable

Sir LOUIS H. DAVIES, K.C.M.G.
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report for the season of 1897 on oyster culture. On the opening of navigation I left Ottawa for Charlottetown, P.E.I., where I took charge of a small steamer for the purpose of examining the several areas visited by me during the season's work.

Shediac Oyster Beds.

On completing my examination of the above beds, I found they were clean and free from eel grass. Where the grass has been thoroughly rooted out there does not seem to be any reappearance of the same.

The oysters are growing in a very satisfactory manner. On bed No. 1 which was first planted, the oysters have developed until they are now in fine condition and ready for market. From 150 to 300 oysters can be taken at a haul of the dredge, both oysters and soil are clean and free from silt, and several young oysters can be found varying in size from last year's spat up to full growth. Several oysters were removed from stones which were used as sinkers for the brushwood, measuring from $3\frac{1}{4}$ to $3\frac{3}{4}$ inches in length. Brood oysters of various growth are also to be found attached to oysters, sticks, stones and shells, the oysters are of excellent quality and in healthy condition.

On bed No. 3 they are not quite so large, but are well developed and in good condition; most of these were transplanted from Richmond Bay, P.E.I., they have thickened well, and I can see every sign of growth. Young oysters are found in very fair quantities. This bed is also clean, in good condition, and the oysters are looking very healthy.

On bed No. 2 the oysters are smaller and not so numerous, this is owing probably to the area lying close to the southern boundary line, and oysters have been taken from this bed by poachers during the night-time. Since visiting these beds and just previous to my return here, several residents of the locality have informed me that poaching is quite prevalent on all the beds. I have asked everybody who has given me this information to supply proof in order that action may be taken against the guilty parties, but while they are satisfied that poaching is quite common they do not wish to take any active part which would lead to conviction.

I also examined some of the uncultivated areas. These beds are gradually becoming covered with sediment and eelgrass, which will eventually destroy them, as the eelgrass grows so long during the summer months, collecting sediment on these beds. As the winter approaches the grass dies off and either settles or decomposes on the beds, or is carried on shore by the wind and tide. Oysters of all sizes are however to be found; I have not dredged a single uncultivated area without finding oysters, to a certain extent.

Unsolicited reports have been brought to me by different fishermen that oysters are now to be found at various distances from the reserve. This is no doubt the result of the spat drifting from the location of the parent oyster, they were found last year by myself outside the reserve as shown in my previous report.

Marine and Fisheries—Fisheries Branch.

BAY DU VIN.

I was instructed to examine this area last year, but owing to the lateness of the season was unable to do so then, but have given my attention to it this year.

Oysters are to be found around the shores of the bay on both sides in a depth of water varying from about five to fifteen feet. They are found on the west, south and east sides of Bay du Vin Island and all around Egg Island, with several beds off shore nearly down to Fox Island; this forms the north side of the bay. The south side of the bay where oysters are found commences at French Village at the eastern end following the shore running west as far as Point au Quart, including Vin and Black rivers.

Oysters appear to be scattered over a very large area. As the water deepens very gradually, the bottom in several places is of a clear sandy soil with a few scattered shells. Oysters and brood are to be found in very fair quantities, they are single and are growing over the whole area. The greatest proportion of oysters taken during the examination were small ones, there being a great many more brood than other oysters, which is a very healthy sign as it shows the small ones are there to replace the larger ones as they are taken. At a greater depth than fifteen feet soft mud is to be found which gradually deepens from both shores forming a wide channel between the main land and the islands.

Oysters that are taken from deep water are of a superior quality to those taken from beds in shallower waters, the latter being of quicker growth.

There are some shallow solid oyster beds composed of shells; these are in most cases thickly covered over with mussels, the oysters that are found there are poor in quality, as the mussels have over-run the beds. Weed and eelgrass also grow in large quantities on the flats, but where they exist only in small quantities, oysters are to be found. They are also found on the outer or north side of Egg Island which consist of extensive flats, the bottom is composed of sand, stones, shells and eelgrass; large quantities of oysters have recently been picked from there by hand, the fishermen wading in the water to obtain them when the tides are low.

West of Bay du Vin Island on the south shore round to Point au Quart, the nature of the bottom is rougher and is composed of large stones and rocky ledges; very little fishing is carried on here owing to the nature of the soil. Some very good oysters were found around the shores in a depth of water varying from 9 to 13 feet.

In Vin River (lately occupied by Mr. Hatton of Montreuil) large quantities of young oysters were found growing in the channel up as far as the bridge, but above it the soil is composed of hard mud or sand with bark, chips and logs covering the bottom; no live oysters were found, but in places shells could be seen showing where experiments had been carried on. One of the men employed by Mr. Hatton, accompanied me, and pointed out the different areas where experiments had been made. I am of the opinion that the bottom or bed had not received a sufficient quantity of cultch previous to the oysters being placed there, the settlings of the river had drifted down and smothered the stock which had been planted. Below the bridge the soil was cleaner, the bottom is composed of shells and shifting sand.

In Black River oysters are of very rapid growth, thin shells, long and inferior in quality, the soil is of a softer nature, large quantities of soft mud are found here, and the bed of the river has been very much cut to pieces by mud diggers. Very little mud digging appears to have been carried on in any other part of the bay, unless it was on some shallow extinct bed which had grown nearly to the surface of the water.

This area requires protection, and the inhabitants are anxious that it should be protected in such a way that they will be able to fish during the fishing season. This could be done by dividing the area in two sections, making the channel of the bay the dividing line; the marks of the division should be from Gardner's Point to the leading lights on the middle of Fox Island. Fishing to be done on the south

shore the first year, and on the island area or north shore the following season. I would respectfully suggest that immediate action should be taken in this matter by the department which would be beneficial to all concerned.

Complaints were also made that strange schooners belonging to other ports will come and fish on these beds bringing with them a crew of about eight or ten men. These vessels come already provisioned; they will take away large quantities of oysters irrespective of size, which must be very detrimental to the beds.

I would strongly suggest while these boats or schooners are loading their oysters that the fishery officer of the district be instructed to visit them daily to inspect and examine the class of oysters that are shipped, and insist on the size limit being maintained, under a penalty of their oysters being seized and their crew fined. This should be immediately stopped, as it not only robs the beds of the coming stock, but the public at large in other cities are being deceived as the small oysters are sold as Caraquette oysters (they being smaller in size), they are also taking an undue advantage of an honest fisherman who returns small oysters to the water.

TRACADIE, N.S.

Upon the completion of my examination of the beds of Bay du Vin I proceeded to Tracadie, N.S., to inspect the grounds which were previously cleaned and planted by the department, and found the bed to be in a fairly clean condition, very little sediment having rested upon it. It was also clear of eelgrass with the exception of a very small quantity on the inside. A slight percentage of death was noticeable; this may be attributed to the warm weather which existed when some of them were laid last year, also to breakage in transit, &c.; the average is not more than was to be expected under the circumstances. The oysters are looking healthy and a growth is to be noticed. I cannot say that I have seen any oysters of last year's spat, this probably might be checked through transplantation; but on examining some of them I found they were full of ripe spawn, and I am in hopes of some resting upon the beds this season.

I also visited the West Arm and found the oysters were very scarce owing to excessive fishing in the past. These oysters were also full of spawn. The weather in the spring of this year has been very cold, wet and backward, which would check the oyster spawning to a great extent. When these oysters were examined the weather was very hot. The beds are now clean, free from weed and sediment, and there is every prospect of the beds turning out successfully.

BRAS D'OR LAKES.

After inspecting the beds at Tracadie, I proceeded to the Bras d'Or Lakes, C. B., and examined the oyster areas in the locality of Malagawatch Inverness County, comprising River Dennis, Seal Cove, Malagawatch and Orangedale Bays, Boom, inside and outside of Little Crossing, McKinnon's harbour, and the shores around the islands and coves in the said bays and rivers.

Oysters are to be found thinly scattered over the whole of the above area, along the shores, in a depth of from eighteen inches to 10 or 11 feet water. There are really no beds, but as the oyster spawn settles on the bottom, the largest portion of it is lost on account of the weeds and eelgrass being so thick, this eelgrass also causes a sediment to fall upon the bottom, there being very little tide, in most places not sufficient to carry off the settlings which are deposited on the bottom by the rivers and streams emptying themselves into the larger bodies of water. The soil is varied, in some places hard stony ground is found, in others it is sandy, gravelly, clay or hard mud and soft mud, and in nearly all cases covered with eelgrass. The oysters taken are of good size and of a delicate flavour. The size varies. Very few oysters are taken beyond a depth from which the bottom cannot be seen. The water is clear, as a rule, the bottom being easily visible at a depth of 6 or 8 feet from the surface. Single handled rakes are generally used with teeth from six to eight inches long, to enable them to work through the eelgrass, also for

Marine and Fisheries—Fisheries Branch.

working in the mud. An instrument called a dip-net is also used. This consists of a circular or oblong band of iron about 8 inches in diameter, and when they are oblong will have a depth of 12 inches by 8; at the back of this is attached a small net made of either wire or twine, and fixed to a pole about 10 or 12 feet long for a handle; when an oyster is seen from the boat it is scooped into the dip-net. At times when there is wind and it is difficult to see the bottom, some of the fishermen will sprinkle oil on the rough water around their boat enabling them to see the bottom more clearly.

In River Dennis oysters grow very fast, attaching themselves to logs and stumps lying on the bottom. The oysters are well shaped, full and clean, but are of little commercial value, as the shells are very soft and the water fresh or slightly brackish. The bed of the river is muddy and in some places sandy, no oysters were growing anywhere but on the sunken logs and sticks of which the river is full, they are in from three to about eight or nine feet of water.

Stony Point which divides Malagawatch Bay from Orangedale Bay is a large flat on the south side, the bottom is clean owing to the strong tide running through the narrow entrance, large numbers of small oysters were noticed here, the scarcity of large ones is no doubt due to their being caught as soon as they are large enough, also to the shallowness and clearness of the water which renders it easy to secure them.

Most of the shores are covered with eelgrass, although places are to be found where there are clean spots or patches with oysters upon them.

No oysters were found at a greater depth than about eleven feet of water, although I examined the middle of the bays and found between four and five fathoms, the bottom consists of firm mud and clay, large quantities of mussels are found to abound here, they grow on a firm clean soil free from eelgrass.

One thing I particularly noticed during the examination was the large quantity of oyster spat that had attached itself to the live eelgrass. When I first noticed this they were not larger than the head of a pin, and could only discern them by the aid of a pocket-lens, the growth was rapid as the water was warm and shallow, and before I left the spat had become so heavy that it was sinking the eelgrass to the bottom where it lay among the dead matter and sediment, the larger portion of it dying through the bottom being so dirty.

Large quantities of this young spat could be saved artificially until it had attained a growth to be able to take care of itself.

Oyster spat was also discovered attached to the branches and twigs of trees which overhung the banks of the rivers and creeks, also upon stakes fixed in the water for the purpose of either tying boats or nets to, the water in these creeks was warm and sheltered, and the growth was very rapid.

At Wycocomagh the areas are similar to those of Malagawatch and Orangedale, although I believe the oysters are scarcer at the former place.

CARLETON, BONAVENTURE COUNTY.

The area here consists of a Barachois containing about 471 acres; chiefly flats with a depth of water varying from 18 inches up to 5 or 6 feet, with a rise and fall of about 6 feet spring tides.

This area is at present under the control of a Quebec company who are improving the grounds for the purpose of cultivating oysters. The entrance to this area is through a narrow inlet of about 200 feet in width. A dam is being constructed with five sluice gates, the length of it is about 230 feet long which reaches opposite shores above high water mark, it is being very strongly built of heavy timber and closely piled all round the outside. The narrowest part of each buttress is 17 feet wide, with pointed abutments between each gate making the widest part about 34 feet, and a distance of 35 feet between each gate or sluice. Large quantities of rock and stone are being placed both inside this wooden structure, which is afterwards to be filled in with shingle or gravel, making it solid and perfectly water-tight, and,

on the outside and inside of the dam, rocks and stones are being placed to prevent the woodwork from being washed away, also to strengthen the foundations. I am of the opinion the work is being very substantially built.

The object of building this dam with sluice gates is to gain every advantage over the area they have under their control. They can when cleaning the grounds, or catching or picking their stock for market keep the water low which would lighten their work very considerably. On the other hand, during the winter months the water can be retained inside the inclosure, so that when frozen over it will protect the oysters from frost, providing there is water between the bottom and the ice.

Then again during the spatting season the area could be continually supplied with small quantities of sea water, letting none escape, and by which means considerable spat may be secured and saved.

The bottom of the reserved area consists of clean gravel, sand, firm mud, mussel banks, and when the bottom is softer eelgrass is growing in large quantities. The bottom at the eastern end is the softest, owing to there being less current than elsewhere as the outlet is at the western side.

The water is very clean and clear, and not too salt, there are two small streams flowing into the area, these I consider will not in any way be harmful but rather beneficial to the oyster.

NORTH RIVER, CHARLOTTETOWN, P.E.I.

After examining and reporting upon this area last fall, it was decided to open the river for public fishing to licensed oyster fishermen for a short period. Reserving this area has had the desired effect, and has proved an excellent test case, as oysters have grown and accumulated. Before it was closed some three or four years ago, a man could scarcely catch a bushel of oysters in a day; when opened for public fishing last fall, the first day's catch amounted to 500 barrels, the grounds were opened for three weeks when it was estimated that from 1,800 to 2,000 barrels of oysters were taken during that time. I have again examined the grounds and find they are now in a good clean healthy condition with a large quantity of young oysters scattered over the whole bed of the river. I have every reason to believe there will be another good crop later on. It was decided not to open the area for public fishing this season, as most of the oysters were small. If allowed time, the oysters will attain their full growth, then the fishermen will reap the benefit of a good catch. I do not entertain the slightest doubt that if other areas were reserved in a similar way, it would be beneficial to the fishermen generally, as it is now clearly to be seen that oyster areas throughout the provinces are being fished to a far greater extent than they really should be.

BEDEQUE BAY.

This area which I have previously visited and reported upon, is I regret to say in a less favourable condition than I had anticipated, as far as the size of the oyster ground is concerned.

The area approaching Wilmot's Creek on the north side is totally unfit for reservation, or the cultivation of oysters, as it is in such disjointed patches, caused by mud digging there from time to time. Some of the ground is found to be clean and free from eelgrass, but it is scarcely possible to go a boat's length without meeting a mud digger cut. The few oysters taken from here are chiefly found around the edges of these small patches. A slight increase is reported in the quantity of oysters taken from there this fall; three and four boats were seen working there, catching from 2 to 4 baskets ($6\frac{1}{2}$ baskets = 1 barrel) per day on an average; sometimes they may strike a place where a small bed has not been disturbed for some time. Inside of this area the water is too shallow for planting purposes.

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Off Oyster Point on the south side of the bay there is an extensive flat covered with eelgrass, and underneath the sediment oyster shells are found, but at low spring tides it nearly dries and would not be suitable on account of the shallowness of the water.

The other portion of the bay and river is too much cut up to anticipate oyster culture.

I may say the whole of this once valuable area is now so cut up into a network of trenches that I am unable to find an area sufficiently large to reserve for departmental cultivation. I did not deem it necessary to visit Richmond Bay this season as I reported fully on the areas there in my last year's report. See page 316.

OYSTER AREAS AND LEASES OR LICENSES.

The department has for the past few years granted areas of ground at a nominal rate to persons who interest themselves in oyster culture. The areas thus granted are either dead oyster beds, or areas of ground which can be converted into an oyster farm; and I am glad to know that is has not been the policy and it is not the intention of the department to grant public oyster fishing grounds to individuals or companies, so that by these means the oyster areas of the provinces may be enlarged, and I am pleased to state that persons are taking up areas for private cultivation. The idea is a good one in which all are concerned. These licenses extend over a period of 9 years and are issued at the rate of \$1.00 per acre per annum. Persons will stock their areas with young or marketable oysters, these in their turn will throw off their spat, which the owner has practically no control of; it may rest either upon his own beds, or may be carried away by the tides and currents to other areas either public or private as the case may be. This encouragement of private enterprise may be the means of keeping up the stock upon public beds, if the regulations are strictly adhered to.

This will to a certain extent counteract the loss of ground which is annually destroyed by mud-digging. This practice is not now carried on to so great an extent as formerly.

The following, are the total number of acres licensed to persons in the different provinces to date :—

	Acres.
Quebec.....	472
New Brunswick.....	47½
Nova Scotia.....	74½
Prince Edward Island.....	46
British Columbia.....	142½
" " Indian reservation.....	365
Total.....	1147½

The area reserved for the Indians in British Columbia is merely flats in front of their reservation from which they will pick oysters but do not cultivate them. Besides the above areas granted, other applications are still coming in, which will in turn be granted upon the approval of the Department. The area in Quebec I have already explained in this report, other areas vary in size from one acre upwards. At present there are forty persons in the Dominion holding licenses of oyster areas, divided as follows :—Quebec 2, New Brunswick 2, Nova Scotia 12, Prince Edward Island 17, and British Columbia 7.

Another advantage with persons holding oyster areas is, that they can keep their stock until a market is available, they can also select their oysters; as a rule, at the first part of the season everyone fishing for oysters sends them to the market, which soon becomes glutted, and the price falls.

PUBLIC AREAS.

Public areas might also be reserved at different parts of the provinces from public fishing, if only for one season, and opened every alternate year; if this scheme came into force I am confident it would protect the fishing industry and have a beneficial result, for I notice as a rule that oysters are shipped to market too young, they may be within the regulation size and yet not developed, if this plan were adopted it would give an oyster time to grow to its natural size and thus bring a better price.

EFFECTS OF FROST.

It has been noticed that during the last few years oysters have been taken in very fair quantities from the river flats and areas that dry at low water, but these areas are not always to be depended upon in their yield, as they are placed in such an exposed locality, being subject to the frost. It makes a great difference when the frost sets in on areas such as these, if the frost comes with any force during spring tides when these areas dry at low water it is nearly always fatal to the oyster, if on the other hand the ice makes during neap tides and remains, it acts as a covering and protection to the oyster, and when the ice actually rests upon the flats the soil is sufficiently soft to allow the oyster to be pushed into the mud until the ice rests on the whole area, in such cases the oyster will live, but where the oyster is exposed to the frost by low tides and heavy winds the oyster itself becomes frozen, which means certain death especially to the half grown ones. This was particularly noticed on the flats at Davies Point, Orwell River, P. E. I., covering an area of about 7 acres; in 1896 over 1000 barrels were picked up. That winter the ice made during low spring tides which appeared to kill nearly every thing off, as there was not one-fifth taken from there that year. Pownal Bay was found to be in the same condition, this has been noticed and watched by practical men.

The quantity of oysters taken during the season of 1896, will be found in the tables of this report.

I have the honour to be, sir,

Your obedient servant,

ERNEST KEMP,

Oyster Expert.

Marine and Fisheries—Fisheries Branch.

APPENDIX No. 12.

REPORT ON THE FISHERIES PROTECTION SERVICE OF CANADA, 1897, BY COMMANDER O. G. V. SPAIN.

OTTAWA, 15th December, 1897.

To the Honourable Sir LOUIS H. DAVIES, K.C.M.G., &c.,
Minister of Marine and Fisheries.

SIR,—I have the honour to report on the work of the Fisheries Protection and Fisheries Intelligence Bureau Services under my charge during the past season, as follows:—

The vessels comprising the fleet were as follows:

Vessels.	Date of Commission.	Date of Paying off.
"Curlew".....	15th April ..	16th Nov.
"Constance".....	18th March...	13th do
"Aberdeen" (in fisheries service off and on).....		
"Dolphin".....	29th April....	20th do
"Petrel".....	27th do	20th do
"Kingfisher".....	1st do	16th do
"Osprey".....	21st do	19th do
"Acadia".....	25th May,	6th do
"Victoria".....	6th do	6th do

The "Quadra," Captain Walbran, on the Pacific coast, was used from time to time by the fisheries branch of the department. An account of her work will be found on page 288.

The "Acadia" was engaged as usual in the general supervision of the fleet, and owing to both the "Stanley" and "La Canadienne" being out of commission this year, she was kept constantly moving. The boilers and machinery of this vessel are getting very old,—nearly eighteen years, and will no doubt require very extensive overhauling shortly.

The "Constance" was employed in revenue work in the Gulf and River St. Lawrence, and made a trip to St. Pierre Miquelon with Chief Preventive Officer Jones on board. She made an important seizure on the 27th of October, of the schooner "Canada," with \$4,000 worth of spirits on board. A regular report of her work will be found on page 284.

"Curlew."—This vessel was chiefly employed in the Bay of Fundy, but both early and late in the season she was cruising off the Cape Breton and Prince Edward Island coasts. A report of her work will be found on page 290.

"Petrel."—This vessel was employed almost entirely in Lake Erie. She pays off, and lays up at Owen Sound. Her work is to prevent depredations by foreign fishermen in our waters, also general supervision of our own fishery regulations.

"Aberdeen."—This vessel was under the charge of Commander Lavoie, the officer in charge of the Gulf Division of Fisheries, Dr. Wakeham having been sent in command of the Hudson Bay Expedition. She was also employed for a considerable period in lighthouse and buoy services.

The "Dolphin."—This patrol boat (very old and very slow) was employed in the Georgian Bay looking after our own fishermen. Her headquarters were at Owen Sound.

The "Osprey."—This is the new schooner built by Mr. McGill of Shelburne, last year. She has proved herself a splendid vessel, fast, roomy and a good sea boat. Her station has been from Canso to Sydney in Cape Breton and later in the season on the S. E. coast of Nova Scotia. I am convinced that this schooner can compete with any vessel of her class on the coast.

The "Kingfisher."—This sailing cruiser has had her station off east point P. E. I., and has done excellent work, in looking after poachers and illegal fishermen of all descriptions.

The officers and men of the service gave me every satisfaction, except in a few instances. The work has been very arduous this season on account of the small number of vessels which were under my command.

I am pleased to be able to report that not one instance of poaching came under my notice. When the extreme length of coast line is taken into consideration it will be apparent how the vessels have to be continually at sea to protect it. The U. S. man of war "Marblehead" has been in the gulf this year, and made her headquarters at the same place as myself, that is to say at Charlottetown, P. E. I. Although she was undoubtedly sent to watch the movements of my fleet, the most cordial relations existed between us. In fact, I have not much doubt that one of the reasons I had so little trouble with United States fishermen this year was to a great extent due to the presence of this vessel on the coast.

The Customs Department had an extra vessel on the Cape Breton coast this year, the "Victoria" under the command of Captain Demers. Although she did not make seizures, she no doubt helped in a great way to debar the numerous bands of smugglers which infest this coast from carrying on their nefarious operations.

The only seizure this year was made just at the end of the season by Captain Knowlton of the "Osprey" at Shelburne, N. S., of the United States fishing vessel "Carrie E. Philips," of Provincetown, U.S.A. She is under detention for an infraction of the customs laws in that she entered and left Lockeport Harbour, N. S., without reporting at the custom-house. The case is now under consideration. She was an unlicensed vessel and had a perfect right under the treaty to come into port for repairs which she did, but what her object was in failing to report it is difficult to imagine.

The above named vessel has since been released on payment of a deposit of \$200.

LICENSES FOR FOREIGN FISHING VESSELS.

The same Order in Council being passed as before, that is sanctioning the continuance of the issue of *modus vivendi* licenses to United States fishermen, similar permits were issued in 1897.

The following table gives a list of the vessels that took out licenses in 1897 :

Marine and Fisheries—Fisheries Branch.

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled "An Act respecting Fishing Vessels of the United States of America," during the year 1897.

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Fee.
				\$ cts.
Essex	Gloucester	84	Pubnico, N.S.	126 00
Alice R. Lawson	do	115	do	172 50
Senator Saulsbury	do	102	do	153 00
Hazel Oneita	do	73	Shelburne, N.S.	109 50
Parthia	do	77	Tusket, N.S.	115 50
Madonna	do	79	do	118 50
Emma E. Wetherell	do	109	Pubnico, N.S.	163 50
Blue Jacket	do	86	Yarmouth, N.S.	129 00
Thetis	do	91	do	136 50
Mystery	do	89	Pubnico, N.S.	133 50
Fernwood	do	96	do	144 00
Mabel D. Hines	Beverly	92	do	138 00
Winona	Gloucester	103	do	154 50
Meteor	do	96	do	144 00
Elector	do	84	Tusket, N.S.	126 00
Wm. E. Morrissey	do	93	do	139 50
Annie Wesley	do	88	do	132 00
Margaret	Beverly	107	do	160 50
General Cogswell	Gloucester	97	Liverpool, N.S.	145 50
Marguerite	do	81	Tusket, N.S.	121 50
Emma S. Osier	Eastport	22	Campobello, N.B.	33 00
Pinta	Gloucester	94	Canso, N.S.	141 00
Gertie Evelyn	do	81	Arichat, N.S.	121 50
Wm. Matheson	Provincetown	72	St. Peters, N.S.	108 00
Julia E. Whalen	Gloucester	96	Port Hawkesbury, N.S.	144 00
Volunteer	do	102	do	153 00
Masconoma	do	91	Arichat, N.S.	136 50
Annie G. Quiner	Bucksport	79	St. Peters, N.S.	118 50
Edgar S. Foster	do	79	do	118 50
Gladstone	Gloucester	75	Canso, N.S.	112 50
Nellie Burns	Portland	43	do	64 50
Ralph E. Eaton	Gloucester	47	Souris, P.E.I.	70 50
Lizzie Walworth	Millbridge	8	Campobello, N.B.	12 00
Epes Tarr	Gloucester	48	Souris, P.E.I.	72 00
Bessie M. Devine	do	91	Amherst, M.I., Que.	136 16
Mist	do	48	Souris, P.E.I.	72 00
Landseer	do	94	Port Hawkesbury, N.S.	141 00
Reporter	do	79	Souris, P.E.I.	118 50
Oresa	do	82	Arichat, N.S.	123 00
Robin Hood	do	88	North Sydney, N.S.	132 00
Total		3,261		4,891 16

SUMMARY.

Total number of vessels.....	40
Total tonnage.....	3,261
Total amount received in fees.....	\$ 4,891

It will be noticed that there has been a falling off in the licenses taken out by United States fishermen this year. The reason, I think, is the great leniency with which the department has treated these fishermen, in many cases privileges being granted which really necessitated the taking out of a license, so of course, in the natural order of events, owners would not pay for a privilege (although it is only a nominal fee), when they could get the same thing without paying. Those who did take out and pay for licenses were much exercised over the same right being accorded to people who paid nothing.

During 1896 the number of licenses increased nearly 60 per cent, on account of the extra paragraph which was placed in the license warning United States fishermen with a license that if they sold stores of any description to vessel without such

license, immediate cancellation of the permit would ensue, and no license would be issued to the offending vessel in the future. The invariable conciliatory attitude of the Canadian Government for years to foreign fishermen I think is taking effect now, and it will probably be found that the licenses will become fewer.

The following is a statement of the number of licenses issued each season since 1888:

1888.....	36
1889.....	78
1890.....	119
1891.....	98
1892.....	108
1893.....	71
1894.....	53
1895.....	47
1896.....	77
1897.....	40

The returns of the large number of United States fishermen who make use of Sand Point, Shelburne County, N.S., generally the last port of call on the way home form an annex to this report, and will be found interesting.

THE MACKEREL FISHERY.

The catch has been very disappointing this year indeed. The fish caught were of large size, some of them going over three pounds in weight. They appeared about the same time off our shores as last year, and light hauls were made at Prospect, N.S., on May 17th. On May 22nd a number of United States fishermen were off Shelburne, N.S., with the cruisers "Kingfisher" and "Osprey" in company, the "Acadia" being more to the westward. Few mackerel were seen, the weather being excessively stormy and foggy, but a Gloucester seiner made a haul of some 14 barrels about 6 miles off Liverpool. This, I think, was the first catch by a United States vessel. The season was backward altogether. At the same date last year, May 22nd, the steamer from Yarmouth to Boston landed 1,500 barrels of fresh mackerel; this year she had only 80 barrels on board. On May 27th there were 60 sail of United States vessels off Prospect, with the cruisers "Curlew," "Osprey" and "Acadia" in company. One vessel, the "Marguerite Haskins," did well, catching 150 barrels.

The weather continued very rough and foggy throughout the spring, and up to the second week in June the mackerel fishery might be considered a total failure, no large body of fish being fallen with, and quite 35 vessels of the fleet not having had their tackle in the water at all. Very few had more than 50 barrels. The total catch of the Cape shore fleet up to this date (second week in June) amounted to under 2,000 barrels.

About this time accusations were brought against the United States fleet by our fishermen, charging them with maliciously sailing through and destroying nets. The alleged offence I thoroughly investigated, and found without foundation, although in some cases, no doubt, nets were unavoidably destroyed, but certainly not maliciously.

Cape shore mackerel were worth about \$10.25 per barrel. There were some very good catches made on Georges in July and August. At the beginning of September prospects seemed to brighten up in North Bay, and vessels were doing fairly well off Prince Edward Island. The mackerel being taken were of mixed size. They were schooling freely on Fisherman's Bank, in Northumberland Straits, off St. Peters, and the 1st and 2nd Chapels. These mackerel were selling in Boston for \$24 per barrel on September 8th.

A few catches were made off Sydney later in the fall, but on the whole the mackerel catch of 1897 may be looked upon as a bad failure. Their habits have changed very much; they no longer get together in large schools, but small quantities of fish are found here and there. This, I think, is largely due to diminished numbers. They are frightened by the purse seines which break up the schools and

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scatter them all over the place. The seines are, and I have often pointed out, most destructive engines, and I would strongly recommend that their use should be prohibited by international agreement before the 1st of July, at any rate. The capture of these fish before they have spawned must eventually, as far as I can see, utterly destroy the fishery, and the very least protection that might be afforded them would be to prohibit the use of the purse seine before the mackerel have spawned. At present they have no protection whatever. When they are spawning they will not take the bait, but the purse seine gets them at all seasons. Not only does this method of fishing catch mackerel, but at the same time any other kinds of fish, more particularly herring, which are all thrown away.

I think it would be found that a very large percentage of masters of fishing vessels, both British and foreign, would concur in the prohibition of the purse seine. My own experience is exactly in the same way, and I trust the department will see its way to take some effective measures in the desired direction.

A short description of a purse seine taken from Professor Brown Goode's report may be of interest:

"A large seine used with a very large seine boat is about 210 fathoms in length and 30 fathoms deep, being deeper in the centre than at the wings. The boat end is about five fathoms deep, and the dory end varies from about 7 to 15 fathoms in depth. It is made of three kinds of twine. The trailing piece, which is a section of the net occupying about 10 or 12 fathoms along the centre of the cork line, and having the same depth as length is made of the stoutest twine. Beneath this and composing the remainder of the float and extending to the bottom of the seine is a section knit of twine a size smaller. There is also a band of large twine 15 meshes in depth, extending along the cork line of the seine on either side of the trailing piece to the extremity of each wing."

In one of the above engines it often happens that 100 barrels of fish are inclosed at one cast. Only a small portion are mackerel, the remainder being thrown over-board dead, and sinking to the bottom, foul the ground and drive off other fishes.

The list of United States fishing vessels boarded by Dominion Government cruisers in the Canadian waters on the Atlantic coast and Gulf St. Lawrence during the season of 1897, will be found as Annex B to this report.

LIST of Vessels (Seiners and Hookers) fishing in North Bay, Fall of 1897.

Date.	Name.	Home Port.	Master.
1897.	Jonh Smith.....	Gloucester.....	John Stewart.
	Reporter.....	do.....	N. McPhee.
	Mist.....	do.....	Jas. McDonald.
	Epes Tarr.....	do.....	T. A. Irwin.
	Ralph E. Eaton.....	do.....	John Thompson.
	Helen F. Whitten.....	do.....	Thomas White.
	Landseer.....	do.....	Jas. McDonald.
	Henry M. Stanley.....	do.....	Thad. Morgan.
	Dayv Crockett.....	do.....	Wm. Grant.
	S. F. Maker.....	do.....	B. F. Payson.
	Hattie M. Graham.....	do.....	Joe. E. Graham.
	George F. Edmunds.....	do.....	Wm. Corkum.
	F. W. Homans.....	do.....	Richard Jackman.
	Effie M. Morrissey.....	do.....	Charles Leaman.
	Alice M. Parson.....	do.....	James McLean.
	Alice C. Jordan.....	do.....	J. H. Warren.
	Herald of the Morning.....	do.....	Levi N. McLean.
	Nellie Dixon.....	Boston.....	C. Ellsworth.
	Ethel B. Jacobs.....	Gloucester.....	Sol. Jacobs.
	Elsie M. Smith.....	do.....	Frank Hall.
	Lizzie M. Center.....	do.....	Joseph Smith.
	Lena and Maud.....	do.....	J. W. McFarland.
	George S. Boutwell.....	do.....	John Couzins.
	Norumbega.....	do.....	John McKinnon.

Up-to-date vessels will not average bay catch over 25 barrels mackerel; several if not all the late fleet got nothing.

LIST of Vessels which fished off Cape Shore, 1897.

Date.	Name.	Tons.	Home Port.	Master.
1897.				
May...	Abbie F. Morris	77	Gloucester.	McLean.
	Abbie M. Deering	90	do	Rowe.
	Albert Geiger	53	do	Mehlman.
	Agnes E. Downe	81	do	Carrigan.
	Alice	85	Provincetown.	Chase.
	Alice C. Jordan	82	Gloucester.	Warren.
	Alice M. Parsons	72	do	Haymer.
	Annie C Hall	84	do	McLain.
	Annie Greenlaw		do	Greenlaw.
	Arthur Binney	112	Boston	Mahar.
	Braganza	91	Gloucester.	Corkum.
	Carrie E. Phillips	110	Boston	Malloch.
	Centennial	110	Gloucester.	Harty.
	Charles Levi Woodbury	100½	do	Cunningham.
	Commonwealth	81	do	Critchett.
	Davy Crockett	80½	do	Grant.
	Eddie Davidson	78	do	Cromwell.
	Edith D.		do	Connelly.
	Edith M. Prior	106	do	Prior.
	Effie M. Morrissey	114	do	Leaman.
	Elsie F. Rowe	55	do	Gannon.
	Elsie M. Smith	107	do	Hall.
	Ethel B. Jacobs	125	do	Jacobs.
	Flora L. Nickerson	95	Booth Bay	Lewis.
	Frank A. Rockliffe	99	Gloucester.	Ellsworth.
	Frank H. Smith	70½	North Haven.	Wylie.
	F. W. Homans	44	Gloucester.	McDonald.
	Gatherer	91	do	Maguire.
	Geneva Mertis	42½	do	McCloud.
	George F. Edmunds	142	do	Corkum.
	Golden Hope	101½	do	McLean.
	Grace L. Fears	84½	do	Aiken.
	Grayling	115	do	Cameron.
	Harry G. French	95	do	O'Brien.
	Harvard	106½	do	Swim.
	Harry L. Beldon	117	Boston	Walen.
	Hattie Evelyn	66	Gloucester.	Terry.
	Hattie E. Heckman		do	Hickman.
	Hattie M. Graham	133	do	Graham.
	Hattie and Lottie	96	Dennis.	Nickerson.
	Helen F. Whitten	127½	Gloucester.	White.
	Henriette Francis	74	Portland	Edwards.
	Henry Ellsworth	56	Gloucester.	Gallant.
	Henry Morgenthaw	85½	Portland	Dyer.
	Herald of the Morning	68	Gloucester.	McLean.
	Henry M. Stanley	112	do	Morgan.
	Hiram Lowell	121	do	Nelson.
	Hustler	92½	do	Keene.
	Indiana	116½	do	Smith.
	Iolanthe	70½	do	Sparling.
	James A. Garfield	61	do	Grant.
	James G. Blaine	98	do	Nelson.
	Jennie B. Hodgdon	112	do	Hodgdon.
	Jennie P. Phillips		do	Doane.
	J. J. Clark	66	do	McLaine.
	John E. McKenzie	124	do	McKenzie.
	John S. Presson	88	do	Williams.
	Kearsarge	100	do	Mills.
	Landseer	94	do	McDonald.
	Latona	104	do	Croucher.
	Lena and Maud	New	do	McFarland.
	Lizzie Maud	79	Portland	Sparling.
	Lizzie M. Center	77	Gloucester.	Smith.
	Lizzie Smith	73	Provincetown.	Chase.

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List of Vessels which fished off Cape Shore, 1897.—*Concluded.*

Date.	Name.	Tons.	Home Port.	Master.
1897.				
May...	Loring B. Haskell	91½	Gloucester.....	Murphy.
	Lottie Gardner	111½	do	Parriss.
	Lucille	96	do	Welch.
	Lucy W. Dyer	78	do	Staples.
	Mabel Kensington	78	do	
	Marathon	65	do (now lost).....	Hudder.
	Margaret Mather	91	do	Miller.
	Marguerite Haskins.....	103	do	Harty.
	Margie Smith.....	58	do	Smith.
	Mariner	107½	do	Stanley.
	Marshall L. Adams.....	125	Provincetown.....	Seavy.
	Maud S.	75½	Vine Haven	Reed.
	Mayflower	108	Gloucester.....	
	Mertie and Delmer.....	74½	Chatham	Doane.
	Mertie H. Perry.....	59	Boston	Perry.
	Minerva	61½	Gloucester.....	Hall.
	Minehaha	50	Swanscott.....	
	Mist	64	Gloucester.....	McDonald.
	M. S. Ayer	76	do	Thomas.
	Nellie Dixon.....	105½	Boston.....	Poole.
	Nellie M. Davis.....	89	Gloucester.....	Doran.
	Nereia	92½	do	Whitten.
	Norman Fisher	76	do	Anderson.
	Norumbega	120½	do	McKinon.
	Oliver S. Killam	New	do	Killam.
	Oliver Wendell Holmes	102	do	Pitts.
	Ralph F. Hodgdon.....	86	do	Greenleaf.
	Richard Lester.....	69	do	McDonald.
	Ruth M. Martin	94	Boston.....	Ellis.
	Sea Fox	105½	Provincetown.....	McGray.
	S. F. Maker	103½	Gloucester.....	Payson.
	Sir Knight.....	76½	Booth Bay	McKown.
	Speculator	105	Gloucester.....	McDonald.
	Stowell Sherman.....	87½	Provincetown.....	Hatch.
	Talisman	118	Gloucester.....	McKay
	Wm. E. McDonald.....	93	do (since lost)	

101 vessels—Total catch in spring, 1,048 barrels.

LOBSTERS.

The lobster catch in nearly every locality has been small. It was bad enough last year, but even worse this, mainly due to the frequent and constant storms in May and June breaking up and destroying the fishermen's traps, etc., and doing an immense deal of harm to the business. The season was extended for nine days in the Gulf, and people who fished through July did not do so badly. Prices were fairly high, and this helped the fishermen out slightly.

I think the present laws for catching lobsters are about as good as can be made, but I have had intense trouble with fishermen who persist in fishing during the close season, and thousands of dollars worth of gear has been destroyed for being set illegally. The pack in Cape Breton was very bad indeed, not much more than half the average, and many fishermen hardly paid expenses, so much of their gear being destroyed by the storms. Lobsters do not come into shoal water when there is any chance of bad weather, and the extra expense of fishing in deep water is large. I think the small individual pack is due to the weather and not to any particular diminution in the fish themselves in this locality.

I am of the opinion, which I think, is generally shared, that there should be no lobsters caught north of Cape George after the 1st of July. By far the greater

quantity of spawn is cast after this date though no doubt not all. The regulation in regard to the size limit, although a good thing, is very nearly impracticable to carry out rigidly.

I append extracts from the Annual Report, and from Captains Dunn, Pearson, May, Kent, Pratt, Knowlton and Walbran, the last named an expert in British Columbian waters.

ANNEX A.

EXTRACTS OF REPORTS FROM CRUISER'S OFFICERS.

CAPT. C. T. KNOWLTON, *Commander of the Cruiser "Osprey,"* reports as follows:—
 "In compliance with your order I will now hand you my report of work done by the Fisheries Protection Cruiser 'Osprey' under my command for the season of 1897.

"The 'Osprey' commissioned at Halifax on the 21st April with part of her crew. April 22nd, by order, proceeded and arrived at Shelburne 24th, where we took on board the remainder of our crew. We then took up our station between Halifax and Shelburne, with Lunenburg headquarters for mails until 10th May, when we went on the marine "slip" at Halifax, and painted bottom; the weather being very stormy we were detained for several days. On the 17th we proceeded to sea, weather still foggy, cruised eastward, passed through the Strait of Canso, arrived at Pleasant Bay, Magdalen Islands, 21st. I found a large fleet of fishermen baiting. Herring plentiful. There were only a few United States fishermen, mostly Canadian. Beside fishermen there was a large fleet of small vessels catching herring for the lobster factories at Prince Edward Island and Nova Scotia to be used for lobster bait. I found matters quite changed to what they were when I visited those islands in 1891. There were from twenty to thirty United States bankers and only a few Canadians. We remained in Pleasant Bay until the herring season was considered to be over, and on the 27th of May proceeded towards the southern coast of Nova Scotia to meet the mackerel fleet. 29th we were off Cape Canso with a fleet of twenty-two United States seiners. We continued to cruise with the fleet from Cape Canso to Sydney and back to Liscomb until the 9th of June, when the last of the fleet went westward. As a whole the fleet did very poorly, while some had fair trips others went home clean. We then took up station at Canso and cruised as far west as Liverpool, east to Louisbourg, with occasional runs to Prince Edward Island. In connection with protecting our coast from foreign fishermen, we had several other duties to perform, protecting the lobster and other fish until 23rd October, when we were instructed to proceed and take up our station off Sydney with the United States mackerel fleet. We proceeded on the 24th, and the same night were off Sydney with part of the fleet. 25th with a fleet of twenty we continued to cruise with the fleet between Cape Smoke and Scattari until 8th November, when part of fleet went west. On the 9th we followed and found tail of fleet at Louisbourg. We were detained at Louisbourg for several days, weather being stormy. 15th we proceeded and arrived at Halifax on the 16th. A very few had fair trips while others had very poor, and several went home clean having spent from three to seven weeks waiting and watching. 18th November we proceeded and arrived at Shelburne same day, where we cruised finding several United States trawlers on different occasions for shelter. On the 13th of December detained the United States trawler "Carrie E. Phillips" at Shelburne for infraction of customs laws. This vessel was released on deposit of \$200, and on 18th December I put "Osprey" into winter quarters and paid off crew."

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Capt. W. H. KENT of the Cruiser "*Kingfisher*" reports as follows:—

"In March I received orders to commission the '*Kingfisher*;' on April 1st I proceeded to Shelburne, N. S., and superintended the painting and fitting up the ship for the season's work. On April 1st the crew were signed in, and ship placed in commission. After getting stores and provisions on board we proceeded, making Shelburne headquarters for mail and telegrams.

On the 10th April I received your telegram ordering me to the wreck of the SS. '*Assaye*,' stranded on Blonde Rock, to prevent unauthorized people from taking goods from the wreck. On the 12th we arrived at the wreck, where I found about twenty sail of vessels near by and a large number of men on board. I at once ordered them to leave the ship, which they did after some hesitation. The ship being abandoned, I proceeded to Pubnico for the night, returning next morning, when I found several sail of vessels and two steamers alongside helping themselves. I ordered them to leave the ship immediately, which they did. I then made an examination and found the wreck had been stripped of everything movable, a large quantity of dry goods cases were found with tops smashed in and contents gone. By all appearances the cargo must have been very valuable. That evening we ran back to Pubnico.

The next day I received a telegram from the Deputy Minister of Marine and Fisheries saying you were not in Ottawa; also stating it was not necessary to remain by the wreck any longer. As soon as weather cleared we proceeded back to our station off Shelburne and as far east as Lunenburg.

On the 1st of May, I with the crew, assisted in fitting out the cruiser '*Victoria*;' also by your orders, sent my second officer to assist Capt. Demers as far as Charlottetown, he not having a full complement of men.

On May 15th the first American seiners arrived at Shelburne. From that time they commenced to increase in number, but owing to the dense fogs which prevailed on the S. E. coast of Nova Scotia, it was hard to keep run of the fleet; in fact it was almost impossible to do so. I continued to cruise off Shelburne till 28th May, when we proceeded east, calling at Halifax, and on to the eastward seeing now and then one of the seiners when the fog would lift.

On arriving off Canso we fell in with about eighty sail of seiners which had given up the hunt, and were returning west with empty ships, as the mackerel had given them the go by in the fog.

The presence of so many seiners on our coast every spring certainly must be the cause of mackerel being so scarce, as they are continually harassed by seiners and nets. It is my opinion, unless there is some international agreement to prevent the continuance of wholesale slaughter and destruction which has been the cause of depleting our waters of this valuable fish, that mackerel fishing will soon be a thing of the past.

I spent some few days cruising about Chedabucto Bay and off Canso. On June 8th I received orders from you to proceed to Port Hawkesbury and put ship on marine slip for cleaning and painting. The next day we arrived and hauled over on the slip, and completed the necessary work. By the 11th, after waiting one day for paint to dry, we went on to Pictou, when the ship's company were measured for uniforms by Mr. W. H. McLaren, tailor.

From Pictou I proceeded by your orders to Souris, P.E.I., to take up my station off the East Point, P.E.I., where we remained till October 26th.

After the beginning of the lobster close season we spent a large part of the time looking after gear left out and fished contrary to law. I found and destroyed a number of traps off Launching also off Chepston. We made one trip to the Magdalen Islands on the same business, but the wheather came on so stormy I had to abandon the voyage, and get back to Souris, not without a taste of what the Magdalens are like in the fall, as we rode out one of the heaviest gales of the season in Pleasant Bay. I landed at Amherst for a short time only, but was not able to land again during my stay there.

The fleet did not arrive on my station till late.

" There was a small catch off East Point on the evening of the 26th August, but nothing after that. The seiners cruised all over the gulf, but could not find the fish, and had all left the gulf by October 26th for Sydney, Cape Breton, the last remaining place for the fall catch.

The fleet of Americans having left the gulf, acting on your orders, I proceeded to North Sydney, where I found twenty-two sail of seiners, the cruiser "Osprey" in company. They did very well at Sydney, the highest catch being one hundred and seventy-eight barrels. Whilst at Sydney I received a telegram from yourself ordering me to be at Halifax November 12th, to pay off. We left Sydney, November 4th, and proceeded west, but owing to the heavy gales prevailing, did not arrive at Halifax till the morning of the 16th, when I at once paid ship out of commission. The sails being wet, I had to remain with the chief officer and a few men to dry everything and store it away, which we completed by the 20th November, when I left for home via St John.

Our Fisheries Protection annual sports at Georgetown, P.E.I., were a grand success this year, and we hope next year to make them still better.

We were much pleased to have the honour during the summer of escorting the Governor General of Canada from Pictou to Charlottetown, and we hope to have the privilege of a like honour at some future time.

CAPTAIN GEO. M. MAY of the D.G.S. "*Constance*" says:—

According to your instructions of the 6th instant I have the honour to submit to you the following report for the season of navigation just closed, and beg respectfully to state that my officers and crew joined the "*Constance*" on March 20th.

On the afternoon of the 24th left our winter quarters and made fast to Crawford's Wharf, Quebec. After taking in a supply of coal and provisions we left port for the gulf early on the morning of the 30th.

On our way down the river we met ice in considerable quantities, especially between Crane Island and the Stone Pillars, but as it was pretty well scattered we had no difficulty in passing through, and at 6 p.m. moved at Murray Bay wharf for the night.

At 4 a.m. 31st, left Murray Bay and proceeded on down the river meeting no ice worthy of mention until nearing Bic, when we met in with large quantities, with wide open channels through it, we proceeded on down with the expectation of being able to reach Rimouski wharf, but on arriving off the east end of Barnaby Island we found the ice closely packed everywhere; we at once put about to return towards Bic, but before proceeding far the ice closed in on us where we had to remain jammed for the night.

On the 1st, 2nd and 3rd April owing to strong northerly winds we were unable to move, the ice being very heavy and closely packed as far as the eye could reach, during which time we drifted down by (or with) the current to near Matane, a distance of 45 miles.

On Sunday, 4th April, owing to change of wind, and probably current also, the ice began to open in large channels to the westward and north. At 2 p.m. we began to work our way slowly through the ice towards the open water some four hundred yards distant, which we succeeded in doing at 5 p.m., and at 8.45 p.m. anchored at Godbout for the night.

On the morning of the 7th April we anchored at Esquimaux Point where I received from Dr. Tremblay three barrels and five kegs of spirits seized by him at Agwanus, and returned to Rimouski on the 9th.

From the 11th to the 25th April we cruised along the south shore down as far as Cape Rosier, west point of Anticosti, and along the north shore, returning to Quebec on the 26th for a fresh supply of coal.

On account of a severe attack of muscular rheumatism, contracted through exposure to wet and cold, I was confined to my bed from the 28th April to the 6th of June, and on the 19th June had the pleasure of once more being able to join the "*Constance*."

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During the above period the steamer continued her cruise in command of my chief mate, Mr. Wm. Caron, and under the instructions of Mr. Fred. L. Jones, chief preventive officer of Customs. From the 22nd June to the 14th August, our cruise was along the north and south shores of the Gulf St. Lawrence, Anticosti, and the Bay des Chaleurs.

From instructions received from Mr. Fred. L. Jones, we left Percé, county of Gaspé, on last named date for North Sydney, C.B., via the Magdalen Islands, arriving at Sydney during the night of the 15th. On the 19th August left North Sydney with Mr. Fred. Jones, and Converse J. Smith, Esq., of the United States Treasury Department, of Boston, Mass., on board for St. Pierre Miquelon, arriving there early the following morning. At 3 a.m. 23rd August left St. Pierre, and at 2 p.m. anchored in Placentia Bay, Newfoundland.

On the 24th crossed over to St. John's, Newfoundland, by railway with Messrs. Jones and Smith and returned at 3.30 p.m. next day leaving immediately on our return for North Sydney, arriving at later place 10 p.m. 26th.

Friday 27th August we left Sydney for up the gulf via the Gut of Canso, and arrived at Gaspé for a fresh supply of coal on the 30th, after which we resumed our cruise about the gulf coast and River St. Lawrence, principally along the Gaspé coast to Bay des Chaleurs.

During the first week of October, information was sent to me that the schooner "Canada" had left St. Pierre Miquelon for the St. Lawrence with contraband spirits on board, and to keep up vigilant search for her. This we did, and on the 27th of same month were successful in boarding, and seizing her off St. Félicité, with thirty-three barrels of spirits on board, valued at about \$4,000.

From evidence given in court by the crew, (who were made prisoners) eleven barrels of whisky, two kegs and four boxes of gin, had been landed a few hours before the "Constance" hove in sight, by Téléphore Coulombe and one Bilodeau.

Several reports were in circulation that contraband spirits had been landed at various points during the summer, but on close investigation, in all cases they proved to be incorrect, and were believed to be circulated by the would-be smugglers themselves to cause a sensation, or to make a boast, and make believe that contrabands were landed in spite of the means taken by the government to suppress the traffic.

I may say here that very little smuggling is now done about the Gulf and River St. Lawrence compared to what it was previous to the "Constance" going into commission.

It is my firm belief that before the steamer was commissioned, not less than fifty vessels were employed in this illicit trade.

On one of my trips along the north shore, the last season I was master of the steamer "Otter," I saw no less than five schooners loaded with spirits from St. Pierre Miquelon, three in St. Nicholas harbour, and two in Mingan harbour all waiting a favourable chance to proceed up the river.

During the past season the "Constance" sailed over 19,250 miles. We boarded one hundred schooners, yachts and boats, and out of the whole could not find or trace anything whatever in the shape of contrabands or anything to cause the least suspicion until we met with the steamer "Canada."

But the gulf is long and wide, and I may say it is utterly impossible for one cruiser to be in the Bay des Chaleurs, watching the north shore, the south, and the River St. Lawrence at the same time. You will, sir, readily understand that when we are cruising about the Bay des Chaleurs and the Gaspé coast, it is difficult to know what is doing, or passing up along the north shore.

As regards my crew, they were all most efficient in their duties and discipline of the ship. Most of them, in fact I may say all of them, have been with me for several seasons and understand well the different duties they have to perform, especially the boarding and searching of vessels. This they do with a will and a determination that cannot be excelled and I will only be too glad to have the same willing, sober, and honest men with me so long as I have the honour to command the government revenue cruiser "Constance."

In conclusion, the "Constance" returned to port (Quebec) from her season's cruise on the 23rd November. She was placed in her winter quarters, in the Louise basin, on the 29th, and paid all hands off on the 30th, being eight months and eleven days in commission.

CAPTAIN GEO. W. PEARSON of the patrol cruiser "Dolphin" reports as follows:

After making some necessary repairs to the hull of the "Dolphin" I was ordered into commission on the 29th of April.

During the month of May and June I cruised chiefly on the north shore of Georgian Bay and through the North Channel where the illegal practice of seining and trap netting is carried on during these months, in these two months I was successful in seizing ten traps nets and five seines and two boats, and on two different occasions gave chase to seining parties.

On the 13th of July I was ordered to Lake Superior to take Overseer Elliott over his division to check over pound nets and make a general inspection of that portion of his division.

On the 18th of July we finished and locked down through the canal, having found everything in a satisfactory condition.

On the 19th of July I left Sault Ste. Marie for Little Current, having Overseer Elliott on board. We arrived at Little Current on the 20th, where Overseer Elliott's men had seized two boats and seines for illegal seining.

I assisted him with the cases against these men, and from the evidence produced confiscated the two seines allowing the men to go with a reprimand.

On the 21st and 23rd of July, in company with Overseer Elliott and his two men, we lifted and destroyed six trap-nets and one extra leader.

On the 24th, Overseer Elliott and his two men left the ship.

On the 26th of July I lifted and destroyed one trap-net at the entrance to Collins Inlet Channel. I then cruised toward Owen Sound when I shipped nine seines to Ottawa as per instructions.

During the month of August I lifted and destroyed seventeen trap-nets which I found by grappling in the vicinity of Bad River, Christian, Limestone and Sandy Islands.

On the 23rd of August I fined two men at the Umbrella Islands, twenty dollars each for illegal fishing with trap-nets.

During the month of September I destroyed eight more trap-nets which I found by grappling in the different places of my patrol, I also made six convictions for illegal fishing, fining each.

On the 15th of October I interviewed Mr. Wilmot, a game warden acting under the Provincial Government, who had seized nine hoop-nets from a fisherman whom he believed to be fishing illegally not knowing these nets were licensed.

The nets were afterwards returned and the fisherman allowed compensation for his loss.

During the month of November I seized eight pieces of gill-nets for illegal fishing in close season. I found that the close season had been well kept in comparison to other years.

During my season's work I found the regular gill-net men were law-abiding in every respect and gave me no trouble.

I would be pleased to recommend the carrying into effect the numbering of boats and net buoys, which would wonderfully assist the cruiser and overseers in detecting any that might be attempting to fish without license or otherwise illegally.

I found the fall fishing to be very light on account of the lateness of the trout coming on the shoals.

I have had numerous complaints from the gill-net men as to the privilege granted to the pound net men to fish for herring or rough fish during the month of November.

During the season's cruise we have covered 5,840 miles with the steamer besides over 3,000 miles of small boat work, which is quite necessary on my patrol, owing to the numerous small inlets and bays which cannot be reached with the steamer.

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In conclusion I wish to say that if it was made a punishable offence for any one to furnish web for the purpose of making seines or trap-nets, where they are not allowed, it would be a great assistance to lessen the amount of illegal fishing with these nets.

CAPT. E. DUNN, of the Dominion cruiser "Petrel," submits his report for the season of 1897, as follows:—

In obedience to your instructions, the cruiser was fitted out and made a departure on the 27th April for Flower Pot Island, with Lt. Col. Anderson and party on board, to locate site for a new light station. The stations at Cove Island, Tobermory and Cabot's Head were also visited. The "Petrel" then returned to Owen Sound. On the 29th and 30th stormy weather made it impossible to adjust the compasses on the ranges, but on 1st May this work was accomplished, and a departure made for Lake Erie. The weather was very unfavourable, and did not reach Amherstburg until 5th May. A supply of coal was taken on, also a spar buoy, which was placed on Grecian shoal. I also visited the site of the wreck of the "Little Wissahickow," and finding one of the spars, which when the wreck was blown up, had disappeared, was floating heel up. A tow line was attached and the mast pulled clear from the wreck. This was towed to Rondeau harbour and given to the lightkeeper. On the 7th May, about 15 miles from the Canadian shore and midway between Rondeau and Port Stanley, sighted fish tug, which made off on our approach. I found net buoy, lowered both boats and lifted 74 American gill-nets containing 1,400 pounds of fish, chiefly pickerel and herring. These were taken to Port Stanley, where the nets were stored and the fish sold. From this date until the 22nd May, I patrolled the lake from end to end, when by instruction I proceeded to Windsor to assist in the celebration of Her Majesty's birthday. On the 24th the ship was dressed rainbow fashion and a royal salute of 21 guns was fired. On the 25th proceeded to Lake St. Clair, where I investigated the report of illegal fishing in Mitchell's Bay, continued on the 26th. On that evening I called at Peach Island with reference to the investigation of Overseer Boisnier, which was fully reported upon. I again resumed the patrol of Lake Erie until the 12th June, when was I engaged in investigating the complaint of fishermen between Two Creeks and Rondeau. On the 14th June, second officer Jarvis left the ship on sick leave. On that date and the following day Overseer Lamarsh was taken over his division, when a small seizure was made by him, off Kingsville, of hooks and lines. On the 22nd assisted in the celebration of the Queen's Jubilee at Port Stanley, when the ship was dressed and a royal salute of 21 guns was fired.

On the 23rd June proceeded to the gas buoy off Pelee Spit light, where grappled for, and was successful in raising the anchor and spar buoy, which had been cut off by a propeller some feet below the water. The anchor and chain were placed on dock at Pelee Island, where they now are. The irons, etc. of spar buoy were handed over to Lightkeeper Hackett, of Bois Blanc. On the 24th was engaged by instruction to investigate the matter of unpaid licenses in ex-Overseer Wigle's division. On the 1st July celebrated Dominion Day at Port Stanley, where a salute was fired. Having been instructed to proceed to Lake St. Clair, with reference to illegal fishing, did so on the 10th July, taking Overseer Boisnier over his division on that lake. Nothing of importance was discovered. On the 30th and 31st July located the wreck of the schooner "Adams" by the instructions of the department, finding the report of the wrecking company incorrect. On the 12th August sighted five tugs at work, one of them considerably to the north of the boundary, and engaged in setting nets, to this one I gave chase; she succeeded in crossing the boundary before I overhauled her. I returned and picked up three nets, all that they had succeeded in setting. On the 17th August disposed of the confiscated nets for the sum of \$104.60. On the 24th August, at the direction of the department, I proceeded to Leamington, to interview ex-Overseer Wigle with further reference to license fees. On the 25th August picked up a red spar buoy adrift, which was afterwards placed on North Harbour Reef. From the 30th August until 3rd September lay by the Michigan Wrecking Company's plant at work on the wreck of the schooner

"Adams," supervising the clearance to a depth of 20 feet required by the department. On the 30th September, by instruction, I conveyed Judge Horn and party to Pelee Island, for the purpose of holding a court of revision. On the 1st October they were conveyed back to Windsor. On the 4th October held an investigation with reference to the non-payment of license fees by the fishermen of Pelee Island.

On the 20th, investigated and reported upon the complaint of Mr. Macallum, of Dunnville, with reference to irregularities reported by him of United States fishing steamers.

On the 22nd, by request of collector Gott of Amherstburg, I swept over the wreck of the "Grand Traverse" finding only a depth of 17 feet thereon; 25 feet was reported by the American Wrecking Company.

On the 26th, I seized foreign gill-nets, off Morgan's Point, near Port Colborne, containing a small quantity of fish. These with the nets were sold in Port Colborne. On 1st Nov., the Dominion Commissioner of Fisheries, Prof. Prince, came on board together with Mr. McGregor, M. P., with several others, who were conveyed among the Canadian islands and back to Windsor. On the 4th Nov., observed an United States fish tug at work, near but over the boundary, gave chase, but was unable to overtake it before crossing the line; after this I proceeded to Port Stanley to carry out the instructions with reference to the raising of the wreck of the schooner "H. P. Murray." For the first two or three days rough weather prevented any work being done, but on the 8th work was commenced on the wreck and by midnight the vessel was pumped out. On the following day the vessel was taken out of the harbour to the eastward of the piers and out of the way of navigation where it was grounded.

On the 18th and 20th was engaged in taking up the gas buoys in Pelee Passage and on the 22nd lifted the spar buoys from Grecian shoal and North Harbour Reef. These, together with the gas buoys, were given in charge of light-keeper Hackett, of Bois Blanc Island. On the 26th, the ship and ship's company were inspected by you at Windsor, and was much pleased at your expressions of gratification at the appearance of the ship and ship's company.

On the 28th, departed for Owen Sound to lay up in winter quarters, arriving on the 3rd December, when ship was placed in winter quarters and crew paid off on the 4th,

REMARKS.

It affords me great pleasure to call your attention to the effectiveness of the system of patrol, maintained on Lake Erie. Knowing that formerly the movements of the steamer were closely watched and reported to the fishermen I instituted irregular runs, doubling back at times to frustrate any information they might have received as to my course and destination. I was informed by Captain Williams, that he overheard a telephone message, in which the party, a foreign fish dealer, expressed himself to the effect that they could never tell where the "Petrel" was. With but few exceptions the tugs kept on their own side, and I was frequently asked by the United States fishermen, where they might safely set their nets. I always gave them this information and the different bearings, so that they would not cross the line in ignorance of their position.

In the fall a continuous patrol was maintained over the spawning grounds, and I have not a single violation to report.

The catch of fish in Lake Erie was, in most of the divisions, superior to last season. The Long Point Company caught more with 7 nets on the outside of Long Point than was caught by them the previous season with 14 nets, inside and out. The fishing was also good from Long Point to Point Pelee. The fishing at the two ends of the lake was reported light.

The distance logged by the "Petrel" during the season was 16,301 miles.

CAPTAIN J. T. WALBRAN, of D. G. S. "Quadra," Victoria, B.C., states that the work for 1897 commenced on 3rd January, when I left Victoria for a month's patrol of Hecate Strait, with orders to warn all foreign fishing vessels they were not

allowed to fish there, or in any other of the territorial waters of British Columbia. I made Refuge Bay, on Porcher Island, my headquarters, and when the weather was suitable made frequent cruises in the neighbourhood visiting the halibut grounds.

During my patrol I met with only one United States fishing vessel which after receiving my warning proceeded on the Alaskan waters. The fishing in the Strait during my stay, was entirely carried on by the Canadian steamers "Capilano," "Coquitlam" and "Thistle."

Some time in April, I was informed that when the "Quadra" had discontinued her watch over the strait, and had been gone about 10 days, the United States fishing steamer "Edith" made her appearance again on the grounds, and also three sailing vessels, two of the latter making Butler Cove their headquarters.

The "Quadra" returned to Victoria from Hecate Strait at the beginning of February and during that month and March was off duty, the crew employed painting and cleaning the holds, etc., and the engineer's staff overhauling the machinery.

On the 27th of April a short cruise was made to Claoose to hold an investigation into some complaints which had been forwarded to the department by the lighthouse keeper at Carmanagh.

On the 6th June I proceeded for a cruise along the west coast of Vancouver Island calling at the principal Indian villages, where I informed the inhabitants that fishing with seines was strictly prohibited. In Quatsino Sound, two fishing weirs which obstructed the ascent of salmon up the Maad and Marble Rivers, and which had been placed in position by the neighbouring Indians, were destroyed and progress allowed the fish. Returned to Victoria on 16th June; on the 28th June I proceeded for another cruise along the west coast, in the interest of the sealing industry, to see that the Indian hunters, etc., after duly signing articles, joined their vessels. All villages were visited, frequented by the sealing schooners, and at each place a meeting held at which Indians stated they would join their respective vessels and these promises were carried out with the exception of some Indians at Catala Island, Esperanza Inlet. The Indians here refusing to join their ship, the "Arietis," were arrested, and the case tried on the "Quadra" by myself in my capacity as a stipendiary magistrate. After a thorough investigation with the case, the Indians were convicted but as several extenuating circumstances in favour of the latter were brought out during the trial, the court was adjourned for twelve hours to allow the prisoners to consider whether they would join their vessel and do their duty or be punished according to the statute. In the morning they all agreed to join, providing the articles were filled out as had been promised them when signing, and this having been done before me, the Indians went on board their ship, and thus this troublesome incident was concluded in a satisfactory manner to all concerned.

I wish to point out in connection with this case, the great advantage it was to the sealing community, that I was enabled as a magistrate to try this case on the spot where the offence occurred, for had I not been in a position to do so, the prisoners and witnesses would have all had to be sent to Victoria for trial, thus causing great delay and expense to the owners and captain of the vessel. I returned from this cruise on 8th July, and on the 20th left Victoria for Rivers Inlet on fishery service. Information had been received from the managers of the canneries in the inlet, that it would be desirable to have the presence of the "Quadra" there for a short time as many United States fishing sloops and other illegal vessels were in the neighbourhood. On my arrival the strange vessels had disappeared, as a rumour, a few days before, had gone round the canneries that the fishery cruiser had been sent for and was coming. Before leaving the inlet, I investigated a complaint made by the majority of the canneries that the fishing limit on the Wannock River was placed too far up the stream, found this to be the case, and recommended in my report to the department, dated 28th July, that the fishing limit should be placed at least 600 yards down the stream. I returned to Victoria on 27th July.

On August 12th I made a seizure at Becher Bay of a seine and large canoe which was being illegally used by the Indians there in catching salmon for commercial purposes.

On the 29th of the same month the "Quadra" was placed at the disposal of the Department of the Interior, and I proceeded to Wrangel, Alaska, with Mr. W. T. Jennings, surveyor, and his party.

On 30th September, the "Quadra" was again placed at the disposal of the Department of the Interior and I conveyed the Honourable Clifford Sifton with a large party and a detachment of the North-west Mounted Police to Skaguay and Dyea. The ship was at anchor off Skaguay fourteen days whilst the Minister and a small party crossed over the Dyea Pass to Tagish Lake, returning to Skaguay via the White Pass. On the return journey the "Quadra" visited Juneau, Takee Inlet, the upper part of which inlet was completely blocked with ice, Port Simpson and Mettah-cattah, returning to Victoria on 2nd November.

On 19th November the "Quadra" proceeded on fishery service to the west coast of Vancouver Island to investigate the complaints which had reached Victoria about the Indians at Clayoquot fishing with seines. I found the complaints correct, but fishing for the season was over, so I gathered the Indians of the neighbourhood together and warned them of the consequences of such conduct. On my return from the cruise on the 24th, a report was forwarded to the Department of Marine and Fisheries with my suggestions to remedy this illegal fishing by the nation of Clayoquot Sound.

CAPT. J. H. PRATT, of the cruiser *Curlew* forwards his annual report on the operations of the "Curlew" during the past season as follows:—

During the winter the ship was laid up at St. John, N.B., and all necessary repairs were made to the machinery.

Orders were received from you to place the ship in commission on 15th April and on that date the colours were hoisted, and the ship's company signed the ship's book. Stores were taken on board, and on the 16th we steamed down the bay to the Passamaquoddy district. Small herring suitable for sardine purposes were just beginning to strike in down there, and the weirs were making fairly good catches. Several United States fishermen had been anchored off Eastport wishing to procure bait for bank fishing, and they only succeeded in getting a moderate quantity.

Line fish were also coming into the bay in small schools and the fishermen were making fairly good catches.

Issuing weir licenses and attending to various duties with the local officers in connection with the management of herring weirs, occupied our time till 5th May, when receiving orders from you we cruised around to Shelburne.

There you joined the vessel and cruised to Yarmouth with us, issuing final instruction for the season's work.

Cruising in the vicinity of Cape Sable until on the 22nd of May we anchored at Liverpool, among a fleet of 16 United States seining schooners. Next morning getting under way at daylight we sighted an additional 31 seiners hailing from the United States also, and standing off shore, from behind Mosher's Island.

From this date to the last of the month mackerel began to show themselves along shore and a few hauls were made by the seining vessels. The nets along the shore also got moderate catches.

At the beginning of June we cruised to the eastward of Halifax, and on the 4th we sighted the fleet between White Head and Louisbourg. Very few fish were being taken by the fleet, and they accounted for the small catch by the unusual amount of fog and stormy weather that they had experienced during the previous month.

On the 8th of June we cruised to North Sydney, finding no foreign fishing vessels there.

Next day we returned to the westward, enforcing the lobster regulations in the numerous harbours between Canso and Halifax, and found that the fishermen and factories were obeying the regulations.

We arrived in the Bay of Fundy again on 19th June, and found that fishing of all kinds had been fairly good during our absence in Cape Breton.

Acting on your orders I proceeded to St. Stephen on 20th June to assist the town authorities in the appropriate celebration of the Queen's Jubilee. We were

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well received by the town authorities, and on Jubilee day thousands visited the ship and 14 of the ship's company took part in the parade. Orders were also received from you to be at Calais, Maine, at the celebration held there on 5th July. We were well received by the mayor and other civic officials, and given a prominent place in the procession. Large numbers of the inhabitants inspected the ship during the day.

During September and October we were employed preventing illegal lobster fishing to the eastward of Halifax, and on 5th October, we were at Georgetown, P.E.I., with the other ships of the fleet.

We took part in the two days' sports held there by the Fisheries Protection Service under your command, which were greatly enjoyed by the crew of this vessel. At the shooting competition held on the first day of the sports, a team of five men from this ship were fortunate enough to win the handsome silver challenge cup, competing against some very good teams from the other ships.

I might be pardoned for saying here that the bringing of the ships together for those friendly competitions will have a most beneficial effect in making the ship's companies acquainted with one another, and also in an interchange of ideas which will promote that friendly feeling which should exist in this service.

On 12th October we had the honour of escorting the flagship "Acadia" (which vessel had on board Lord and Lady Aberdeen) from Pictou to Charlottetown, and with the blue jackets and officers from other ships, were inspected by His Excellency the Governor General on the parade grounds at the latter place.

We cruised on the Nova Scotia coast preventing illegal lobster fishing till the middle of November when you ordered our return to the Bay of Fundy.

On the Nova Scotia coast to the eastward of Halifax, I found that cod fishing had been very poor all year, which accounted for so many people being engaged in illegal lobster fishing. I found many of the people in very poor circumstances, owing to this failure in line fishing.

Previous to our return, however, the accidental drowning at Ship Harbour, of one of the seaman cast a deep gloom over our ship. All the boats were absent from the vessel, looking after illegal lobster fishing, when the boat containing this young man among her crew was capsized, and he did not rise to the surface.

With the aid of grapples his body was recovered next morning. An inquest was held, and his body shipped to his home at Tiverton, N.S., by way of Halifax.

Arriving in the Bay of Fundy on the 20th November the taking of the fishermen's bounty claims was begun, and that work, together with arranging various fishery matters, occupied our time till 12th December. On that date we steamed to St. John, discharged the crew and put the ship out of commission. The next day I placed the vessel in winter quarters in Magee's dock, and the engineer's staff began overhauling machinery.

Few reports were heard during the season of United States seiners poaching owing to the vigilant patrol kept up by the several cruisers over the whole coast. The catch of mackerel by the United States vessel was far below the average, some of them after several weeks cruising, did not catch a single mackerel.

The lobster catch of the Nova Scotia coast, has also been less than the previous seasons but the prices paid to the fishermen were fairly good.

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ANNEX B.

LIST of United States Fishing Vessels, boarded by Dominion Government Cruisers, in Canadian waters, on the Atlantic coast and in the Gulf of St. Lawrence, during the season of 1897; showing Port of Registry of each vessel, tonnage and number of men on board, &c.

No.	Name of Nessel.	Port of Registry.	No. of Tons.	No. of Men.	License or no License.	Date, Left Home.
1	Atlanta	Gloucester	98	18	No.	20th April, 1897.
2	Arthur Binney	Boston	112	17	No.	10th May, 1897.
3	Annie Wesley	Gloucester	88	19	Yes.	28th March, 1897.
4	Alice R. Lawson	do	115	19	Yes.	1st April, 1897.
5	Annie C. Hall	do	84	17	No.	20th May, 1897.
6	Annie Greenlow	do	102	17	No.	20th April, 1897.
7	Alice M. Parsons	do	72	17	No.	15th May, 1897.
8	Agnes E. Downs	do	80	17	No.	20th do 1897.
9	Arthur E. Story	do	98	18	No.	25th June, 1897.
10	A. R. Atwood	Waldoboro, Me.	41	5	No.	10th Aug., 1897.
11	Alice C. Jordan	Gloucester	82	17	No.	10th Sept., 1897.
12	Bessie M. Devine	do	91	18	Yes.	1st April, 1897.
13	Charles Levi Woodbury	do	100	17	No.	15th May, 1897.
14	Commonwealth	do	81	17	No.	5th do 1897.
15	Carrie E. Phillips	Provincetown	110	18	No.	15th do 1897.
16	Cecil H. Lowe	Gloucester	75	13	No.	1st Aug., 1897.
17	D. L. Grafton	Salem, Mass	38	11	No.	15th do 1897.
18	Dora A. Lawson	Gloucester	119	17	No.	20th May, 1897.
19	Davy Crockett	do	81	17	Yes.	1st Sept., 1897.
20	E. C. Hussey	Beverly, U.S.	81	16	No.	1st do 1897.
21	Electra	Gloucester	84	16	Yes.	1st April, 1897.
22	Emma	Portland	77	16	No.	20th May, 1897.
23	Edith M. Prior	Gloucester	105	17	No.	10th do 1897.
24	Eva M. Martin	Ellsworth, Me	11	3	No.	1st do 1897.
25	Ella McDoughty	Portland	51	16	No.	14th do 1897.
26	Elsie M. Smith	Gloucester	106	18	No.	10th April, 1897.
27	Elsie M. Rowe	do	35	15	No.	15th May, 1897.
28	Ellnora	do	85	17	No.	5th July, 1897.
29	Emma and Hellen	do	62	18	No.	1st do 1897.
30	Eben Parsons	do	86	13	No.	20th do 1897.
31	Emma E. Wetherall	do	104	18	No.	1st do 1897.
32	Epes Tarr	do	67	16	Yes.	25th July, 1897.
33	Edward B. Holmes	do	68	13	No.	10th Aug., 1897.
34	Ethel B. Jacobs	do	125	18	No.	10th Sept., 1897.
35	Effie M. Morrisey	do	114	17	No.	10th do 1897.
36	Emma M. Dyer	do	74	14	No.	15th Oct., 1897.
37	Edward A. Rich	do	79	16	No.	15th do 1897.
38	Frank A. Rackliff	do	99	17	No.	1st May, 1897.
39	F. W. Homans	do	63	14	No.	12th Sept., 1897.
40	Florence	do	63	13	No.	27th do 1897.
41	George Bothwell	do	65	8	No.	8th May, 1897.
42	Grayling	do	115	18	No.	15th do 1897.
43	Gladstone	do	74	18	Yes.	15th June, 1897.
44	George F. Edmunds	do	142	17	No.	10th Sept., 1897.
45	Golden Hope	do	101	17	No.	27th do 1897.
46	Hattie L. Palmer	Waldoboro, Me.	30	3	No.	1st do 1897.
47	Henrietta Frances	Portland	73	17	No.	15th May, 1897.
48	Hustler	Gloucester	92	17	No.	15th do 1897.
49	Marry L. Belden	Boston	117	18	No.	10th May, 1897.
50	Helen F. Whidden	Gloucester	127	16	No.	12th do 1897.
51	Hattie H. Knowlton	Boston	34	9	No.	15th Aug., 1897.
52	Henry M. Stanley	Gloucester	110	16	No.	1st Sept., 1897.
53	Herald of the Morning	do	68	16	No.	1st do 1897.
54	Hattie M. Graham	do	134	14	No.	27th do 1897.
55	Harvard	do	106	17	No.	8th Oct., 1897.
56	Hattie A. Heckman	do	105	19	No.	5th do 1897.
57	Henry W. Longfellow	do	78	14	No.	25th Sept., 1897.
58	Iolanthe	do	71	17	No.	20th April, 1897.
59	J. R. Atwood	Waldoboro, Me.	42	3	No.	10th do 1897.
60	Jennie B. Hodgdon	Gloucester	112	18	No.	5th May, 1897.
61	J. J. Clarke	do	68	16	No.	15th April, 1897.

LIST of United States Fishing Vessels, boarded by Dominion Government Cruisers, in Canadian waters, &c.—*Concluded.*

No.	Name of Vessel.	Port of Registry.	No. of Tons.	No. of Men.	License or no License.	Date, Left Home.
62	J. G. Blaine	Gloucester	98	17		1st May, 1897.
63	John S. Presson	do	89	16	No.	8th do 1897.
64	John Smith	do	62	14	No.	15th July, 1897.
65	Julia E. Whalen	do	96	18	Yes.	6th Sept., 1897.
66	Josie M. Calderwood	do	86	15		26th do 1897.
67	James A. Garfield	do	70	12	No.	10th Oct., 1897.
68	Lotona	do	103	17	No.	20th April, 1897.
69	Louis & Rosie	Booth Bay, Me.	74	17	No.	15th May, 1897.
70	Lucille	Gloucester	99	17		15th do 1897.
71	Landseer	do	94	15	Yes.	20th Aug., 1897.
72	Lena & Maud	do	75	17	No.	10th Sept., 1897.
73	Lizzie M. Centre	do	77	17	No.	10th do 1897.
74	Lizzie A. Parkhurst	do	115	18	Yes.	20th do 1897.
75	Lorna Doon	Essex, Mass	69	13	No.	1st Oct., 1897.
76	M. S. Ayer	Gloucester	76	16	No.	8th May, 1897.
77	Maggie & May	do	88	19	Yes.	15th April, 1897.
78	Mabel D. Hines	Beverly, U.S.	92	18	Yes.	7th do 1897.
79	Margaretta	do	107	18	Yes.	15th do 1897.
80	Mystery	Gloucester	114	16	Yes.	1st do 1897.
81	Madonna	do	104	18	Yes.	5th do 1897.
82	Marathon	do	46	7	No.	20th do 1897.
83	Mist	do	68	16	Yes.	8th May, 1897.
84	Mariner	do	107	17		18th do 1897.
85	Margie Smith	do	58	17		15th do 1897.
86	Monitor	do	104	17		6th June, 1897.
87	Mary F. Smith	Waldoboro, Me.	32	2		
88	Maddena	Gloucester	110	18		31st July, 1897.
89	Marshall L. Adams	Provincetown	125	18	Yes.	8th Oct., 1897.
90	Mary Story	Gloucester	63	10	No.	20th Sept., 1897.
91	Nellie G. Davis	Friendship, Me.	36	3		
92	Nellie Dixon	Boston	105	18	No.	8th May, 1897.
93	Notice	Gloucester	63	12	No.	15th do 1897.
94	Norumbega	do	120	16	No.	20th do 1897.
95	Nellie M. Davis	do	89	17		1st do 1897.
96	Nellie Burns	Portland	45	14	Yes.	25th June, 1897.
97	Orpheus	Gloucester	105	16		8th April, 1897.
98	Oliver Wendell Holmes	do	101	17	No.	15th May, 1897.
99	Orient	do	89	16		14th do 1897.
100	Oresa	do	80	16	No.	10th Sept., 1897.
101	Parthea	do	77	19	Yes.	1st April, 1897.
102	Pinta	do	94	18	Yes.	20th Sept., 1897.
103	Ruth M. Martin	Boston	94	17	No.	5th May, 1897.
104	Ralph Hodgdon	Gloucester	86	16	No.	15th do 1897.
105	Richard Lester	do	69	16	No.	8th do 1897.
106	Ralph Eaton	do	68	15	Yes.	25th July, 1897.
107	Reporter	do	78	16	Yes.	25th do 1897.
108	Robin Hood	do	88	17	No.	1st Oct., 1897.
109	Speculator	do	104	17	No.	
110	Sea Fox	Provincetown	105	17	No.	14th May, 1897.
111	Senator Salisbury	Gloucester	102	18	Yes.	1st April, 1897.
112	Senator	do	104	17		6th June, 1897.
113	S. F. Maker	do	104	17	No.	10th Sept., 1897.
114	Volunteer	do	102	18	Yes.	16th May, 1897.
115	Vigilant	do	78	15		10th Sept., 1897.
116	Viking	do	62	14		6th Oct., 1897.
117	Winona	do	104	18	Yes.	1st April, 1897.
118	William E. McDonald	do	93	16		1st May, 1897.
119	W. F. Whitten	do	127	17		8th do 1897.
120	W. A. Morrisey	do	117	18		31st July, 1897.
Total			10,360	1,872		

MEMO.—13 vessels left home on or before the 10th April.

9	do	between the 10th April and 1st May.
33	do	do 1st May and 15th May.
12	do	do 15th May and 1st June.
56	do	after the 1st of June.

FISHERIES INTELLIGENCE BUREAU.

There is the same number of reporting stations as last year, 55 all told. Mr. Hutchins, the clerk in charge in Halifax, has kept myself and the public very well posted in regard to the movements of the fish, and has performed his duties to my satisfaction.

Appended is a list of reporters, also the annual report of the Fisheries Intelligence Bureau.

The whole most respectfully submitted,

O. G. V. SPAIN,

Commander of the Fisheries Protection Service of Canada.

Marine and Fisheries—Fisheries Branch.

List of Fisheries Bureau Reporters outside the Civil Service.

Residence.	Name.	Allowance.
		\$ cts.
Beaver Harbour, N.B.	E. W. Cross	15 00
Bloomfield, P.E.I.	John Doyle	15 00
Caraquet, N.B.	Miss E. D. Chenard	15 00
D'Escousse, C.B.	R. F. Bourke	15 00
Escuminac, N.B.	J. J. Keary	15 00
Gaspé, P.Q.	J. J. Annett	15 00
Grand Manan, N.B.	E. A. Calder	15 60
Grand River, P.Q.	Mrs. John Carbery	15 00
Ingoish, C.B.	E. B. Burke	15 00
Isaac's Harbour, N.S.	S. R. Giffin	15 00
L'Ardoise, C.B.	John McIsaac	15 00
Long Point, P.Q.	John Vibert	15 00
Lunenburg, N.S.	W. A. Zwicker	15 00
Magdalen Islands	J. A. LeBourdais	15 00
Meat Cove, C.B.	Alex. B. McDonald	15 00
Newport Point, P.Q.	Mrs. Meunier	15 00
Paspébiac, P.Q.	Miss Ada Beck	15 00
Percé, P.Q.	Miss Katé Beck	15 00
Point St. Peter, P.Q.	Mrs. P. Bond	15 00
Salmon River, N.S.	J. H. Whitman	15 00
Seven Islands, P.Q.	P. R. Vignault	15 00
Shippegan, N.B.	Mrs. A. Hamon	15 00
S. W. Point, Anticosti	Miss Grace Pope	15 00
Whitehead, N.S.	C. H. Felthmate	15 00
Yarmouth, N.S.	F. L. Hatfield	15 00

List of Fisheries Bureau Reporters who are Government Officials.

Residence.	Name.	Allowance.
		\$ cts.
Alberton, P.E.I.	J. P. Brennan	15 00
Arichat, West, C.B.	C. P. LeLacheur	15 00
Bayfield, N.S.	E. G. Randall	15 00
Campobello, N.B.	A. J. Clarke	5 00
Canso, N.S.	Thos. C. Cook	15 00
Cheticamp, C.B.	S. Aucoin	5 00
	C. E. Aucoin	10 00
Digby, N.S.	J. M. Viets	15 00
Gabarus, C.B.	R. McLean	15 00
Georgetown, P.E.I.	Chas. Owen	15 00
Hawkesbury, C.B.	J. C. Bourinot	15 00
Liverpool, N.S.	J. H. Dunlop	15 00
Lockeport, N.S.	J. R. Ruggles	15 00
Louisburg, C.B.	P. O'Toole	15 00
Mabou, C.B.	Louis McKeen	15 00
Malpeque, P.E.I.	J. M. McNutt	15 00
Margaree, C.B.	M. A. Dunn	15 00
Musquodoboit Harbour, N.S.	George Rowlings	15 00
North Sydney, C.B.	A. G. Hamilton	15 00
Petit-de-Grat, C.B.	P. T. Fougere	15 00
Port Hood, C.B.	E. D. Tremaine	15 00
Port La Tour, N.S.	J. W. Taylor	15 00
Port Medway, N.S.	E. E. Letson	15 00
Port-Mulgrave, N.S.	David Murray	15 00
Pubnico, N.S.	J. A. D'Entremont	15 00
Sand Point, N.S.	R. H. Bolman	15 00
Spry Bay, N.S.	W. C. Henley	15 00
St. Ann's, C.B.	D. McAulay	15 00
St. Peter's, C.B.	D. Urquhart	15 00

Marine and Fisheries—Fisheries Branch.

ANNEX C.

DETAILED REPORT OF THE FISHERIES INTELLIGENCE BUREAU.

HALIFAX, N.S., 30th November, 1897.

Commander O. G. V. SPAIN,
In charge Fisheries Protection Service of Canada.

SIR,—I have the honour to submit the annual report of the Fisheries Intelligence Bureau for the season 1st May to 15th October, 1897.

NOVA SCOTIA.

BAYFIELD.

Herring struck in plentifully about the last of April and during the first week of May several nets had 4 barrels each. Although only light catches were made during the second and last weeks of May and June the average has been fairly good.

Lobsters were reported in light quantities on 4th May, but the catches did not improve until the 14th, from which date they varied from good to fair until 7th June; with the exception of some fair catches from 18th to 24th June inclusive, the fishery was poor until it closed on 12th July. The season's catch is considered in excess of that of 1896.

Mackerel did not strike this year until about the 19th June from which date light but regular catches were made until 19th August when there was a slight improvement; and until 3rd September the average catch was fair. During the remainder of September no fish were taken owing to heavy northerly winds in the bay.

Salmon were first taken on 15th June, but as all nets were not set the catches were light until the 27th, when they became fair and remained so until about 12th July, from which date the catches were light until the close of the season. It is reported that the total catch is the smallest known for the number of nets set.

CANSO.

Codfish.—The inshore catch of codfish shows but little improvement over 1896 up to this date. The outfit was about the same and bait was about as usual, owing to stock kept in freezer making up for greater scarcity of squid on the grounds.

It must be admitted that the inshore fishing grounds show a growing scarcity of codfish, and the fishermen of fifty years ago tell strange tales of catches made then within a stone's throw of the shore, that cannot be duplicated now.

It is not easy to account for this. Perhaps the many thousands of lobster traps which line our shores up to the first or middle of July have something to do with it, and it may be that the increased outfit for fishing and increased traffic of steamers and sailing vessels disturbing the inshore waters are factors in producing this result.

The bank fishermen, as a rule, found no difficulty in making their summer trip, though some vessels went home with poor fares. The catch of the Nova Scotia bankers must be up to the average. Fewer vessels start in the early spring for fish, and many make but one trip for the season, beginning in the latter part of May or first of June. The spring trip, as a rule, was an unprofitable one.

Haddock.—The spring catch of haddock was a failure, but the summer catch up to September was an improvement on 1896. The September catch which in 1896 was a good one, was this year almost a complete failure, only about one-fifth of that of 1896. At the time of writing (23rd October) it shows some improvement. It was supposed there was never a scarcity on the outer grounds, and a firm here fitted out a steamer with twenty-four thousand hooks for haddock fishing on the Middle Ground forty-five miles distant. The result, so far, has been disappointing, only few haddock having been caught, but it is too soon to pronounce the enterprise a failure. This boat has made some good catches of codfish on Canso Bank, twenty-five miles distant, bringing in as high as thirty thousand pounds of codfish as the result of one day's fishing.

During the autumn the waters of this coast seem to swarm with dog-fish, which interfere greatly with the business of catching edible fish. On her last day out the haddock steamer "Sea Bird" had a dog-fish on about every hook. Before the trawl reached the bottom it was strung full of them. It is to be regretted that some use cannot be found for these fish.

Mackerel.—The spring and summer catch of mackerel was disappointing in the most of localities. Some fairly good catches were made in Chedabucto Bay, but on the western and Cape Breton shore very few were taken. The mackerel taken were of very large size, averaging about two pounds each, while many of them went nearly double that weight. A few mackerel, supposed to be of the fall run, have been taken in October. It remains to be seen what the final result of the fall catch will be, but as there has been a great scarcity of mackerel in the North Bay the fishermen are not hopeful of doing well.

Those caught up to date are mixed as to size, averaging not much over a pound and a half, and do not appear to belong to the same school of fish as those which passed north in June. The question is what has become of the June school. It was reported last year that large bodies of mackerel had been seen on the coast of Labrador, and this year at least one Massachusetts vessel went down that coast to reach the mackerel in their haunts. The result is not yet known.

Herring.—The June and July catch of fat herring was a failure on the whole coast. In August there was a fair catch in some localities, notably in the vicinity of Isaac's Harbour in the western end of this county. It is difficult to tell what the September catch would have been. Poor herring are so little in demand that there is very little interest taken in the catching and curing of them, and no doubt the September catch would have been ten times as large had there been an active demand for them.

Herring have ceased to be a large factor in the fish production of Nova Scotia. They are valuable in some parts of the province for lobster bait, Clark's Harbour alone requiring some five thousand barrels for this purpose, but they are largely going out of use as food for men. Prices have ruled low.

Hake.—But few are caught here. Georges Bay and the waters near Prince Edward Island seem to be the home of the hake in the eastern end of Nova Scotia. It would be interesting to know what success would follow the use of the English beam or otter trawl on the smooth level bottom of those waters. If it succeeded it would be a solution of the bait question, which is so perplexing to the fishermen of those parts, and might ensure a much larger catch of a fish which is growing in the estimation of consumers and dealers every year. It would also solve the dog-fish problem.

Lobsters.—The catch of lobsters on the coast was smaller than that of the previous year. This was due to the heavy gales which prevailed in June, breaking up the fishermen's gear and almost completely stopping business. Some who fished through the greater part of July found lobsters plentiful and made it the best month of the season. The tendency of prices has been upward, and in this way the fishermen have been partly compensated for their short catch.

There seems to be a multitude of opinions as to the best measures for the regulation of this business and the preservation of the lobster from extinction. We believe the present law as to the close season is probably as near the right thing as can be got, and should be strictly enforced. At present it is not enforced, and much

illicit packing is reported. We think it is unwise to make any regulation as to the length of lobster to be caught, for the simple reason that it is not and cannot be enforced. Such a law had better be repealed. The same remark applies to berried lobsters.

Squid.—There has been a scarcity of squid on this coast this year. This scarcity may only be temporary or it may be the beginning of a period of scarcity for these valuable bait fishes such as existed some years ago.

The most of salt fish have ruled low in price this year, salt mackerel being the exception. The low prices coupled with a scarcity on the inshore grounds has made 1897 a poor fishing season for the most of those engaged in the business.

DIGBY.

Codfish were not reported this season until 11th May, when for a few days fair catches were made. After this they became scarce, and with the exception of some fair fishing about the middle of June, the catches were light but regular the whole season. During August and September dog-fish were very troublesome and are reported to be more numerous each year and to remain longer in the bay. Towards the end of the season scarcity of bait and bad weather interfered with fishing. Total catch estimated at 5,969 lbs.

Haddock.—With the exception of some fair catches about the middle of June, they were scarce from 6th May to 9th September, when they somewhat improved, and fair catches were made until the close of the season. Total catch said to be about 10,090 lbs.

Hake appeared 14th May and the catch has been a uniformly good one. Total estimated at 18,520 lbs.

Halibut appeared in fair quantities on 6th May, but the catch has been poor, being estimated at 3,180 lbs.

Herring.—This district once famed for the "Digby chicken" which was such a source of large profit and a valuable industry is rapidly passing into obscurity as far as its herring fishery is concerned. Several reasons are assigned for this deterioration:—

1st. Because the coast line is fouled by the putrid bait of lobster traps which keep the herring from striking in to spawn or feed.

2nd. Drifting for them for bait with oil torches.

3rd, and perhaps the most destructive cause, is allowing so many millions to be taken for the sardine factories. All these causes have nearly destroyed the fish in these waters, or have kept them off so many years, that they have found other feeding and spawning grounds; and as a consequence fishermen of this district are compelled to seek and purchase bait on the north shore or elsewhere at loss of time and much expense. Total catch is estimated at 236 brls.

The following paragraph which appeared in the Halifax *Herald* of 16th November relative to bait in this section, is well worthy of some notice:

"The steamer 'Westport' has finished her regular sailings between St. Mary's ports and Weymouth. The past season the Insular Steamship Company, owners of the 'Westport,' put the boat on the route from 'Westport' to St. John, a weekly service. This has been a great convenience, not only to the travelling public and dealers of Long and Briar Island, but to the fishermen. Heretofore vessels coming in Saturday night with their week's catch of fish, were unable to get back to the fishing grounds for a week or ten days on account of having to go up the Bay of Fundy for bait. When the steamer was put on the St. John route she would bring twenty and thirty barrels of fresh bait on Saturday and the whole fleet of vessels would be baited up, and back to the fishing grounds on Monday, thus enabling the fishermen to make a better season's catch, and by so doing, a large amount of money exchanged hands, and all enjoyed a good share of prosperity. A subsidy has been asked from the Dominion Government for this route, and it is hoped that the amount will be granted the coming year."

Marine and Fisheries—Fisheries Branch.

Lobsters were first taken on 6th May in light catches but soon increased and until 29th June were taken in fair quantities, although the fishery was greatly broken by bad weather. The total catch the past season is estimated at 336 brls. in comparison with 1,247 brls. in 1896. It is reported that if lobsters are taken during the winter and spring months, as formerly, it is feared that next season's catch will be a failure. The winter fishing is held by many to be the chief cause in killing off the supply—taking female lobsters at any time and also those under 10 inches. All fishermen and packers agree that in order to save this valuable fishery from total destruction, new regulations as to size and times of catching should be made.

HALIFAX.

Mackerel were reported in large schools off the harbour on 4th October and catches varying from 40 to 200 barrels, were made. Although portions of the schools struck in the various coves about the harbour, still the main body are reported to have kept well outside. The fish were pronounced No. 1.

Lobster.—During the past season the following quantities of lobsters were exported to the United States from this port:—

March quarter	1897.	1180 brls.,	valued at		\$ 8,426
June	“	4485	“		38,489
Sept.	“	383	“		8,203
Total					\$55,118

ISAAC'S HARBOUR.

Codfish were first reported in fair quantities on 14th June but the catches throughout the greater part of the season were light. During October very good fishing was reported. Season's catch considered an average one.

Haddock and Halibut.—Only few taken during the season.

Herring were taken in light catches first on 12th May and the catch throughout the season is considered very fair: there having been about 3000 bbls. taken between New Harbour and Beckerton.

Lobsters were first reported on 5th May in small quantities; but bad weather prevailing the catches remained light throughout the month. In the early part of the season fishermen experienced great loss of traps which to an extent accounts for the very light catch.

Mackerel were first taken on 8th June but it is reported that only a few barrels were taken during the season.

LIVERPOOL.

Alewives were taken in light and fairly regular catches from 3rd May to 4th June.

Codfish were first reported on 15th May, but the catches, with few exceptions, were light until 8th September when they improved, and the average catch was fair until 15th October. In the latter part of May and former part of June good fishing was reported on off-shore grounds, but later in the season bait was scarce and was the chief cause of poor catches.

Haddock although first reported on 18th June were not taken regularly until 22nd July, from which date the catches were light until about 8th September, after which the average catch was fair until the season closed.

Herring.—On 15th May off-shore crafts reported herring striking and the average catch per vessel was about $\frac{1}{2}$ barrel.

On 22nd May and 4th June good quantities were reported on off-shore grounds, but none were taken inshore until about 16th August from which date the catches varied from $\frac{1}{2}$ barrel to 5 barrels per boat until 15th October.

Marine and Fisheries—Fisheries Branch.

Lobsters were first reported on 3rd May and with the exception of fair catches from the 12th to 15th May inclusive, the catches were light until fishing closed about 28th June. About 28th May and 11th June a great many traps were destroyed on account of the heavy seas.

Mackerel were first reported on 20th May when an American seiner is reported to have taken 14 barrels large mackerel off here. No catches were made by local boats until about 11th June when one boat was reported to have taken 20 medium. They were not afterwards reported until 14th August from which date the catches were light and irregular until 15th October.

Squid were very scarce this season, there having been but light catches made throughout July.

LOCKEPORT.

Codfish were first reported in good quantities on 10th May, and although the weather was bad, one boat got 11 quintals. During the remainder of the month the weather continued very rough, and best boats only varied from 12 to 72 qtls., although herring bait was plentiful on ground. Throughout June the weather was pretty much as in May, and fish were reported plentiful on grounds, but the weather was unfavourable. On 11th June a severe storm did much to injure this fishery, and during the remainder of the month the catches were light and bait scarce. On 29th June dog-fish appeared, but were not reported to have given much trouble. On 3rd July, as squid were plentiful on the grounds, cod somewhat improved, and the catches throughout that month were on an average fair, and bankers were reported doing well. During the remainder of the season the inshore fishery was poor and bait scarce, but from 12th August to 24th September, fair fishing was found on off-shore grounds, and about former date were reported plentiful on Middle Bank. Total season's catch is somewhat below that of 1896. In addition to the total catch, it is reported that 400 casks, or 14 000 gallons cod oil were extracted.

Clams.—During the past season 1,130 barrels were taken for bait.

Haddock, although not reported, appear to have been taken in light quantities, as will be seen in the statement.

Hake was also not reported, but the total catch, as per statement, shows a very large increase.

Halibut.—From 17th May to 25th July, light but irregular catches were reported, and the total catch is estimated at 3,000 pounds.

Herring, although reported plentiful on grounds from 17th May, were not taken inshore until about 5th August, when light catches were made at Green Harbour; and until the end of the month varied from an average of 40 fish to one barrel per net. From 1st to 17th September, the catches remained light, but on the 18th they greatly increased, and for a few days some excellent catches were reported. From 21st September until 11th October, they were rather scarce, except at Green Harbour, where they were reported plentiful on 6th October. On 11th October herring were noticed in abundance in the harbour, and very large catches were expected. The total catch, outside of the quantities used for bait and home consumption, is estimated at 3,000 barrels, or 600,000 pounds, which is an increase over last year's catch by 1 000 barrels.

Lobsters.—With the exception of some good catches during the second and last weeks of May, the catches were poor throughout the season. About the last of May fishermen suffered the loss of many traps.

Number of live lobsters taken for export, 131 660.

“ “ “ canned, 1,100 cases, or 52,800 pounds.

Mackerel, although reported schooling at headlands near this station on May 29th, were not taken until 17th June, when 50 were captured by net. Nothing was afterwards heard of them until 10th September, when they appeared in fair quantities at West Head. During the first week of October light catches were made at Raen Island. Total catch estimated at 3 barrels, or 600 pounds.

CATCH OF FISH AT LOCKEPORT STATION FOR 1897.

	Lbs.	Proportion	Cod.	Lbs.
Total quantities of fish by 6 vessels....	3,194,150	do	Haddock.....	4,291,872
do 18 do	689,200	do	Hake.....	65,923
Boats from Port Hebert to the Blue Island.....	511,550	do	Pollock.....	31,711
				4,394
Total.....	4,394,900	Total.....		4,394,900

LUNENBURG.

Codfish were taken in fair catches from 22nd May to 1st June, but from that date the fishery has been poor, owing principally to the scarcity of bait, and the shore catch is said to have been the poorest for years. Fishing for the season on shore soundings, Quero and Grand Banks and North Bay was good; Middle Bank and the western part of the Labrador very good, while on Western Bank it was poor. On the whole the season's catch is above the average. Appended are lists of the banking fleets of this district, together with their respective catches.

Haddock were taken in good quantities from 24th June to 1st July when boats averaged 2 qtls., but since that date the catches have been poor, owing to the scarcity of bait, and the total catch is reported below the average.

Herring.—The first bank herring were taken this season on 21st May from which date they were good until the 26th. Since latter date there were not over 5 barrels caught and the season's catch is considered the poorest ever known.

Lobster fishing commenced 1st January and closed 30th June. Those caught in January, February, March and April were shipped alive to the United States, and although prices were good, the season's catch has been poor.

Mackerel were first taken on 21st May from which date boats averaged 50 large fish daily until the 31st. From June 4th to 10th the average was 25 medium fish, while throughout October the boats only caught a few dozen. Total season's catch considered the poorest for years.

Salmon.—On 21st May, it was reported through the columns of the *Halifax Chronicle* that very few salmon had been taken in the La Have River this season but that several had been caught at Cherryfield.

Squid have been scarce on shore this season and also on Quero and the Grand Banks. None were taken on Middle Bank.

Dog-fish—It is reported that this destructive fish is getting more numerous each year and keeping other fish away, and it is suggested that Government allow the fishermen a bounty to catch them as they are of no value.

LUNENBURG BANKING FLEET.

Port.	Number of Vessels.	Catch.
Lunenbourg.....	59	93,150
do North Bay.....	5	4,900
do Labrador.....	4	5,400
La Have.....	38	66,785
do North Bay.....	10	9,100
do Labrador.....	13	11,700
Mahone Bay.....	9	14,900
do Labrador.....	9	5,565
Total.....	147	211,500

MUSQUODOBOIT HARBOUR.

Alewives were taken in small quantities from 31st May to 4th June. Total catch about $\frac{7}{8}$ short of last season's.

Codfish were first reported on 27th May, and the catches were light until 29th June, when they somewhat improved and the average catch until 5th August, was

fairly good. During the remainder of the season the catches were irregular but varied from fair to poor. The total season's catch by inshore boats in this district, comprising all sections between Dartmouth and Tangier, will be about 50 per cent of last year's catch. Vessels from this port which went to North Bay brought back fair catches.

Haddock struck in on 5th July, and the catches were almost identical with cod. Total catch about $\frac{5}{8}$ of last season's catch.

Herring first appeared on 16th June and have been unusually scarce the whole season; scarcely enough having been taken for bait. The fall catch to 1st November will be about 25 per cent of 1896.

Lobsters throughout April and May were somewhat plentiful, and the prospects were very encouraging; but the continued rough weather greatly interfered, although they were in fair quantities on the ground, throughout June and particularly so between Chezzetcook and Clam Harbour during the second week of May. On the whole the pack will nearly equal that of 1896.

Mackerel have been nearly a total failure. Estimated catch not over 20 barrels.

Salmon have been very scarce the past season; not over 35 taken at this station.

PORT LA TOUR.

Herring appeared, as usual, on 3rd May in fair quantities, but bad weather setting in no catches worthy of note were made until the 11th from which light and regular catches were made until 15th June. On 10th May they were reported plentiful at Mill Stream (Barrington). Nothing afterwards reported.

Codfish.—During the first nineteen days of May the weather was too rough for this fishery and more attention was given the lobster fishery. On the 20th the first catch was reported, the average catch being 1 quintal per man. From the 23rd to 29th, fair catches were reported, although the weather was unfavourable, and from 30th until 3rd June, very good catches were made inshore. From latter date until the 28th the average catch was 1 quintal per man; but after this the catches, although fairly regular were light, owing to scarcity of bait, bad weather and prevalence of dog-fish. During the second week of September, codfish were reported plentiful wide offshore. It is estimated that the total catch will be about 20 per cent less than last year's or about 1,600 quintals.

A noticeable fact mentioned by fishermen this year is that the usual school of large cod does not appear to follow the herring; and since the herring struck this fall there has been very little improvement in the catch of cod.

Haddock were not reported this year until 2nd July, from which date the catches were light until 25th September. They were very irregular throughout September, and it is reported that none were taken on trawls as formerly. Total catch estimated at 300 quintals.

Herring did not appear the past season until 13th August, when the best netter was reported, with 30 small fish. From the 18th to 26th inclusive, small catches were made, but on the 31st they were reported schooling in the harbour, but were reported plentiful about 20 miles to the westward, and nets averaged about one barrel. From 25th September to 15th October the catches varied from 45 herring to $1\frac{1}{2}$ barrel, and on latter date large catches were made but more particularly in the adjoining harbour of Cape Negro. It is said that the total catch, to 15th October was 1,500 barrels, 500 of which will be reserved for lobster bait.

Lobsters were first reported on 3rd May, and light and regular catches were made until 29th June, although on 8th June many traps were reported broken. On the whole the total quantity taken this year was larger than in 1896 and the prices were well sustained during the season.

Mackerel appeared to avoid this part of the coast this season, and none of any account were taken in this county eastward of Cape Sable.

Squid did not appear this season, but were reported to have passed over the ground about the first week of July.

Marine and Fisheries—Fisheries Branch.

PORT MEDWAY.

Alewives were taken in catches varying from fair to poor from 4th May to 26th, and the total catch is considered a failure.

Codfish were first reported on 7th June, and the average catch throughout the season has been good. About 17th July they were reported to be very changeable, as one day they would be close inshore and the next a long distance off shore.

Haddock although first reported on 13th May, were not regularly taken until 22nd June, from which date very good fishing was reported until the last of the month. During the remainder of the season the catches were identical with cod.

Herring were not reported until 9th September, when very good catches were made until the 21st. Very few afterwards reported.

Lobsters were reported in light quantities on 3rd May, and although the sea was rough for this fishery the average catch, until operations closed on 29th June, was fair.

Mackerel were reported schooling at Broad Cove on 18th June, but no catches were made until the 24th, when light hauls were made for a few days. Nothing afterwards reported until 4th October, when they were again schooling, but no catches worthy of note were reported.

Salmon were taken in fair quantities on 3rd May, and the average catch until 19th June was fair.

Shad were taken in light but regular catches from 5th May to 14th, inclusive.

PUBNICO.

Codfish were first reported on 2nd June, and the catches until 26th August varied from good to fair although bait was reported very scarce all through this period. From 26th August until 13th September the catches were somewhat poorer; but on latter date fishermen were reported to have all hauled up for the season and the total catch is considered an average one.

Haddock catch considered an average one.

Herring, although taken in light catches during the former part of August at Mud Island, were not reported here until 14th September when they appeared plentiful outside but were scarce inshore. On 24th September the first catch inshore was reported, and until 15th October the catches varied from 3 to 4 barrels per boat. During the second week of October they were reported plentiful, at John's Island.

Lobsters were taken in fair quantities from 10th May until 10th June, but afterwards were scarce until the season closed. Total catch reported slightly below last year's.

Mackerel were taken in small quantities by nets on 19th May, but on the 21st the trap at the point had 400, and during the following few days some fairly good catches were made. Light catches were afterwards made only to the 22nd July after which none were reported. Total catch considered very poor.

SALMON RIVER.

It is reported that owing to the blustry weather the season did not open as easily as usual; consequently the catches are smaller than any previous year.

Alewives were only taken in very small quantities, as the refuse of the Dufferin Mines crusher was reported to have been dumped in the river thus polluting the water and causing the fish to forsake their old haunts. Total catch about 5 barrels.

Codfish were first reported on 14th June, and although the fishery is not prosecuted to any extent, owing to the fishermen not having sufficiently large boats to venture far from land, small boats found this fish in fair quantities from 1st July to 15th November. Total catch estimated at 100 quintals.

Haddock appeared about 13th August in very good numbers, and although they remained in fairly large quantities the low prices which prevailed did not encourage fishermen to catch many.

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Herring were first reported on 5th June but the fishery has been very poor; total catch not exceeding 30 barrels.

Lobsters were first reported on 4th May in small quantities, but bad weather continued throughout the month which prevented the hauling of traps. On 31st May and 24th June a large number of traps were destroyed by heavy seas which left the fishermen with limited means of prosecuting this branch. It is reported that the total catch of the 5 factories in this district was about 3,000 cases; while a large number were shipped to Boston during the season.

Mackerel were first taken on 19th August, but the catch has been very light and will not exceed 3 barrels.

Squid were scarce in former part of season when looked for, but are now (16th Nov.) fairly plentiful, when there is no demand at this late season.

SAND POINT.

Alewives were taken in light quantities from 4th to 6th May, but although on the 7th they became plentiful, the catches continued light owing to the heavy seas running. From 10th June to 5th July the catches varied from fair to good and the season's catch is a good average.

Codfishing commenced about 4th May, but the bad weather prevented good fishing and only light hauls were made, although they were in fair supply off shore. About May 25th this branch became good off shore and the average catch per day was about $1\frac{1}{4}$ quintal per man. This continued until about 21st June as herring bait was in good supply on the grounds. After latter date bait became scarce, and dog-fish plentiful, and notwithstanding that the fish were plentiful on the grounds, the catches were light for the remainder of the season. On 31st July, Captain Thorbourn of schooner "Eva L. H." reported dog-fish plentiful all over Quero Bank—something which had not been hitherto known on that ground. On 16th October a good school of cod was reported on shore, but as herring were then plentiful more attention was given that fishery. In comparison with last season's catch there will be a large decrease, which is almost wholly attributable to the scarcity of bait. The Bank Quero vessels with band lines and salt clam bait landed each two full fares. The price of these fish being low, the net proceeds to the owners of vessels and crew is far below that of the past several years.

Haddock were not reported until 1st June from which date the catches were light until July 5th. From latter date until the 27th average catch was good, but during the remainder of the season the catches with very few exceptions, were light. On 6th August they appeared fairly plentiful inshore, but as they did not fish well with hand lines, the bait proved too scarce to trawl them, and on the 14th the catch was estimated at $\frac{1}{2}$ less than the previous year's. About 27th September United States bankers reported cod and haddock to have been in good supply all season on eastern part of La Have Bank.

Hake have been very scarce on shore soundings this year.

Herring were reported plentiful 2 miles off shore on 18th May and varied from good to fair until the end of June. Nothing was reported from this time until 26th August, when they again appeared plentiful off shore and were of large size. During this period but very few were taken inshore. On 25th September one boat was reported with 100 herring, and during the following two weeks the catches of best boats were from 6 to 8 barrels. About 14th October some boats were reported with 18 barrels, and during the next few days they became very plentiful—some boats taking 20 barrels a morning and making 3 trips. Fishermen were compelled to sink their nets to catch the herring, otherwise more mackerel would have been taken. It is estimated that since this fish struck about 3,000 barrels have been caught to 15th October and were then in good quantities. The first were of large size but not fat.

Lobster fishery commenced 1st February, but with the exception of some fair catches having been made at headlands from 10th to 21st May, the catches were poor the whole season. On 13th May it was reported that this fish had so fallen off that the Portland Packing Co. was obliged to close. It is felt that unless fishermen

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are restricted from catching any lobster under 10½ inches that within a few years this valuable branch will be a thing of the past. This year's catch estimated about half of that of 1896.

Mackerel were not reported the past season until 15th August from which date light catches were made until 15th September and only those who had large mesh nets obtained any. During the first 10 days of October some fair catches of very large fish were made, some of which were locally consumed and the balance salted for market; none having been used for bait. It is estimated that the total catch was about 20 barrels.

Salmon, although not reported, are said to have been fairly plentiful the past season.

Squid appeared in small quantities on 21st June and the catches continued light until 6th July when they became more plentiful inshore but were very good at Shelburne Lighthouse, although of small size. Fair supplies were taken until the 17th, when dog-fish drove them away, and for the remainder of the season they were very scarce.

SPRY BAY.

Codfish were first reported in fair quantities on 8th June, but the catches were light until about 30th August, when for about 10 days the average catch was good. During the remainder of the season the fishery was poor. Total catch about 500 quintals.

Haddock were only reported in September, throughout which month the average was only poor. Total season's catch about 100 quintals.

Herring struck first about 3rd May, but very few were taken until September, when light catches were regularly made until 9th October. The total catch is estimated at 300 barrels, but it is reported that the greater portion of this quantity was taken off Pope's Harbour.

Lobsters appear to have been a poor catch, as only light catches were reported from 17th May to 23rd June.

Mackerel were only reported in October, when light catches were made from the 5th to 9th inclusive. It is said that they passed in deep water as they escaped the nets entirely. No traps or seines used here. Total catch estimated about 20 barrels.

WHITEHEAD.

Alewives were only taken in light quantities from 27th May to end of month, and the total season's catch is estimated at 4,500 pounds.

Codfish were first reported on 15th May, when one boat obtained ½ quintal. With the exception of an occasional fair catch, they continued scarce the whole season. Total catch 150,000 pounds.

Haddock appeared slightly earlier the past season, and from 24th May until 10th June, the average catch was fair; 30 quintals having been taken in a trap on the 9th. During the remainder of June the catches were light. Nothing was reported throughout July, but light supplies were taken somewhat irregularly during August and September. Total catch estimated at 180,000 pounds.

Hake were very scarce during the season and but few catches were reported.

Herring were taken in light quantities from May 15th until 18th August, when catches became better, and fair average catches were made until 7th September, after which they were scarce until the season closed. It is estimated that the total catch will be about 350,000 pounds.

Lobsters were taken as soon as the ice left on May 16th, but the catches continued poor during the whole season. Estimated catch about 3,000 cases, which is a shortage of 1,400 cases in comparison with 1896.

Mackerel appeared on 20th May, but few were taken until 1st June, when two barrels were taken in a trap: and for the next two weeks the catches remained

poor. On the 17th, 1,000 fish were taken in a trap and boats averaged 40 fish. About the 23rd, 20 barrels were taken by trap, and although netting was dull, boats averaged 1 barrel. None were afterwards reported. Total catch about 20,000 pounds.

Salmon although not reported, is said to have aggregated 3,000 pounds.

Squid as far as reported, were only taken in light supplies during the first week of August.

YARMOUTH.

Alewives were first reported on 4th May, and the catches until 16th June varied from good to fair.

Codfish, when reported first on 4th May, were in fair quantities, and the average catch until the 22nd was fair. About the last of the month large quantities were reported to have been taken, and although reported irregularly during the former part of June, the average was fair. On 25th June, the inshore fishery was very poor, while the off shore was good. About 20th July, it was reported that scarcely sufficient cod and haddock were taken the past fortnight for local use; while throughout August the catches were very light owing to prevalence of dog-fish and scarcity of bait. On 2nd August Brown Bank fishermen reported good fishing, but no bait. From 1st to 13th September, the catches of cod and haddock were very fair, but for the remainder of the season were light.

Haddock were almost identical with cod, except that the catches throughout May were light.

Halibut were on an average good from 4th to 28th May, but during the remainder of the season were, as far as reported, scarce.

Herring.—Although a small catch was reported on 3rd July, nothing of consequence was taken until 3rd August, when nets at Yarmouth Bar took 9 barrels small herring. From latter date until the 31st, light catches were made each day, when a good school was reported and good supplies of bait were obtained by nets and floating traps. During the remainder of the season very few were taken.

Lobsters were first reported in good quantities on 4th May, and although no large catches were made, the average catch was very fair. During the past season the following quantities of live and canned lobsters have been shipped to the United States from this port:—

	No of crates of live lobsters.	Value.
January	2,678	\$22,917
February	2,096	28,191
March	2,999	43,793
April	4,052	41,038
May	7,832	66,932
June	3,281	34,284
Total	22,938	\$236,655

After careful inquiry, this quantity has been subdivided into the following number of crates and credited to counties as follows:—

	Crates.
Yarmouth County.....	11,438
Shelburne "	9,000
Digby "	2,500
Total.....	22,938

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It is reported that in addition to these quantities, United States and local vessels smacked additional lots from the counties of Shelburne and Digby.

The following are the shipments of canned of 1897 pack :—

Factory Name.	No. of Cases.	Value.
Mud Island Lobster Company.....	950	\$ 7,600
Pubnico "	2,350	18,800
Cape Sable Packing Company	1,600	12,890
Cape Fourchu "	1,200	9,600
Harry's Island "	1,100	8,800
Total.....	7,200	\$57,600

The above factories are controlled or owned in Yarmouth, and the quantities and values are as correct as is possible to get them.

Mackerel were first taken on 10th May, when the County line trap was reported to have taken 45 large fish. During the remainder of the month, the various traps in this section varied from one dozen to 150 barrels. On 19th May the first mackerel were taken by nets; but few were afterwards taken, as the easterly winds towards the last of the month drove the fish off shore. After this but few were taken, and on 3rd July the traps were reported to have been taken up. On 20th July and 31st August they were reported schooling here and at the mouth of Tusket River respectively, but no catches were reported.

Salmon and Shad catch was a fair average during the month of May, but for the remainder of the season was light.

CAPE BRETON.

WEST ABICHAU.

Alewives.—This fishery is fast becoming a thing of the past. This season's catch was the poorest ever experienced on these shores.

Codfish appeared about 15th May, but the average catch during this month was only light. Small catches were made pretty regularly during June and July; but the best fishing was made during the latter part of August. Little or no fishing was done in September, partly owing to the scarcity of bait, but chiefly to the rough weather which prevailed during this month, and sometimes prevented boats from going out for three or four days in succession. The fish however, were always reported scarce. This season's catch of cod is a light one, and may be estimated at about one quarter less than last year. The fish were of a fine quality all through the season, and as the weather was favourable for drying them they have been cured very hard.

Haddock struck in fairly plentiful about 24th May and fair catches were pretty regularly made during the first week in June. In July light catches were made daily; but after this month they remained scarce until the close of the season. The total catch, though a light one, compares favourably with late years.

Herring.—Small catches of herring were made during the latter parts of May and June, but the fish did not remain on the coast any length of time. They again struck in about 20th July, from then until the last of August some good hauls were occasionally made. The fish kept well inshore this season, and did not draw off into deep water until about 15th August, when good hauls were made on Bradley Bank and around the Severn Rock. No herring were taken here in September, but good fishing was reported at Cape Auguet about the 25th and at Red Head (Straits shore) during the latter part of the month. The catch this season was from 25 to 40 barrels per boat, which is considered fairly good. The fish taken in this bay are usually of a fine quality, although some difficulty is experienced in curing

those caught about the first of August, as they are apt to turn out soft backed and tainted, unless great care is taken with them. About this season (October) the fish are very fat in the back, which is of a soft nature, and should they be allowed to remain any length of time in a heap or exposed to the sun they quickly become heated. To avoid this it is necessary that they should be cleaned as soon after coming out of the nets as possible, and strong pickle poured over them immediately after salting. However, many of our fishermen maintain that even this mode of curing will not preserve them; but insist that some of the fish are diseased in the water, and consequently no amount of care in curing can save them.

Lobster fishing commenced 19th April, and fair catches were made up to 20th May; but from that date out the fishing was poor. Though the catch was somewhat better this season than last, yet it cannot be called a good one. About the same number of men and boys were employed in this branch as usual. The fish are now caught further out in the bay and in deeper water.

Mackerel fishery was again a failure; not even a dozen barrels were taken among all the fishermen.

On the whole the fisheries here were poor this season. There are a few of the most energetic men who have done fairly well; but there are many others who have barely caught enough fish to maintain themselves and families during the summer. It would have been far better for some of them had they sought other employment at oven 50c. per day than waste the fine summer months chasing a few fish in the bay. Like many another industry, the fisheries here are overcrowded.

CHETICAMP.

Codfish were not reported until 12th May owing to the easterly winds which prevailed during the former part of the month. From above date until about 4th June the catches were light, but improved somewhat afterwards, and fairly good catches were made at Mainland and Point for about a week. The catches from 10th June to 6th July were light, and are attributed to the salt clam bait which is inferior. From 6th July to 10th August the catches were on an average fair, although they were very good from 27th July to 3rd August, when boats averaged 1,000 pounds of good sized fish. About the 15th this fishery declined, as is usually the case for a couple of months; and with the exception of a few good catches, remained poor until the last of September. During the former part of October the catches were very fair, but would have been much better had good bait been obtainable. It is a noticeable fact that during the past few years nearly all the marketable fish have been found in very deep water—from 12 to 15 miles off shore; and thus it is that the catches have been so light for the boats, although provided with good tackle, are too small to venture so far from land.

Haddock were first reported on 19th July, and the catches throughout the season were, on an average, fairly good. Like codfish they were found more plentiful in deep water from 3 to 15 miles off shore.

Hake appeared 16th July, but with the exception of fair catches during the first week of August, they were scarce the whole season.

Herring were not reported until 9th July, although four vessels arrived from the Magdalen Islands about 22nd May laden with this fish for bait and home use. The only catches reported were from 9th July to 22nd, which were light.

Lobsters were first taken this year on 12th May, but only varied from fair to poor throughout the season.

Mackerel reported in small quantities on 5th August, and on the following day were taking hooks freely in Pleasant Bay. The catch during the rest of the month was light, especially from the 8th to 18th, when bad weather prevailed. About the 23rd some good hauls were made in Pleasant Bay; and one Cape Rouge boat had 100 fish. About this time fishermen gave this fishing greater attention as the prices were very large. Throughout September the average catch was fair; although prevalence of dog-fish, heavy currents and unfavourable weather greatly

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impeded this fishery. Very few mackerel were taken up to the 15th October, although they were reported schooling in good numbers on the 8th, but would not bite. Large schools were again reported between Margaree Island and Pleasant Bay on 16th October. The light catch is mostly attributable to the inferior quality of bait used, as most men use the thin spring herring, while those who obtained good bait are reported to have done well.

Salmon were first reported in good numbers in Pleasant Bay on 5th July and 6th, but no catches were made here until the 9th, from which date they were very scarce until the close of the month.

Squid struck in light quantities on 13th July and were on an average fair throughout the season. Some excellent catches were made, however, during the last week of July.

As Cheticamp includes the fishing stations of Eastern Harbour, Cheticamp Point, Cape Rouge and Pleasant Bay, the following approximate quantities of fish taken at these stations may be of interest and value:—

Eastern Harbour.

Codfish	5,850 qtls.	Mackerel	356 brls.
Herring	1,000 brls.	Lobsters	33,744 lbs.

Cheticamp Point.

Codfish	1,500 qtls.	Mackerel	170 brls.
Herring	100 brls.	Lobsters	16,752 lbs.

Cape Rouge.

Codfish	10 qtls.	Lobsters	10,008 lbs.
Mackerel	80 brls.		

Pleasant Bay.

Codfish	30 qtls.	Lobsters	16,800 lbs.
Mackerel	250 brls.		

Summing up the production for the past season, of the different stations of this district, it would give a total of—

Codfish	7,390 qtls.
Herring	1,100 brls.
Mackerel	856 "
Lobsters	77,304 lbs.

D'ESCOUSSE.

Codfish were not reported this year until 9th June from which date the catches were poor throughout the season. Total catch by small boats about 100 quintals. Of the 5 vessels which usually fish in North Bay, the average catch this season has been about 900 quintals which is a better average than in 1896.

Hake, although reported in the second week of May, were not regularly taken until 16th June; the catches thereafter having been light and the total catch not amounting to more than 75 quintals.

Herring fishery commenced 11th May and light catches were pretty regularly made until 24th June when they greatly improved, and during the following 3 weeks the catches varied from good to fair—boats carrying from 2 to 3 barrels daily. During the remainder of the season the catches were, with few exceptions, light. Total catch estimated at 300 barrels.

Lobsters were first reported in good quantities on 7th May, and very fair catches were made each day throughout the month. During the first ten days of June the catches were light, owing to heavy seas. Although lobsters became more plentiful, the bad weather continued, and on the 12th it was reported that hundreds of traps had been driven on shore and broken. On the 21st the heaviest storm experienced in the past 20 years destroyed fully 1,000 traps, and thus practically crippled this fishery. Again on the 30th hundreds of traps were destroyed; still fair catches were made whenever weather permitted. During the remainder of the season the catches were on the whole light. Total catch estimated at about 25,000 fish.

Mackerel were taken in light catches by nets on 25th May, and with few exceptions were scarce the whole season. Catch of shore boats estimated at about 50 barrels, while the 5 vessels aggregated about 125 barrels which were disposed of at \$14.10 per barrel.

GABARUS.

Coifish were taken on 5th June in light quantities and continued so, with few exceptions, until about 24th August. Throughout September the catches varied from 700 lbs. downwards, but bait was very scarce and weather very blustry. Very good fishing was reported during the early part of October, although bait continued very scarce, and the prospects were more encouraging. It is estimated that the catch to 15th October, was 1,225 quintals.

Haddock were taken in light catches from the 12th to 16th July, inclusive, but nothing was afterwards reported.

Hake.—Not reported this season.

Herring struck about 7th June but the catches were only light until the last of July, although they were close inshore about 16th July. During the first two weeks of August catches varying from 300 to 3,000 fish, of large size, were made daily. On the 16th they were schooling close inshore, and although 40 barrels were taken in one seine they had to be left untouched as salt was very scarce. This fishery was given the entire attention of all fishermen until bad weather set in about 4th September and prevented boats from going out. Season's catch about 1,150 barrels.

Lobsters.—Notwithstanding that heavy ice was close in-shore 2,900 fish were taken on the 7th May, and some very good catches were made until the 13th. After this, although fish were in good numbers, and good supplies of bait were obtainable, the ice prevented the setting of cages. With the exception of fair catches each day from 5th to 12th June they were reported scarce for the remainder of sea-on. Season's catch considered very poor.

Mackerel were first taken on 26th May, and on the following three days the catches aggregated 52½ barrels per day. Beyond a few light, irregular catches made during the first 2 weeks of June, they were not afterwards reported. Total catch estimated at 210 barrels.

HAWKESBURY.

Alwives were reported in good quantities at River Inhabitants from 24th May to 27th inclusive; and from 29th May to about 9th June were taken in fair supplies at Port Malcom.

Cod and Herring fisheries are said to have been almost a complete failure. Very few herring were taken this year at Port Malcom.

Lobster fishermen did fairly well and realized fair prices for their fish. Had it not been for the fair results of this fishery, fishermen would have been in desperate circumstances.

Mackerel fishing has been almost a complete failure, and none were taken at Port Malcom. Very few of the Magdalen Island fleet from this district caught fish enough to pay for their supplies and outfits.

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INGONISH.

Codfish were first reported on 22nd May, but were scarce the whole season, and the catch is said not to be over $\frac{2}{3}$ of an average one. This shortage, together with low prices obtained, leave those employed in this branch in very straightened circumstances.

Herring first appeared 27th May but this fishery too proved almost a failure. No summer fish were taken.

Lobsters were first taken on 22nd May but this branch has been overdone. Additional factories and gear caused the grounds to be overfished the past two seasons and therefore neither packer nor fishermen can make it pay. Three severe storms during the season destroyed so many traps and cages that this branch is reported away below an average catch.

Mackerel were not reported this year until 2nd June and the catches throughout the season were light and irregular.

Salmon were first reported on 9th June but although some very good catches were made in adjacent localities, the catches here were light and irregular. On the whole the catch has been an average one.

Squid appeared plentifully on 9th June and some excellent supplies were taken for a few days. After this they were only taken in small quantities until 27th August when they became more plentiful and good supplies were obtained each day until the season closed.

L'ARDOISE.

Codfish were first reported on 9th June and boats which had good gear did fairly well in deep water. The general catch, however, was light and the season's total catch very poor.

Haddock were reported, as usual, about 29th May but the catches have been very light during the season. In former years this fishery, was very remunerative as large catches were always obtained; but now boats scarcely obtain over 5 quintals each.

Herring were first reported on 11th June but scarcely sufficient taken for home consumption.

Lobsters were reported scarce on 1st May and remained so, although taken regularly, until 14th June when fair catches were made each day for a week. After this they were scarce until the extension granted had expired. Only three factories have been in operation the past season and the catch is said to about equal that of 1896.

Mackerel appeared earlier than usual last spring, the first catch having been made on 22nd May. Those who had nets set did well; but the season was short, none have been reported after June 18th.

For the past few years the inshore fisheries have been so poor that had not Scattarie and Lingan grounds supplemented the home catch, the result would have been very unsatisfactory. Fishermen of this vicinity are now beginning to realize that larger boats are necessary for the outside grounds, and as a result 3 or 4 small vessels are now on the stocks, and will be completed in time for next season's work.

LOUISBOURG.

Codfish.—This branch of fishing has been a complete failure; in the first part of season fish were scarce. During August and September good fishing was reported but a scarcity of bait prevented many being taken.

Herring.—A fairly good catch was made during latter part of June and the month of July; the fish being of large size and good quality.

Lobsters were first taken 6th May and continued fair until the 22nd, when a storm destroyed nearly all the pots, causing a loss of time in repairing and replacing. The extension of time granted was quite a boon to fishermen, as during that time good weather prevailed and good catches were made.

Mackerel were first taken 28th May and continued until the June 6th, when they suddenly disappeared. A few were hooked during August and September but not more than half an average catch during the season.

Salmon were first taken on 21st May and the catches have been light the whole season.

Squid were not reported until 1st October, from which date fair catches were made until the season closed.

MABOU.

Codfish.—The catch of all kinds of line fish is below that of 1896. In the early part of the season and up to August, very few of these fish were taken in this division. During the months of August and September, however, they were very plentiful, but owing to the scarcity of bait the catch was not as large as might be expected. Dog-fish were very numerous in September, and not only prevented other fish from taking the hook but also destroyed bait nets.

Hake and Haddock were unusually scarce all through the season; consequently the catch is below the average. Since about the 25th September boats and fishermen have been engaged on fine days ballasting the government pier at the entrance to this harbour; consequently no attention has been paid to the fishing industry.

Herring.—The spring herring fishery was fairly good, but the mid-summer and fall fishery show poor results.

Lobsters.—The catch of lobsters this season was somewhat in excess of that of 1896. Although there were only three canneries in operation in this division this season, compared with four last year, the returns show an increase of 69 cases over the total pack of 1896.

Mackerel have almost disappeared from these shores of late years. It is hard to account for the movements of these erratic fish. It is supposed, however, by fishermen that they keep out in deep water. The few that were taken this year were used for bait. The catch was even below the average. Very little attention is paid to this branch of the fishing industry of late years, so that fishermen are not disappointed with results this season.

Salmon catch was below the average. The only reason which can be assigned for the scarcity is that a large number of lobster traps were set in the immediate vicinity of the salmon nets and it is generally believed that the offal from the traps frighten or drive the salmon into deep water.

MARGAREE.

Alewives were almost a total failure.

Codfish and Haddock.—Scarcely any cod or haddock were caught until about 5th July when good catches were made for a few days, but afterwards continued scarce until about 24th August when they again struck on the coast and good catches were made for a few days and then slackened off. Total catch for the season has been poor, less one half of an average.

Herring and Mackerel.—The catch of herring and mackerel for the season has been almost a total failure. A few were taken about 12th July but after that time scarcely any were taken.

Lobsters were very good during the month of May and up to 10th June; but after that the catches began to lessen gradually until the close of the season. However, the total catch was an average one.

Salmon struck on the coast earlier than usual, but the catch was light until about 22nd June when fair catches for a few days were made. Afterwards only a few were taken, as the total was not over thirty per cent of an average year's catch.

Fishermen are of the opinion that there would probably have been some good catches of cod and mackerel during the latter part of the season but for the abundance of dog-fish.

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MEAT COVE.

Codfish were first reported on 21st May, but as bait was very scarce, the catches were very light and irregular until about the 18th September. When the fish did appear in fairly good quantities, it was reported that no person was buying within 20 miles of this station, and the occasional one who did only offered 80 cents per 140 pounds, hence as there was no means of shipping, the quantity taken was only for home consumption and local use.

Herring appeared about 19th May, but as stormy weather prevailed the following month, the catches were consequently light. Nothing was afterwards reported, and no reason can be assigned for their non-appearance.

Lobster fishery commenced on 19th May, as bait was not obtainable previous to this date, and for the first few days the catches were light. On the 22nd they became more plentiful, and with the exception of an irregular, light catch during the third week of June, the catches were very fair; and had it not been for any unfavourable weather during the whole season, the catch would have been good. Season's catch, however, is reported to have been below the average.

Mackerel appeared on 28th May, but the catches were light throughout the season, although they were in good quantities all about this district. Although they would not take the hook in Bay St. Lawrence, owing to the great number of small fish on which they fed in preference to the prepared food of fishermen; the boats at Money Point and Poulet's Cove, on either side of Bay St. Lawrence, did very well. They were reported schooling at this station on 21st and 30th July and 25th September.

PETIT-DE-GRAT.

Alewives were scarce the past season and the total catch is estimated at 6 barrels.

Codfish were first reported on 13th May, and the catches throughout the season varied from fair to poor. During the first of the season strong tides interfered with the fishery, and in the latter part dog-fish were destructive. Season's catch about 500 quintals short of 1896.

Haddock fishery commenced on 10th May, and light catches were made regularly until the last of August. During the first 11 days of September the catches were fair, but nothing was afterwards reported. In comparison with 1896 there is an estimated decrease of about 300 quintals.

Hake.—This fishery has not been prosecuted the past season owing to the prevalence of dog-fish.

Herring made their first appearance on 12th May, but with the exception of a light catch on that date, they were not afterwards taken until 1st June, from which date light but regular catches were made until 26th July. From latter date until 23rd September, the catches were fair; but for the remainder of season were poor. In comparison with 1896 there has been an increase of about 600 barrels, most of which were caught in deep water—from 35 to 40 fathoms.

Lobsters were reported in fair quantities on April 12th, and the catches until the last of May varied from fair to poor. During the remainder of the season they were scarce; and as a great number of traps were destroyed by frequent gales, some fishermen gave up this branch and turned their attention to the cod fishery. It is estimated that 2,000 cases have been put up in addition to 500 crates which were exported alive to the United States.

Mackerel were first taken on 21st May,—1 boat having taken 40 fish—and during that week the average per boat was about 200. During the remainder of the season or until 8th August, the catches were light, and it is estimated that the total catch will not exceed 80 barrels. It is reported that about 120 boats fitted out for the fall fishery, but the aggregate catch will not exceed $\frac{1}{2}$ barrel.

Salmon were first reported on 1st June, and the catches until 17th July, when nets were reported to have been taken up, were fair. The quantity taken was sold fresh and realized \$400, which is about 25 per cent in advance of 1896.

Squid struck about 13th July and with the exception of some fair catches during the latter part of that month and first week of October, they were scarce and irregular.

PORT HOOD.

Codfish were taken in small quantities each day from 22nd May until 2nd June, after which the fishery was fairly good until the 22nd. From latter date until 9th August the catches were again light, but during the remainder of the season, when bait was obtainable and dog-fish not too destructive, the catches were fairly good.

Haddock and Hake were reported about 26th June and continued in fair quantities until about 20th September when, owing to the destructive dog-fish, these branches had to be abandoned.

Herring struck in on 5th May but only light catches were made here although some good hauls are reported to have been made at Little Judique about the 11th. The summer run was a complete failure, and the fall catch is said to be only a few barrels, but are of good quality.

Lobsters were first taken on 5th May and fair catches were regularly reported each day during the month. From 1st June, until the close of the season the catch was poor.

Mackerel appeared 29th June, from which date the catches were light, and at times irregular, until the last of August. Those taken in August were of large size; but nothing afterwards reported.

Squid were taken in catches varying from good to poor from 17th July until 14th August.

ST. ANN'S.

Codfish were taken in light but regular catches each day from 27th May to 31st July. On 28th May fair fishing was reported on the banks. Catch considered about 50 per cent short of last season.

Hake appeared in good quantities on 17th August, but afterwards were scarce until the season closed.

Herring.—As the bay was full of ice until about 11th May no catches were reported until the 12th, when this fish was found in fair quantities. From latter date until 2nd June the catch was good; but after this they began to slacken off and on the 6th the spring fishing was reported over. In the first week of July the usual July school appeared but no catches worthy of note were made.

Lobsters do not appear to have been taken here this season as none were reported.

Mackerel were first reported on 29th July and catches varying from 3 to 7 barrels were taken in traps, while light hauls were made by nets. The average catch from this date until 8th August was fair, after which they were scarce until about the 23rd, when the traps were taken on shore.

Salmon were taken each day in light but regular catches from 12th June until July 10th.

Squid appeared July 6th and good supplies were taken each day until about the 17th after which but few were taken until August 23rd although they were reported plentiful on 7th August but would not jig well after July, which is recognized as the squid month.

On the whole the catches of all kinds of fish for this season were below the average of former years.

ST. PETER'S.

Codfish and Haddock.—Inshore fishing in these branches turned out poorly. The catch made by vessels from this place and immediate vicinity, on Eastern Banks and North Bay, will fall considerably short of former years. The low price for fish and the small quantities caught of all kinds augurs hard times for the most of the coast fishermen.

Marine and Fisheries—Fisheries Branch.

Herring were first netted about 4th June. Light catches were made for a fortnight, but these were so small that the fishermen could not even supply home consumption. On 19th August a good run struck in, some boats taking from 7 to 30 barrels. But for this the season for herring would have been a total failure. However, in Bras d'Or Lake, spring herring were taken in abundance, also cod in fair quantities.

Lobsters.—This branch opened about 25th April, and light catches were made daily until about 8th May. From this until the end of the season fair catches were taken; and were it not for the very stormy weather destroying the traps and the prevalence of easterly winds, the fishermen would likely have done very well. The catch though is as good as that of 1896. Seven hundred and eighteen cases and thirteen thousand live lobsters were shipped.

Mackerel made their first appearance 22nd May, and light catches were made inshore for a few days. Of those setting in deep water, a few took from 10 to 15 barrels. The fish taken were very large and fat. The rest of the season proved a great failure in this branch. This the fishermen attributed to the easterly winds.

PRINCE EDWARD ISLAND.

ALBERTON.

Codfish were first reported on 8th June, and although the catches were light it is said that they were plentiful on the grounds, as herring and other bait fishes were also there in good supply. As previously reported, the boats here are too small to venture out to any great distance; hence very little attention is given this branch. As an example of what fishermen of this place might do, it is only necessary to say that during August, September and October, boats from Caraquet and Shippegan, N.B., find these shores the best grounds for cod; and occasionally during bad weather there will be as many as 120 of these vessels in port at once.

Hake were rather scarce from 23rd July to the last of the month, but throughout August and until 6th September the catches were fairly good.

Herring struck in on 3rd May, and although reported plentiful at Campbellton during the following week, the catches here varied from fair to good. About the middle of the month they were in good numbers at North Cape and Frog Pond. None were reported in June or July but light catches were pretty regularly made during August. Nothing afterwards reported.

Lobsters were first taken in small numbers on the west shore from Miminegash about 1st May and about a week later on the north side. They were plentiful from 10th to 28th May at North Cape and Tignish, and fair at Black Marsh, on the western side of North Cape. At Tignish, for a week in the middle of May fishermen frequently loaded their boats with good average sized fish. One fisherman, having been more avaricious than his fellow fishermen, overloaded his boat with the result that she sank en route to the shore. On the west shore, at Nail Pond, Frog Pond, Waterford, and as far as Miminegash, there was only about one week's fishing of any importance. At North Cape excellent fishing was found for about 10 days about the middle of May and for the balance of season was fair. During the same period good catches were made at Tignish, Alberton, Kildare and Conway; but poor the remainder of season. On the whole the catch of lobsters is considered about the same as last year, although fully double the number of traps were in the water. It is reported that packers who are fortunate enough to have their factories situated at points or headlands, usually have fair fishing for a much longer period than those who are less fortunate in having their establishments on long straight coast lines or in coves. The high prices for this fish the past season, assisted in a great measure to make the season a fairly remunerative one.

Mackerel first made their appearance on 17th June, and light catches were made quite regularly until 31st August, after which none were reported. The season's catch has been an exceptionally poor one; but it is said that the fishermen are in a

great measure accountable for this as they frighten the fish away by their great numbers of nets and traps. Those taken were by nets, as none were reported to have been taken with hook and line.

BLOOMFIELD OR MIMINEGASH.

Codfish were taken in fair quantities on trawls from 5th June until 11th July, after which none were reported, owing principally to bad weather until October 4th, when light supplies were taken until the season closed.

Hake struck in on 12th July, and fairly good catches were made each day until 23rd August, after which the fishery was poor until the season closed.

Herring.—The spring run struck in in good numbers on 14th May, and good catches were made here and at Campbellton. As the weather was bad the remainder of the month, catches were consequently light; but from 5th to 11th June, inclusive, fair catches were reported each day, while at Cape Wolfe and Campbellton the fishery was good. No second school is reported to have struck during the season.

Lobsters appeared with the herring on 14th May, and catches varying from good to fair were made for about 10 days. After this they became scarce and continued so until the season closed. In the second week of June it was reported that this fishery had been very good at North Cape; but on the whole the catch has been below the average.

Mackerel of very large size appeared 10th June, but the catches were light until 5th July, when fair hauls were made regularly for about 10 days. During the remainder of the season catches, when weather permitted, were light; and it is said that no large school was on the coast the whole season. No reports of this fish taken with hooks were received throughout the season.

GEORGETOWN.

Codfish struck in on or about 29th May, and a fair catch was made inshore with hand line and trawl up to the 20th June. The weather becoming unfavourable, the fish moved off and only poor catches were made by inshore boats to 28th July. They were plentiful on the several banks and continued so throughout the season.

Hake have been plentiful off shore and good catches were made during August and the early part of September. Cod and hake fishing is not successfully prosecuted by the fishermen in this district.

Herring made their appearance about 12th April, when a few were netted daily. On or about 5th May they struck in more plentifully and a number of bankers were supplied with bait. Schools continued to increase up to the 22nd, remaining in the bays and rivers until 1st June, when they moved offshore and were netted until the 15th. While this body of herring was in this vicinity, a large quantity was secured for lobster bait, and a sufficient supply furnished to bankers. The catch is considered equal to that of last year. During the latter part of October and first of November quantities of small herring frequent those bays and rivers.

Lobster fishing commenced about 13th May, and fair catches were made until the 25th, from which date until 14th June the catch was rather poor, but improved again to the 20th. From latter date until 24th July this fishery was poor, with the exception of the 13th, when a fair catch was made inshore. The advance in price paid for lobsters this year should compensate the fishermen for the falling off in catch.

Mackerel fishing has been a failure this year. A few were occasionally netted from the 1st July, and were disposed of locally. Some schools were reported off Boughton Island on 9th July and a fair catch made between netting and hooking. Every effort and device has been employed by the fishermen to capture this fish with hook and line but to no purpose. They could be raised almost in any part of the Gulf, but after securing a few the body would disperse. Some small catches were made off the East Point in September by American vessels.

Squid bait was difficult to procure with jig in the early part of the season, but were more plentiful in the month of October.

Marine and Fisheries—Fisheries Branch.

MALPEQUE.

Codfish were first reported on 29th May, and the catches throughout the season, when weather permitted, were very fair.

Haddock were taken in fairly good quantities each day from 25th July until 2nd August.

Herring fishery commenced on 5th May, and until the 21st the catches were on an average fairly good, fishermen getting about all they required for bait and home consumption. None reported later.

Lobsters were on an average fair, although irregular, from 17th May until the season closed on 24th July. It is estimated that the pack this season is short of 1896; but as expenses were lighter and better prices obtained, the packers did about as well as in the previous year.

Mackerel made their appearance on 12th June, and light catches were made throughout the season. About 13th August they commenced taking the hook, but the catches did not increase any and the total quantity taken is considered poor.

NEW BRUNSWICK.

BEAVER HARBOUR.

Codfish and *Haddock* struck in about the same time, and from the 18th May until 15th October the catches were light but regular. During the latter part of June and former part of July the haddock catch was slightly in excess of cod. They were also better during the first ten days of September.

Hake were reported in fair quantities on off shore grounds on 4th June, but the catches were light until the 6th, when they became good and remained so until about 2nd August. About 25th June they were plentiful on off shore grounds, and about 12th July were in good numbers at Wolf Island. On 22nd July, boats varied from 1,500 to 2,000 lbs. hake to a run when bait was obtainable. During the remainder of the season, notwithstanding that some very good catches were made, the average was good.

Herring were scarce throughout the early part of the season and brought fairly good prices; but it was not until about the usual time—10th August—that large herring were first reported at Wolf Islands. During the remainder of the season the catches were light, although small herring were reported plentiful.

Lobsters were first reported on 8th May, but the catch until 25th June, when the fishery closed, was light. In the early part of May the demand was good and prices ruled at 10c. each.

Mackerel were only taken in light catches from 9th August to 27th; the first having been taken in weirs here and at Bliss Harbour.

CARAQUET.

Codfish were first reported the past season on 31st May, and the catches were on the whole good throughout the season; although the total catch is considered slightly below that of last year. Bankers during the season obtained good supplies of herring and clam bait which were plentiful.

Herring were taken in light catches as soon as the ice left the harbour about 14th May. On the day following, however, they struck in plentifully, but as bad weather set in about the 26th, for a few days the catches thereafter were light and irregular until the end of June. None were reported throughout July, but during August the catches were light, although boats on the 22nd were reported to vary from 20 to 25 barrels. Total catch considered the smallest for some years past.

Lobsters were first reported on 20th, May but were very scarce the whole season; and the catch is considered even smaller than last year, which was the smallest for some years past.

Mackerel appeared this season on 3rd June, but the catches were very light the whole season.

Salmon. From 27th May, until July 10th the catches were on an average fairly good.

Squid were taken in good supplies from 24th to 30th August, inclusive.

ESCUMINAC.

Codfish were first reported on 26th June, and the catches until the last of September were fair and regular.

Herring were found in good quantities as soon as the coast was clear of ice on May 12th but about the 15th the catches became smaller and they were not reported after the 20th.

Lobsters were also taken first on the 12th in small quantities; and with the exception of a few catches varying from good to fair up to the 20th, they were scarce until fishing closed about 6th July.

Mackerel were taken in light and regular quantities from 8th July to 27th September.

Salmon were first reported on 25th May from which date light catches were regularly made until the 22nd July.

Shad were taken in light but regular catches from the 25th May to the 25th June.

GRAND MANAN.

Codfish were not reported this year until 28th May from which date catches varying from good to fair were made until 25th June. About the middle of June fair fishing was also found on gravelly ground. During the last week of June the catches were light until line fishing was interrupted altogether by dog-fish about 1st July. Throughout the latter part of July the catches varied from very good to fair, but very few catches were made later, except on the outside grounds and various coves, where the fishery ranged from good to poor until the last of September. It is estimated that the total quantity cured will not exceed 1,000 cwt.

Haddock appeared also on 28th May and the catches until 30th June were very fair.

Hake were first reported on 2nd June and the catches throughout the greater part of the month were good. Late in June they became somewhat scarcer and continued so until about the 20th July, after which the catches varied from very good to fair on the different grounds and various fishing places in this district. This fishery shows an increase of about 1,000 cwt. over that of 1896.

Habbut appeared 17th June and the catch is said to have been very light.

With the exception of the hake catch it is said that the past season's operations have been the poorest which the fishermen have experienced for years. This decrease, particularly in the line fishery, is in part due to bad weather during the spring and early part of the summer, but principally to the scarcity of herring in the bay. No particular reason can be assigned for this scarcity unless it may be the insufficient supply of small feed upon which the herring subsist which in former years caused a similar bait exhaustion.

Herring were first reported on 2nd June but the fish were of small size and but few were taken. About 16th July the summer school struck, and for the first few days the catches were light, but afterwards they became more plentiful, and until 23rd September the catches varied from good to poor at all sections. The smoked herring industry which is the most important branch on the island shows a falling off, in comparison with last year, of fully 50 per cent; there having been only about 1,000,000 boxes cured. Fresh herring show a corresponding decrease. The total catch of pickled herring is estimated at 2,000 barrels.

Lobsters.—From 28th May until the season closed the catches were light and irregular, and it is said that the decrease will be about 60 per cent, which is claimed to be due to over fishing of former years.

Marine and Fisheries—Fisheries Branch.

SHIPPEGAN.

Codfish were first taken on 29th May in small quantities as the weather previous to this had been very rough. Throughout June, July, August and former part of September the inshore fishery was poor but the bank fishery was good; and it is reported that some weeks the largest catches on record were landed. Although the total catch is considered large, the prices rated low as the markets were said to have been overstocked with old fish. The fish taken are dried here and shipped in English barrels to Mediterranean, Spanish and Portuguese ports; while some are shipped in tubs to the West Indies. It is said that several vessels loaded the past season for European ports.

Halibut and Herring.—As far as reported the catches were on an average fairly good.

Lobsters were on an average fairly plentiful the whole season; but owing to continuous rough weather, fishermen were prevented from hauling their cages, and many factories closed early in June, owing to the limited quantities brought in. The small pack realized higher prices, which to many packers will make up for the deficiency in quantity; but the majority of packers will scarcely pay expenses.

Mackerel were first reported on 17th June, but the catch has been very small. The small boats did very poorly as the fish did not strike inshore; but a few Nova Scotia schooners are reported to have made small catches which were salted and shipped to United States ports. Very few have been put in freezers here this season.

Salmon were taken in catches varying from good to fair during the second week of June.

QUEBEC.

GASPÉ.

Codfish were first reported on 24th June, and fair catches were made when weather permitted.

Herring, although not reported, are said to have been about an average catch.

Mackerel again failed to reach these shores the past season.

Salmon were first taken on 7th June, but the catches were light throughout the season.

GRAND RIVER.

Capelin were reported striking in on 15th June, but very few were taken; and it is reported that they have almost disappeared from these shores.

Codfish were first taken on 31st May, but the inshore catch has been small. The bank fishery was good during the whole season and fish were of large size, but dog-fish appeared about the middle of the season and caused much annoyance among the bankers. They had never been troubled heretofore by this kind of fish.

Herring appeared plentifully on 5th May and excellent catches were made each day for about a week. During the greater part of the season they were taken in catches varying from good to fair, but about 24th September they became scarce and small, and remained so until the season closed.

Lobsters, although appearing in fair quantities on 5th May, have been a poor catch and a light run, as factories were reported to have closed on 15th June.

Mackerel have been very scarce the whole season; the only catch worthy of note having been made on 23rd July.

Salmon were first reported on 5th June, but this fishery has also been poor and none were captured after 9th July.

Smelt fishery commenced about 7th October, and were reported plentiful, but as fishermen can only ship twice per week, their time is not wholly devoted to this branch.

Squid were first taken on 16th July, but the catches have been light and irregular.

LONG POINT.

Codfish were taken in small quantities each day from 9th to 19th June inclusive, but bad weather setting in nothing was afterwards reported until 1st July, when the fishery was found fairly good. About the 7th good catches were made and whenever weather permitted, fishermen did well. During the first week of August very good catches were reported and although the weather was much broken the catch until the end of September was good.

Herring.—The only catch reported was on 16th August, when a good quantity was taken.

Launce were first reported on 8th June, but the catches were light until the 19th. After this they were not reported until 16th July, when very good catches were made each day until 2nd August, from which date until the last of September the average catch was fair.

Salmon were taken first on 8th June, and the catch each day were fair until the 19th.

MOISIE.

Codfish were first reported on 7th June and catches varying from fair to poor were made until about 27th, after which the catches were very fair until the latter part of September.

Launce struck in good quantities on 3rd July, and some excellent catches were made until about 25th September.

Salmon appeared in small quantities on 2nd June, but the average catch throughout the month was fair.

Squid were fairly plentiful from 6th to 19th August inclusive.

On the whole the season's catch is considered about $\frac{1}{3}$ in advance of that of 1896.

NEWPORT POINT.

Capelin were first reported on 8th June, and the average catch during the remainder of the month was good.

Codfish appeared in light quantities on 29th May, inshore, while during the first week of June boats from banks varied from 17 to 30 drafts. During the remainder of the season the few inshore boats did poorly, owing to scarcity of bait and strong winds; while those on the banks obtained very fair catches, and the total catch is estimated at 9,200 quintals.

Herring appeared plentiful on 4th May, and excellent fishing lasted until the 21st, when there was a slight falling off. Throughout June and July and up to 14th August the average catch was fair, although irregular, and the total season's catch is estimated at 4,000 barrels, which are reported to have been taken for bait.

Lobsters were taken in very fair quantities from 4th to 14th May, inclusive, but afterwards became scarce and remained so until 2nd June, after which none were reported. Total catch estimated at 500 cases, or equal to last year's pack.

Squid were reported in light quantities on the banks on 26th July, but were not afterwards reported until 18th August, from which date the average catch was good until the last of the season.

PASPEBIAC.

Capelin.—Very good catches were reported from 7th to 12th June, inclusive. Nothing afterwards.

Codfish were first reported on 7th June, but with very few exceptions the catches were light until 3rd August. From latter date until 15th October this fish was in good supply, but owing to scarcity of bait and high winds the catches were not very regular.

Herring were reported in good quantities throughout May, but were scarce in June. Very few were taken in July, August or September, but from 6th to 9th October inclusive, the catches were very good.

Marine and Fisheries—Fisheries Branch.

Squid appeared in fair quantities on 3rd July, but on the 5th became scarce and remained so during the month. A few good catches were made between 18th August and 25th.

PERCÉ.

Codfish were not taken in May owing to high winds, but on 1st June, a light catch was reported after which the fishery became good and the catches throughout the season were satisfactory.

Herring struck in fair quantities on 10th May, and the average catch until 15th June was very good. During the latter part of June they were scarce; but from 16th to 27th July, varied from fair to poor. A few very good catches were made in the second week of August and first week of September, but nothing afterwards owing to high winds.

Lobsters were taken in fair catches each day from 10th to 21st May, but throughout June were scarce.

POINT ST. PETER.

Codfish were first reported on 25th May, and the average catch throughout the season was fair. On 12th June it was reported that Alexander & Co., had 300 drafts more up to that date than in the corresponding time in 1896. About 18th July, they were reported plentiful on off shore grounds, but the high winds which prevailed during the greater part of the season prevented good fishing. The average per boat for season is estimated at 125 drafts.

Herring appeared in fair quantities on 4th May, and the average catch until about 11th June was good. During the remainder of the season the catches varied from fair to poor. It is said that the greater portion taken was used for bait, as only a very few barrels have been salted.

Lobsters were taken in catches varying from good to fair, from 4th to 31st May, but during the remainder of the season were scarce.

Squid.—The average catches of squid from 29th July to 15th October, were fair.

SEVEN ISLANDS.

Codfish were first reported on 7th June, but the catches were light until the last of August. Throughout September, when weather permitted, the catches were fairly good; but in October the weather was too stormy for fishing.

Herring were reported to have struck in off this station and Point de Monts, on 17th May, but no catches were made until the 31st, which were light. About 30th June, they again appeared in small quantities but nothing of consequence was afterwards reported.

Launce appeared in fair quantities on 31st May, but were not taken with any regularity until about 25th June, from which date the catches were on an average very good until the latter part of September.

Salmon were first taken in fair quantities on 31st May, but the season's catch is estimated about 50 per cent below that of 1896.

Squid were taken in fair quantities from 9th to 19th August, inclusive.

STE. MARGUERITE.

Codfish were not taken regularly, but whenever weather permitted, the catches were very fair from 17th July, until 27th September.

Launce appeared in good quantities on 17th July and good catches were made until bad weather set in about 11th August, and no catches were then made. On 1st September, they were reported plentiful and continued so until the 25th, after which date none were reported.

ANTICOSTI.

ENGLISH BAY.

Capelin struck in at all points on the island after the stormy period about 16th June in great abundance, and were reported coming ashore in quantities at all stations until the last of the month.

Codfish.—No fishing at this station and western end of island the past season, as the inhabitants were generally occupied on their lands or working for Mr. Menier.

Herring struck in fair quantities on 25th May, but the catches were generally poor as the weather was rough.

Squid were very good throughout September and former part of October, and were taken in unusually large quantities.

FOX BAY.

Capelin.—See English Bay.

Codfish were only taken in very light catches until herring struck early in August. After that fishing was generally good, and was reported fair at Heath Point until the end of September. The total catch of the three boats is estimated at 103 quintals which was mostly taken at Heath Point.

Herring struck in plentifully on 25th May, and continued good until about 7th June. They again struck in 24th June and continued abundant for a few days. After this they were scarce until about 7th August, when they struck in abundance at Heath Point and varied from good to fair at all sections of eastern part of island until 27th September.

SOUTH-WEST POINT.

Capelin.—See English Bay.

Codfish were not sought after during the season; but it is reported that in the early part of October they appeared in good quantities.

Squid are reported to have come ashore in unusually large quantities throughout September and former part of October.

STRAWBERRY COVE.

Capelin.—See English Bay.

Codfish were first reported on 25th May, and were taken in fair quantities until about the last of June; after which very little has been taken. Total catch of 20 boats estimated between 500 and 600 quintals.

Squid.—See English Bay.

MAGDALEN ISLANDS.

Codfish were taken in light catches on 26th May, and for about a month the quantity taken was small, as only a few boats were engaged in this branch, notwithstanding the fact that they were in fair quantities on the grounds. From 26th June until 12th July, the catch was fair, but boats were prevented from going out regularly by bad weather. From latter date until about the middle of September, the catches were light; owing chiefly to the great scarcity of bait.

Herring.—The spring run struck in about 13th May in small quantities; but about the middle of the month they became plentiful in the various bays and large quantities are reported to have been taken for local use and bait. They were not reported afterwards until 9th September, when light catches of large fish were made each day for about a week. It is reported that the spring catch was about equal to that of 1896.

Marine and Fisheries—Fisheries Branch.

Lobsters, owing to the late spring, were not taken until 8th May, but the prospects were encouraging as herring were reported plentiful. From 25th May until about 11th June the catches varied from fair to good; but as a large number of traps were lost on the northern part of the islands during the first week of June, it crippled the fishermen so that the catch was not general thereafter. From 11th June until the close of the season the catches were light, although reports from Bryon Island indicated good fishing on 22nd June. On 12th July, it was reported that all factories had closed on account of the scarcity of fish. It is felt that different regulations should be enacted respecting the lobster fishery in this district, as it is usually late when traps are set and the inhabitants are wholly dependent on the fisheries.

Mackerel appeared on 31st May, and light catches were made by netters until about 17th June, about which time the spring fishery was reported to have been a failure, as vessels with from 100 to 125 nets had only an average of about 45 barrels. About 23rd July, light catches were reported on the north-eastern part of the islands, but the hauls were not general and did not increase, although in the second week of September they were reported plentiful, but bad weather prevented successful fishing.

On the whole the spring and fall catches have been very light, for whereas three years ago over 1,500 barrels were taken, this year the estimated total will not exceed 200 barrels.

I have the honour to be, sir, your obedient servant,

W. M. HUTCHINS,

Clerk in charge Fisheries Intelligence Bureau.

Marine and Fisheries—Fisheries Branch.

APPENDIX No. 13.

THE FUR SEALING INDUSTRY OF THE NORTH PACIFIC OCEAN AS AFFECTED BY THE BEHRING SEA AWARD AND CONSEQUENT LEGISLATION.

BY R. N. VENNING.

THE BEHRING SEA QUESTION.

For a series of years past the departmental reports have contained a short résumé of the main features of this question, as they have developed from year to year; the "Twenty-ninth Annual Report of the Department of Marine and Fisheries 1896—Fisheries." (Sessional Paper No. 11a, 1897), bringing it up to the end of 1896, at which point the present article will resume it for the current year, following somewhat the same order.

DEPARTURE OF THE SEALING FLEET.

The spring sealing fleet comprising 43 vessels, began clearing for the season of 1897, early in December, 1896; the first vessel cleared on the 3rd, and by the end of the month eighteen had cleared. In January, 1897, seven other followed; in February, ten, and in March, eight.

This fleet was divided into two sections as follows:—

VESSELS OPERATING ON THE NORTH AMERICAN COAST OF THE PACIFIC OCEAN.

License.	Schooners.	Tons.	Masters.	Cleared.
1	Mary Taylor.....	43	P. Carlson	Dec. 3, 1896
3	C. D. Rand	51	J. O. Townsend	do 9 do
4	Mary Ellen.....	63	D. McPhee	do 9 do
7	Osprey.....	40	G. McDougall	do 14 do
10	Ainoko.....	76	G. Heater	do 21 do
12	Allie J. Alger.....	75	R. O. Lavender.....	do 24 do
15	E. B. Marvin.....	96	Chas. J. Harris	do 30 do
16	Sapphire.....	109	Wm. Cox	do 30 do
17	Triumph.....	96	C. N. Cox	do 30 do
18	Pioneer.....	66	W. E. Baker	do 31 do
21	Amateur.....	18	C. Jipson.....	Jan. 20, 1897
23	Pachwellis.....	20	J. Nyetam.....	do 21 do
24	Fisher Maid.....	21	C. Chipps.....	do 21 do
25	Mountain Chief.....	23	Nawassum.....	do 21 do
26	Penelope.....	70	D. G. Macauley.....	Feb. 6, do
27	Beatrice.....	66	Wm Heater.....	do 6 do
28	Cape Beale.....	13	J. E. Quap.....	do 9 do
29	Maud S.....	97	R. E. McKeil.....	do 19 do
30	Dora Siewerd.....	93	H. F. Siewerd.....	do 20 do
31	Zillah May.....	66	S. Balcarr.....	do 20 do
32	Otto.....	86	J. McLeod.....	do 24 do
33	Minnie.....	49	V. Jacobsen.....	do 24 do
34	City of San Diego.....	46	D. Martin.....	do 26 do
35	Arietis.....	86	P. Martin.....	do 27 do
36	Ocean Belle.....	83	R. Cox.....	Mar. 1, do
37	Enterprise.....	69	J. W. Todd.....	do 4 do
38	Teresa.....	63	G. Meyer.....	do 17 do
39	Labrador.....	25	M. Pike.....	do 18 do
40	Fawn.....	59	M. Foley.....	do 18 do
41	Chacheemah.....	10	H. Chacheemah.....	do 18 do
42	South Bend.....	21	C. F. Dillon.....	do 18 do
43	Annie (sloop).....	9	C. Spring.....	do 20 do

In all 32 vessels.

VESSELS OPERATING ON THE JAPAN COAST OF THE NORTH PACIFIC OCEAN.

License.	Schooners.	Tons.	Masters.	Cleared.
2	Casco	63	Chas. Le Blanc	Dec. 8, 1896.
5	Mermaid	73	Jas. W. Anderson	do 10, do
6	Umbrina	99	Chas. Campbell	do 12, do
8	Annie E. Paint	32	Alf. Bissett	do 19, do
9	Geneva	92	Wm. O'Leary	do 21, do
11	Carlotta G. Cox	76	Wm. D. Byers	do 22, do
13	Director	87	F. W. Gilbert	do 28, do
14	Borealis	37	Andrew Nelson	do 29, do
19	Sadie Turpel	56	A. S. Crane	Jan. 4, 1897.
20	Agnes McDonald	107	M. F. Cutler	do 15, do
22	Vera	60	Wm. T. Bragg	do 21, do

In all 11 vessels.

While the whole of these vessels engaged in that branch of the industry known as the spring fishery, all but fourteen of them operated later on in the Behring Sea fishery, which begins only on the 1st August, after the expiry of the close season provided by the Paris Award. Those of the sealers which confine their spring operations to the American side of the Pacific Ocean, return to Victoria to await the summer fishery in Behring Sea, after the seals have disappeared from the coast, or in other words have entered Behring Sea.

Those, however, who have exploited the Asiatic waters, cross over into Behring Sea when the open season begins. These it will be seen form much the smaller factor in the Behring Sea fleet.

The following table represents a complete list of the fleet which cleared for Behring Sea during 1897, and shows that out of the full fleet of 44 vessels clearing during that year, 30 were destined to Behring Sea.

Marine and Fisheries—Fisheries Branch.

SEALING VESSELS CLEARED FOR BEHRING SEA, SEASON 1897.

No.	Vessels.	Tons.	No. of License.	Master.	Cleared for.
1	Mary Taylor.....	46	1	F. Cole.....	Behring Sea from Victoria.
2	Casco.....	63	2	C. Le Blanc.....	do now in Japan.
3	Mermaid.....	73	5	S. W. Anderson.....	do do
4	Umbrina.....	99	6	C. Campbell.....	do do
5	Annie E. Paint.....	82	8	A. Bissett.....	do do
6	Geneva.....	92	9	W. O'Leary.....	do do
7	Ainoko.....	75	10	G. Heater.....	do from Victoria.
8	Carlotta G. Cox.....	76	11	W. D. Byers.....	do now in Japan.
9	Director.....	87	13	F. W. Gilbert.....	do do
10	Borealis.....	37	14	A. Nelson.....	do do
11	E. B. Marvin.....	36	15	C. I. Harris.....	do from Victoria.
12	Triumph.....	98	17	C. N. Cox.....	do do
13	Pioneer.....	66	18	W. E. Baker.....	do now Copper Id.
14	Sadie Turpel.....	56	19	A. S. Crane.....	do now in Japan.
15	Vera.....	60	22	W. T. Bragg.....	do do
16	Penelope.....	70	26	D. G. Macauley.....	do from Victoria.
17	Beatrice.....	66	27	W. Heater.....	do do
18	Dora Siewerd.....	93	30	H. F. Siewerd.....	do do
19	Zillah May.....	66	31	S. Balcan.....	do do
20	Otto.....	86	32	J. McLeod.....	do do
21	Minnie.....	46	33	V. Jacobsen.....	do do
22	City of San Diego.....	46	34	D. Martin.....	do do
23	Arietis.....	86	35	P. Martin.....	do do
24	Ocean Belle.....	83	36	R. Cox.....	do do
25	Enterprise.....	69	37	J. W. Todd.....	do do
26	Teresa.....	63	38	G. Meyer.....	do do
27	Fawn.....	59	40	M. Foley.....	do do
28	South Bend.....	21	42	C. F. Dillon.....	do do
29	Victoria.....	63	44	R. Balcan.....	do do
30	Favourite.....	80	45	R. McLean.....	do do

It will be observed that as previously intimated, of these vessels so cleared direct from Victoria, ten crossed from the Japan coast, and one from vicinity of Russian Islands.

THE SEASON'S CATCH.

The following table prepared by the collector of customs, at Victoria, B.C., comprises a complete detailed return of the season's operations of the Canadian sealing fleet, and a statement of the vessels, tonnage, masters, crews, both whites and Indians, as well as boats and canoes employed in the industry.

BRITISH COLUMBIA

Vessels.	Tons.	Master.	CREWS.		BOATS.		British Columbia Coast.	
			White.	Indians.	Boats.	Canoes.	Males.	Females.
Agnes McDonald.....	107	F. M. Cutler.....	27		8			
Ainoko.....	75	G. Heater.....	6	26	2	13	22	385
Allie I. Alger.....	75	R. A. Lavender.....	24		7		286	354
Amateur.....	18	C. Jipson.....		14		7	1	19
Annie E. Paint.....	82	A. Bissett.....	26		9		26	45
Arietis.....	86	P. Martin.....	6	27	2	14	96	71
Beatrice.....	66	W. Heater.....	4	25	2	12	103	55
Borealis.....	39	A. Nelson.....	20		6			
Casco.....	63	C. Le Blanc.....	20		6		5	9
C. D. Rand.....	51	J. A. Townsend.....	21		6		147	155
C. G. Cox.....	76	W. D. Byers.....	26		8		62	110
City of San Diego.....	46	L. McGrath.....	6	18	1	9	39	22
Director.....	87	F. W. Gilbert.....	23		7		1	3
Dora Siewerd.....	94	H. F. Siewerd.....	8	30	2	15	52	33
E. B. Marvin.....	96	C. J. Harris.....	9	32	2	16	154	123
Enterprise.....	69	J. W. Todd.....	8	26	2	13	21	17
Favorite.....	80	L. McLean.....	7	26	2	13		
Fawn.....	58	M. Foley.....	6	20	1	10	29	22
Fisher Maid.....	21	C. Chipps.....		13		6	7	20
Geneva.....	93	W. O'Leary.....	20		6			
Labrador.....	25	M. Pyke.....	6		3		14	11
Mary Taylor.....	43	F. Cole.....	7	24	2	12	80	229
Mary Ellen.....	63	D. McPhee.....	24		7		123	167
Maud S.....	97	R. McKiel.....	7	20	2	10		
Minnie.....	46	V. Jacobsen.....	6	22	2	11	59	42
Mermaid.....	73	J. W. Anderson.....	22		7		12	139
Mountain Chief.....	23	J. Nawassum.....		16		8	5	7
Ocean Bell.....	83	R. Cox.....	7	23	3	11	130	37
Otto.....	86	J. McLeod.....	7	35	3	14	128	65
Pachwelius.....	19	J. Nyvetan.....		20		10	9	15
Penelope.....	70	D. McCauley.....	6	25	2	12	89	30
Pioneer.....	76	W. E. Baker.....	24		7		210	392
Sadie Turpel.....	56	A. L. Crane.....	23		7			
Sapphire.....	109	W. Cox.....	9	30	2	15	68	30
South Bend.....	21	E. F. Dillon.....	4	9	1	5		1
Teresa.....	63	G. Meyer.....	8	24	2	12	18	35
Triumph.....	98	C. N. Cox.....	7	40	3	18	142	67
Umbrina.....	99	C. Campbell.....	25		7			
Vera.....	60	W. T. Bragg.....	20		6			
Victoria.....	60	J. Haan.....	9	18	2	10		
Zillah May.....	66	S. Balcan.....	7	24	2	12	125	39
Canoes.....								
*41 vessels.....	2,708		495	587	149	288	2,263	2,819

RECAPITULATION.

Crews.	White.	Indian.	Total.	Boats and Canoes	Boats.	Canoes.	Total.
	495	587	1,082		149	288	437
Sealing Stations.					Males.	Females.	Totals.
British Columbia and North Pacific Coast.....					2,263	2,819	5,082
Japan Coast.....					3,677	3,644	7,321
Copper Island Coast.....					454	928	1,382
Behring Sea.....					6,549	9,058	15,607
Total.....					12,943	16,449	29,392
Indian Canoe Catch.....							1,018
Grand Total.....							30,410

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Sealing Report, 1897.

PARTICULARS OF CATCH.						Total.	Remarks.	Number of Special Sealing License.
Japan Coast.		Vicinity Copper Island.		Behring Sea.				
Males.	Females.	Males.	Females.	Males.	Females.			
308	181			512	412	489	(Wrecked, 5 miles south of Akishi,) (Japan, 21st June, 1897.)	20
						1,331		10
						640		12
						20		21
373	446	6	9	136	257	1,298		8
				368	529	1,064		35
				217	362	737		27
154	154	2	4	66	246	626		14
432	430	49	139			1,064		2
						302		3
381	637	85	163			1,438		11
				182	220	463		34
426	439	56	127			1,052		13
				558	696	1,339		30
				396	577	1,250		15
				134	381	553		37
				299	254	553		45
				233	207	491		40
						27		24
120	269	88	249	25	53	804		9
						25		39
				195	370	944		1
						290		4
							(Wrecked, catch of 11 skins lost,) (Queen Charlotte Isl'ds, Apl. 23 '97)	29
				403	492	996		33
468	362	40	102			1,123		5
						12		25
				449	343	959		36
				404	424	1,021		32
						24		23
				292	411	822		26
		128	135	10	3	878		18
430	217			88	164	899		19
						98	(Burnt at sea, lat. 48°30' N, long.) (125°55' W., April 23rd, 1897.)	16
						1		42
				235	560	848		38
				690	861	1,760		17
433	385			48	142	1,008		6
152	124			114	150	540		22
				96	680	776		44
				399	264	827		31
						1,018	Indian catch, B. C. coast.	
3,677	3,644	454	928	6,549	9,058	30,410		

While the catch this season has fallen much below the average, the number of vessels engaged decreased from 64 in the previous year to 44, a figure far smaller than the average for the past seven years.

This is attributed to many causes, the remedy of some of which may be in the hands of the sealers themselves. The tremendous drop in the price of sealskins, together with previous small profits, and the misfortune of the loss of vessels, unwittingly getting within the prohibited zone, and other minor matters all, however, have had a tendency to deter many of the vessel owners from embarking in the industry this season. While a continuance of like conditions might be expected to continue this deterrent effect, it is nevertheless true that considering the number of vessels actually employed, the catch of this season does not fall much below the average catch per vessel in the previous year; hence the result of the London sales of sealskins just reported, which shows a jump of 20 per cent higher than the last sale, may make the season's venture a lucrative one for those who were engaged in it.

As the information of this large advance in the price of skins comes at a time when the sealers are actually preparing for their voyages, it cannot but exert a great influence on the owners of sealing vessels who, under the low prices prevailing, would not have fitted out this year. Hence in the face of this incentive there is every reason to expect that many of the schooners which, otherwise would have remained in port, will be found in the sealing fleet of 1898.

It is worthy of note that even in years when the smallest catches have been made, the sealers have reported plenty of seals at sea, that is to say that generally speaking they observed no marked diminution in the number of seals seen as compared with previous years, nor have such reports been confined to them. The captains of patrolling vessels have given similar testimony. That larger catches have not been taken under these conditions has been attributed to stormy weather and to increased wariness of the seals.

The present season is no exception to this rule and the reports still exist.

In considering the question of stormy weather as affecting the catch, it should not be forgotten that in the earlier days, when the sealers could enter Behring Sea in June, and leave when they chose, the comparatively stormy weather of the latter part of August and beginning of September, used to be considered so correspondingly unfit for sealing, that many of them having had almost a full season in the sea, left in August, and very few, if any, remained after the first week of September.

There were, of course, exceptions to this rule, and it was proved that good catches could be and were made well on into September, but when the sealers had made a fair average catch during June, July and August, as the boisterous weather approached and their crews and hunters desired to return home, they generally left on account of so-called bad weather. The unpropitiousness of the weather of course increased as the season advanced. Thus we find in the early history of the industry that comparatively little or no bad weather was experienced in actual hunting operations. These conditions, by the Paris regulations, are entirely changed. Apart from the widening of the territorial zone to one of 60 miles, necessitating a correspondingly greater distance from the lee of the shores, the close season is so arranged that vessels are not permitted to enter Behring Sea before 1st August, after two of the best sealing months are over, and very shortly before the admittedly bad weather has begun.

An examination of the sealing logs on file in the department, will show that of the vessels in Behring Sea this year, the last hunting days were as follows:—

1 vessel, 8 September.	4 vessels, 17 September,
1 do 11 do	8 do 19 do
2 do 13 do	1 do 21 do
1 do 14 do	1 do 26 do
4 do 15 do	1 do 4 October.

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So that it will be seen that the Behring Sea season consists of little over a month and a half, not half of which period is favoured with admittedly good weather, as judged by the old standard, and that vessels to make anything like a profitable venture are compelled to remain hunting as long as the weather will permit, or practically a month later than the date which in the earlier years of the business was tacitly looked upon as the beginning of unfavourable weather.

It would thus appear that so far as the Behring Sea season is concerned, there can be no doubt that the hunting operations under the terms of the Paris Award, are necessarily pursued in much more boisterous and therefore unpropitious weather, than when the hunting was carried on in June and July as well as August.

Nor is the change of conditions confined to the effect produced through change of dates and consequent weather, but it has been suggested that the increasing wariness of the seals may be largely due to the constant disturbance of the water of the sealing grounds by the propellers of patrolling cruisers.

It might perhaps be interesting to briefly examine the possible effect in this direction of the extensive patrol as conducted. A brief scrutiny of the logs of the sealers on file in the department, will show the average position of the sealers in Behring Sea to have been, this season, to the south and south-east of a 60 mile zone around the Pribylov Islands; thence a reasonable hunting distance seaward in the track of the seals.

The bulk of the sealers were, therefore, to be found in what may be called a comparatively restricted area.

Whatever may be argued as to the effect of the moving vessels upon the animals and their timidity generally, from a natural history point of view, involving their subsequent movements or change of habitat, from a practical point of view it does not seem open to doubt that it must exert an immense influence upon the operations of the sealers hunting at sea. It is a well-known fact that successful seal hunters depend principally upon finding the seals asleep at sea, and that although they are taken at other times, and the sealer will try for everything within reasonable reach, it is from the sleeping animals that the sure and remunerative "takes" are sought after and secured.

It therefore goes without saying that any constant commotion in these remote seas caused by the disturbance of the waters, involved in the passing and re-passing of these steamers, must at least to the extent it would disturb seals asleep upon the surface of the sea, deter or hinder successful seal hunting.

When it is considered that the early pelagic sealing operations began in these seas when they were to all intents and purposes peaceful, and unaffected by any of the disturbing influences of vessels of war or of commerce, it should not require much argument to force the conclusion that the changed conditions must materially influence the success of the hunters.

The point which such interference might reach could perhaps best be suggested by a glance at the charts showing the tracks of the United States patrol fleet in Behring Sea, were these available at the moment, but in the Departmental Report for 1895, under the heading "Boarding of British Vessels by U.S. Patrol Ships" the extent of the patrol is shown at considerable length.

Out of 35 vessels visited between the 3rd August and 20th September,

7	vessels	were	boarded	once.
10	do	do	twice.	
4	do	do	three times.	
6	do	do	four times.	
5	do	do	five times.	
3	do	do	six times.	

This represented actual visits to sealers irrespective of constant passing and re-passing.

This year there were 8 steamers engaged in the patrol.

THE PATROL FLEET.

The vessels engaged in the patrol of Behring Sea, during the season, to enforce the award regulations, were H.M.S. "Amphion," "Wild Swan" and "Pheasant," and the United States revenue cutters "Bear," "Rush," "Corwin," "Perry," and "Grant."

DISASTERS.

The list of casualties this year was somewhat large as compared with the comparatively small fleet.

The schooner "Agnes McDonald," 107 tons, was wrecked 5 miles south of Akishi, on the coast of Japan on the 21st June, 1897.

The schooner "Maud S," 97 tons, was wrecked off Queen Charlotte Islands on April 23rd, 1897, and the schooner "Sapphire," 109 tons, was burned at sea in latitude 48° 36' N, longitude 125° 55' W, on the 23rd April, 1897. It will be noticed that these vessels were among the largest in the fleet.

PROPOSALS FOR SUPPLEMENTARY ARRANGEMENTS.

In the report of last year, under the heading "Proposal for supplementary arrangements as to fire-arms and expert examination of seal skins," the propositions of the United States government in this regard were explained and their previous connection with the agreement for sealing up of fire-arms, referred to.

As regards the proposal for an expert examination of seal skins by United States officials on the return of the vessels to their home ports, for the purpose of determining the sexes of the animals from which they had been taken and whether they had been killed by spears or fire-arms, it was shown the Canadian government had been wholly unable to assent to such an expedient, and the grounds upon which such a decision was reached were fully explained.

Touching the concurrent proposal which was:—

1. That vessels proceeding direct to Behring Sea from Victoria, should present the certificate of the collector of customs that no fire-arms were on board, to the collector of customs, or to the commander of the United States fleet patrolling Behring Sea, at Ounalaska; that thereupon such vessels be searched by duly authorized patrolling officers, and the fact endorsed on the certificate, that such certificate duly endorsed may be accepted by the officers of the patrolling vessels as evidence of the fact that no fire-arms are concealed on board; unless some information or evidence of violation of law, other than mere suspicion, is in the possession of, or found by the boarding officer.

Although unwilling to admit the necessity for the endorsement of the British certificate by United States officials, rather than appear as interposing any undue objections to proposals of such a nature as to render their acceptance at all possible, the Canadian government yielded to the wishes of the United States government, on condition that it should be distinctly understood that the language of the proposal should be changed so that the words "may be accepted" should read "shall be accepted," and that the endorsed certificate should be accepted by all boarding officers as proof that no fire-arms were carried.

The United States government, however, were unwilling to agree that the endorsement under such conditions should be final, holding that further search would be useful.

Thus no agreement was reached during the sealing season for the application of any supplementary proposals.

Correspondence on the subject was renewed by the United States in an endeavour to secure some arrangement which might be put in force during the season just closed, and they pressed for an agreement involving a return to the arrangement for the sealing up of arms.

Marine and Fisheries—Fisheries Branch.

On renewal of these propositions, the ground taken by the Canadian government was that there was nothing to justify supplementary measures in excess of the actual requirements of the Behring Sea Award Regulations.

The question had already engaged the attention of the government which had been willing to sanction a conditional agreement touching certificates of sealing vessels as to the presence of fire-arms on board in Behring Sea, which had failed to satisfy the United States, even though providing for a search by their own officials.

While nothing had occurred to change the views of the Canadian government, which still had full force and effect, and therefore no grounds existed upon which a reversal of those views could be based, and while still adhering to the belief that the practical extension of the regulations in the direction asked by the United States, instead of being operative of good, would prove a source of further complication and difficulty, nevertheless if in the opinion of Her Majesty's government the sealing up of arms on voluntary application of the masters, would tend to obviate useless searching and consequent irritation arising therefrom; and if Her Majesty's government were further of opinion that any guarantee against its improper use with attendant immunity from interference could be had, the Canadian government, with every desire to remove all cause of friction, would be inclined to defer to the wishes of Her Majesty's government, in so far as a renewal of the agreement for the sealing up of arms was concerned.

As regarded, however, the suggested examination of seal-skins on the arrival of the vessels at their port of destination, Canada remained satisfied that the reasons previously given were conclusive against the unnecessary concessions which the adoption of such a regulation would involve.

When the willingness of Her Majesty's government to renew the agreement for the sealing up of arms which had been in force during 1894, was communicated to the United States government, objection was taken to the insufficiency of such an arrangement, which it was said, was merely of a temporary and provisional nature, and inadequate to properly carry out the intent and purpose of the award, and therefore the proposal of Her Majesty's government for a renewal of the said arrangements was not acceptable to the United States' government.

At the same time the United States offered to give British sealers the benefit of articles IV., V. and VI. of the "Regulations governing (United States) vessels employed in the fur-seal fishing during the season of 1897."

The articles read as follows:—

ARTICLE 4.

In order to protect from unnecessary interference, sealing vessels found within the area of the award, during the closed season (that is to say between 30th April and 1st August), but which have not violated the law, any sealing vessel intending to traverse the area of the award during said closed season, on her way to her home or other port, or to or from the sealing grounds, or for any other legitimate purpose, may, on the application of the master, have her sealing outfit, including guns and ammunition, secured under seal, and an entry thereof made on her log-book. Such sealing up and entry shall be a protection to the vessel against seizure during the closed season, by any cruiser, so long as the seals so affixed shall remain unbroken, unless there shall be evidence of violation of the articles of the Award and said Act of Congress of 6th April, 1894, notwithstanding.

ARTICLE 5.

Such sealing up and entry may be effected in port or at sea, by any naval, consular, or customs officer of the United States, and at sea also by the commander of a British cruiser. An officer will be stationed at the island of Attu for this purpose from 1st July to 25th August.

The officer effecting the sealing up shall make entry in the vessel's log-book, certifying the fact and stating in detail the number and kind of guns and other sealing implements, the amount and kind of ammunition, and the number and sex of the seals and seal-skins on board.

ARTICLE 6.

All sailing vessels, bound to Behring Sea for the fur-seal fisheries, shall, before engaging in fur-seal fishing within the Award area in said sea, report to the officer of the Revenue Cutter Service stationed at Attu Island, or to the Deputy Collector of Customs at Unalaska.

The said officers shall respectively secure under seal the guns and ammunition on board all vessels thus reporting, which have not already been so secured under the provisions of article 4 of these rules and regulations, and shall in either event, make due entry thereof on the log-book of said vessel, stating in detail the number and kind of guns and other sealing implements, the amount and kind of ammunition, and the number and sex of the seals and seal-skins on board. Such sealing up shall afford the same protection as is provided under said article 4. In lieu of said sealing up the master of any vessel so reporting may deliver all guns and ammunition on board to the customs or revenue officers, respectively, in charge of said islands, said guns and ammunition to be held at the sole risk of said master until called for at the end of the sealing season.

Her Majesty's government was unable to accept the proposal for the adaptation of these regulations to British sealing vessels, but announced its willingness to instruct and subsequently did issue instructions to Her Majesty's ships patrolling the area affected by the Award, to seal up the arms and ammunition of any British vessel which might apply to them for the purpose, and at the same time to enter the fact upon the vessel's log.

This was acknowledged by the United States government, although it was feared that the intimation would reach the commander of the United States patrol fleet too late for the sealing season.

REQUEST OF SEALERS FOR RELAXATION OF PARIS REGULATIONS.

Early in the year the government received from the Governor of British Columbia an approved report of a committee of the Executive Council, setting forth that any agreement such as appeared possible for the closure of Behring Sea, would practically destroy the sealing industry in the province and jeopardize the financial position of a large number of persons whose interests were involved.

The present regulations had seriously affected the sealing industry and caused a falling off in the catch, which coupled with the low prices prevailing in the London markets, had resulted in great loss to the owners of sealing schooners and all concerned.

Three of the best sealing months—two on the coast and one in Behring Sea—formed the close season, and in other respects the regulations were arbitrary and excessively severe, therefore any revision should be in the direction of modification and provide against hardships and loss to the fleet, arising out of seizures on merely suspicious circumstances or for technical violations of the law, in order that the sealing business might be placed on a more secure basis.

This was followed by a further report of the Executive Council suggesting certain changes in the regulations, if a modification be found desirable at the end of 1898, in accordance with the award.

The adoption of such regulations it was thought would enable the sealers to carry on their industry without any unnecessary loss, and without any serious detriment to the seal herds.

These representations on behalf of the sealers were forwarded to Her Majesty's government, in order that they should have the benefit of the views of the sealers when approaching the discussion of any revision of the regulations, which may eventually require consideration.

Marine and Fisheries—Fisheries Branch.

It may not be inopportune, to remark in this connection, that notwithstanding the attitude of the United States government, and their unwearied efforts to mould the general opinion in the direction that seal hunting at sea must of necessity be discontinued, under the circumstances; there is nothing whatever in the Paris Award, nor in the specific portion thereof, which provides for a possible revision, that can give any colour to a demand that such a revision must need be directed solely to the detriment of pelagic sealing.

It is not to be forgotten that the necessity for a revision or modification of these restrictions is, by the terms of the award, made contingent upon the common agreement of the two governments, and a submission thereof every five years to a new examination is to enable both interested governments to consider whether, in the light of past experience, there is occasion for any change.

Considering the present condition of affairs, it may be that the full limit of restriction, especially in Behring Sea, consistent with a reasonable participation in the business, has been exceeded by the present regulations.

There is no necessity to attempt to justify the pelagic sealers; they are established in their vocation, with rights to be respected on the one hand and protected on the other; hence any new regulations must contemplate this position.

The opposing side should surely face the facts as they are found to exist, and if it be established that the two interests cannot proceed side by side, there seems to be no reason why the more general one should be sacrificed if the exigencies of the case seemed to demand the sacrifice of either.

PROPOSED CHANGES IN AWARD REGULATIONS.

Since the first year's test of the Paris Regulations, the United States government have been unremitting in their efforts to effect a revision of the restrictions upon pelagic sealing, and to bring into use some other code of regulations designed to entirely suppress all killing of seals at sea.

In April, 1897, this phase of the question developed in a proposal through the United States Ambassador at London, setting forth that as a result of the investigations into seal life conducted during 1896, the existing state of the Alaskan seals had forced itself, in the midst of many cares attending the organization of the administration, upon the attention of the President, to whom the depleted condition and prospective early extinction of the herd are matters of grave concern.

The Ambassador was consequently directed to communicate to Her Majesty's government the President's earnest hope and expectation that effective measures be immediately adopted by the respective governments, with a view to putting a stop to the indiscriminate slaughter of seals through pelagic sealing.

An immediate *modus vivendi*, based upon that of 1891, with equitable provision for the various interests involved, suspending all killing of all seals during the season of 1897, in Behring Sea, was proposed, such *modus vivendi* to be accompanied by an arrangement for a joint conference of the powers concerned for the purpose of agreeing upon necessary measures for the preservation of the seals in the North Pacific Ocean from extermination.

It was argued that to defer taking up the subject until the termination of the season of 1898, as contemplated by the Paris Award, would be fatal to the object in view, as should the destruction continue during two more seasons, the seals would have disappeared, and with them the necessity for a conference.

The views of the Canadian government as to the statement that the inference to be drawn from recent investigations was corroborative of the previous statements of the United States authorities as to the extent of the alleged decrease in seal life, were shown in an examination of the estimates in the number of fur-seals of all classes on the Pribilof Islands in 1895 and 1896.

Reference to United States Senate Executive Document, No. 137, part II., 54th Congress, 1st Session, p. 234, showed that Mr. Charles H. Townsend in 1895, estimated the number of breeding females on St. Paul and St. George Islands at 65,239 at the height of the season; 75,000 was the largest number he would admit were there.

Mr. Townsend is said to have had greater experience than any other agent of either the United States or British governments who visited the islands, and his estimate of the number of breeding seals in 1895 might be taken to be as nearly correct as possible.

It was discovered in 1896, however, that the count of breeding females at the height of the season represented only four-sevenths of the actual number, that is to say it was found there were 75 per cent more pups than the number of cows counted, so that in 1895, if the conditions were the same as in 1896, there were according to Mr. Townsend's estimate, 65,239 plus 75 per cent breeding cows, i.e.: 114,166.

Mr. F. W. True, curator of mammals, United States National Museum, also made a careful estimate of the seals of all classes on the Pribylov Islands in 1895. His estimate seems to have been carefully made. His estimate of the number of breeding seals on St. Paul's Island was 61,436, and on St. George Island 8,987, a total for both islands of 70,423. This estimate is about 5,000 higher than Mr. Townsend's specific figure, and about 5,000 lower than his maximum figure. If 75 per cent be added to Mr. True's estimate, the total number of breeding females in 1895 would be 123,240.

The actual number was probably somewhere between the figures of Mr. Townsend and Mr. True.

In 1896, counts and estimates similar to those of Messrs. True and Townsend, for the previous year, were made by Dr. Jordan, United States, Prof. Thompson, British, and Mr. Macoun, Canadian experts.

The actual number of breeding females on the Islands at one time at the height of the season, was estimated to be 81,793 as compared with Mr. Townsend's estimate of 65,239 and Mr. True's of 70,423 in 1895.

The total number of pups born in 1896 (143,071) was found to exceed the number of cows counted by 75 per cent; adding this 75 per cent the result is:—

		Cows.	Pups born.
Mr. True,	1895.....	70,423	123,240
Mr. Townsend,	1895.....	65,239	114,166
Observers of	1896.....	81,793	143,071

The estimates of these years are based on actual counts on several rookeries, and the rookeries available for comparison are Katavie and Lagoon.

In 1895, Mr. True found in Lagoon rookery at the height of the season 1,264 cows. Mr. Townsend found on the same rookery 1,216. Sen. Ex. Doc. No. 137, pt. 2, 54 Cong., 1 Sess., p. 101-135. In 1896 the count of the same rookery at the height of the season showed 1,474 cows. Dr. Jordan's Rept., p. 16.

In 1895 Mr. True found on Katavie rookery 2,640 cows: Mr. Townsend counted only 2,218, however, and Mr. True may have included part of Lukannon rookery which joins Katavie. S. Ex. Doc. p. 101-135.

In 1896 at the height of the season, 3,152 cows were counted on Katavie, a very material increase as compared with even Mr. True's count.

While in 1895 Mr. Townsend made no estimate of the whole number of seals on the Islands, Mr. True did, placing the numbers of bachelors, breeding bulls, cows and pups, on both islands at 155,977. This estimate was too small, because the actual number of cows is now supposed to have been 75 per cent larger than those counted, and he included no estimate of virgin females.

When these two factors are taken into consideration the total number of seals in 1895, according to his estimate, would be about 250,000.

Dr. Jordan in 1896, estimated the whole number of seals on the islands at from 429,147 to 479,147 a number greatly in excess of the 1895 estimates.

Mr. Macoun's estimates for 1896, are considerably higher than Dr. Jordan's. He placed the total number of seals upon the islands at 503,647.

In 1895 Mr. True estimated the whole number of bachelors of all ages, including the quota killed by the company at 24,144, whereas the lessees, during 1896, secured 30,000 first class skins without difficulty.

Therefore there was no evidence or data of any kind showing a decrease in the herd of seals between 1895 and 1896, beyond the bald statements in denunciation of pelagic sealing.

Marine and Fisheries—Fisheries Branch.

It was contended also that the investigation had practically disposed of one of the principal arguments of the United States as to the cause of death of pups upon the islands. This point is fully dealt with in this article under another heading.

The seizure of British ships on the high seas raised only the question of right under international law, but in the course of the voluminous correspondence the United States successfully contended against the Canadian position, and the Paris Award not only dealt with the question of natural history, which Canada had endeavoured to keep outside the field of arbitration and which involved the regulation of the sealing industry on the high seas, but gave to it a very important position in the findings.

When the award regulations became known the United States authorities and those more intimately connected with the proceedings at Paris, did not hesitate to express the opinion that pelagic sealing could no longer proceed with profit, and that the interests of the lessees of the sealing privileges on the Pribylov Islands would not under the new condition of affairs be injuriously affected.

Every effort was brought to bear for the immediate adoption of legislation, and such legislation and instructions as were provided were considered by Canada to exceed in stringency the Treaty and Award obligations.

But pelagic sealing could and did proceed notwithstanding, and this fact alone was sufficient to condemn the regulations in the face of the undoubted rights of the sealers.

The position that the Paris Regulations should have the fair trial which the five years' term contemplated, or at any rate no revision thereof should be agreed to before the expiry of that term was adhered to, especially as no evidence had been adduced to show that the regulations had failed in their effect.

Touching the proposed international conference, a similar proposition had been advanced in 1895 and fully discussed. The controversy between the United States and Great Britain was limited to the protection of the seals on the Pribylov Islands, a matter in which no other nation had any concern.

No question had ever been raised as to the obligatory nature of the regulations, and obligations to the award, as well as to principle of arbitration, seemed to preclude any precipitate or premature revision.

Those engaged in the legitimate and precarious vocation of pelagic sealing it was considered had reason to expect ordinary protection in their rights, and there was no ground to regard their competition with others other than in the ordinary light.

It is impossible to reconcile the two methods of reaping the seal harvest, but no reason has been shown why the pelagic sealing industry alone should suffer, unless it be a desire for the rehabilitation of the lessees of the islands in a monopoly of the fur-seal business.

Without an entire reversal of position, Canada could not entertain any views on this renewed proposal for a suppression of pelagic sealing other than in direct opposition thereto.

Only two sealing seasons intervened between the date set for the revision of the regulations, and it did not seem unreasonable to expect of the United States government that they should abide by the regulations which had been brought about through their own exertions.

It was believed that it had been clearly demonstrated that there was no ground for the fear expressed by the President of the early extinction of the seal herd, or of the anticipated disappearance of the seals before the time arrives for the revision of the regulations under the terms of the award.

Indeed just grounds appeared to obtain from which to reach the exact opposite conclusion, and no justification was apparent to anticipate any abnormal decrease or destruction during the remaining two seasons.

In the face of the fact that it was the intention of Great Britain and Canada to continue expert examination into seal life during 1897, by which it was expected to augment very considerably the information possessed as to the contentions affecting

the relative destruction of pelagic sealing, which contention had been materially weakened by the observations of 1896; the time did not seem ripe for change.

There was besides a very practical difficulty in the way of an *interim* arrangement in the fact that the sealers were already operating on the Asiatic side, and under the most favourable circumstances any *modus vivendi* could be but a partial success.

Moreover, in view of their vindicted rights, the sealers could with much more reason and justice demand full and complete compensation for the loss or interference with their business than in 1891, before the Paris Award, for which year Great Britain paid them a large sum when they prohibited sealing on Behring Sea, thus admitting the principle of compensation.

Neither Great Britain nor Canada could be expected to contribute to compensation under the changed conditions for a curtailment of rights of the sealers in the open ocean.

However important it might be that wholesome and economic regulations should exist for the preservation of the seal race, there were yet to be safeguarded the interests of Her Majesty's subjects in Canada in a reasonable participation in an important industry expressly sanctioned and regulated by international arbitration.

The result of the proposal was instructions from the Imperial Government to the Ambassador at Washington, 22nd April, 1897, for a reply to the United States Government to the following effect.

Similar statements as to the immediate disappearance of the herd had been made in previous years, but experience had shown that the fears then expressed were groundless, and Her Majesty's government were convinced that they would prove to be equally so on the present occasion. The small catch and low prices obtained for the skins in 1896 brought many of the owners of the sealing vessels to the verge of bankruptcy, and were Her Majesty's government to prohibit pelagic sealing altogether for 1897, it would mean the probable ruin of a considerable number of British subjects engaged in a lawful industry. Of course, if the United States government were prepared to give adequate compensation to the sealing fleet on account of its enforced abstention from the fishery during the season, Her Majesty's government would have no reason for refusing their assent to the proposal for a *modus vivendi*, but they did not gather that such was the case, and it would be impossible for them to submit a vote to Parliament for the purpose, holding as they did that no sufficient reason had been shown for its necessity.

As regards the proposed conference, Her Majesty's government believed that further investigation was necessary on many points connected with seal life before the questions at issue could be discussed with the hope of attaining any satisfactory result.

Dr. Jordan and Professor Thompson were agreed upon the importance of an accurate count of seals on the principal rookeries during several seasons in order to ascertain the changes from year to year, and there were other important points mentioned in the conclusion of Mr. Thompson's report on which, pending further inquiry, he found it desirable to suspend judgment.

Admittedly, the investigations of 1896 afforded for the first time any really reliable statistics in regard to the condition of the herd, and all previous reports received on the subject were practically valueless for purposes of comparison.

To estimate accurately the effect on the herd of the various agencies for the time at work, reliable statistics, extending over a sufficient period to enable accidental circumstances to be eliminated, should be available, and Her Majesty's government adhered to the view that further investigation was required before the question of revising the regulations could be considered.

In a later communication, 7th May, referring to the same proposal, the Marquis of Salisbury wrote the Ambassador at Washington as follows:

"Until such information is available it would, in the opinion of Her Majesty's government, be premature to enter upon the proposed conference to discuss measures based on conjectures admitted to be of doubtful value, and the interests of this country in the question are too serious to warrant Her Majesty's government in imperilling them by the adoption of any hasty decision."

Marine and Fisheries—Fisheries Branch.

EXPERT INVESTIGATION ON THE PRIBYLOV ISLANDS.

The expert examination into seal life on the rookeries was continued during the season just closed, Her Majesty's government being represented as in 1896, by Professor D'Arcy Wentworth Thompson and Mr. Barrett-Hamilton, and the Canadian government by Mr. James M. Macoun. The United States representation was entrusted again to Dr. David Starr Jordan and his assistants.

A notable feature in the results of this year's investigations was the discovery of the vast inroads upon the herd by the parasitic worm *uncinaria*, which was found to exist to a most alarming degree in the nursing pups. So destructive is this parasite now known to be that it is admitted that the number of dead pups counted on the rookeries between August 8th and 14th, 1896, 11,045, while recognized to be an under estimate, was almost wholly attributed to the ravages of this deadly scourge, and there is every reason for believing the effect to be continuous throughout the whole season since the death rate still increases.

It will be remembered that prior to the recent investigations into the natural history of the seals, even as recently as 1894 and 1895, the large number of dead pups found upon the islands was charged entirely and without qualification to the effects of pelagic sealing through killing the nursing mothers at sea, their offspring dying from starvation upon the islands.

From that contention the Canadian government has sedulously dissented, holding that some other and more reasonable causes were to be sought for the abnormal death rate of the young pups in their natural environment.

The observations of 1896, however, tended very considerably to nullify the United States contentions, and at least to make it necessary to greatly qualify the broad and unsupported assertions in the one direction. Hence, it was demonstrated that among the natural causes of the death of pups were to be found the important factors: trampling by fighting bulls or by moving bulls and cows; starvation of pups strayed from their mothers or who had lost their mothers from natural causes; ravages of the killer whale; drowning in storms and many other minor causes which might be enumerated.

It may here be mentioned that while in 1896 great stress was laid upon the loss of young seals through trampling, the importance of this particular source of loss was much diminished by the facts demonstrated in 1897 as to the effects of the *uncinaria*.

If Canada had to look for any further vindication of her attitude in this respect, it is surely to be found in the extraordinary developments of 1897, which has unmasked a menace to seal life, in the shape of a parasite, of which the pelagic sealers are profoundly innocent, and which far outweighs any factor of destruction that has ever yet been shown to obtain or even has been charged.

The facility with which this cause of death might be confounded with starvation, will appear from the following extract from Mr. Macoun's report: "The number of 'so called starving pups must also have been greatly overestimated in 1896. One 'of the effects of the *uncinaria* is to give the pups upon which it is preying a woe-begone listless look that has hitherto been assumed by everyone—myself included —to be a sure sign of starvation."

Canada has never contended that pelagic sealing may not have been one of the causes of the death of pups, only that it has not been the main cause of death, or as has been so persistently contended by the United States government, the sole cause.

Let us consider the effect of these discoveries. We find admittedly, say 11,000 dead pups upon the islands from one known cause, whose mothers need no longer remain there for the purpose of looking after their young. Hence, we could have at sea a corresponding number, 11,000 females with milk, to all appearances nursing mothers, every individual of which might be killed by the pelagic sealers without involving the loss of a single pup upon the islands.

It has been time and again asserted by the United States that female seals killed at sea were either pregnant or nursing, the former on the coast and the latter in Behring Sea. It is now admitted, however, that there are included not only these

classes but also young seals that are not pregnant and others that have not yet brought forth young, with such others also as have lost their young through the various causes of natural mortality.

Contrasting this fact with the attitude of the United States, that every female seal in milk found at sea necessarily left an unprotected pup to starve upon the islands, shows the fallacy of the position so untiringly maintained throughout the diplomatic correspondence.

THE CONFERENCE OF FUR-SEAL EXPERTS.

During the presence in England of the Canadian Premier and the Minister of Marine and Fisheries last summer, the United States Seal Commissioner, Hon. John W. Foster, proposed to Her Majesty's government a conference of the fur-seal experts for the purpose of reaching some common conclusion as to the actual present condition of the seal herd upon the Pribylov Islands.

The Canadian representatives, to whom the proposition was referred, recorded their assent to a conference in effect as follows:—

The proposal was understood to be that a conference or meeting should be had at Washington during the autumn, between representatives of the governments of Her Majesty, the United States and Canada, which conference or meeting should also be attended by the several experts then engaged in making observations and collecting facts with respect to seal life in Behring Sea and the Pribylov Islands. The object of the conference or meeting would be to collate the facts and observations gathered by the experts, with a view, if possible, of arriving at correct conclusions respecting the numbers, condition and habits of the seal herd frequenting the Pribylov Islands at the present time, and as compared with the several seasons since the Paris Award.

It was believed that such a meeting or conference might result in great good. Personal interviews and discussions between the experts would probably result in, at least, an agreement upon the main facts which the respective governments were desirous of ascertaining. The understanding, of course, being that such a meeting or conference would not in any way be authorized to alter or modify the existing regulations under which the sealing industry was being carried on; but regulations could be more intelligently discussed afterwards by the several governments interested, in the light of the facts collected by the experts and collated at the proposed meeting.

This was followed by an agreement between the governments of Great Britain and the United States, which was communicated by the Marquis of Salisbury in a note to the United States Ambassador at the Court of St. James, in the following language:—

In the last paragraph of the despatch addressed to you by Mr. Sherman under date of the 16th May last, and communicated by you to me on the 22nd of that month, a wish is expressed for a conference of the Powers interested in the fur-seal fishery of the North Pacific.

In reply, I have to state that Her Majesty's government are willing to agree to a meeting of experts nominated by Great Britain and Canada and by the United States, in October next, when the further investigations to be made on the islands during the present season will have been completed. *The object of the meeting would be to arrive, if possible, at correct conclusions respecting the numbers, conditions and habits of the seals frequenting the Pribylov Islands at the present time as compared with the several seasons previous and subsequent to the Paris Award.*

It seems to Her Majesty's government that Washington would be the most suitable place for such a meeting.

* * * * *

Efforts were made by the United States government to induce Her Majesty's government to include Russia and Japan in the conference as interested nations, but after considerable correspondence on the subject, Her Majesty's government adhered to the terms of the general agreement, which in no way contemplated the inclusion of nations other than those having direct interest in the Pribylov Islands, and it was not apparent what useful purpose could be served by the participation of Russia and Japan in a meeting of experts appointed to consider the state of the seal herd frequenting them.

If therefore transpired that the final agreement confined the conference to representatives of Great Britain, Canada and the United States, the object and scope of the meeting being formally and expressly defined in language italicized in the above quotation from Lord Salisbury's note.

Marine and Fisheries—Fisheries Branch.

Failing to arrange a conference of broader scope, the United States government participated in a separate meeting with Russia and Japan touching the sealing question just previous to the one above explained. The conclusions reached, however, have not been communicated to the Canadian government, neither Great Britain nor Canada taking any actual interest therein.

The conference between Great Britain and the United States met at Washington on the 10th November, 1897, the delegates being:

On the part of Great Britain, Professor D'Arcy Wentworth Thompson.

On the part of Canada, James Melville Macoun.

On the part of the United States, Hon. Charles Sumner Hamlin and Dr. David Starr Jordan.

Mr. C. F. Frederick Adam, representing Her Majesty's Embassy, Hon. Sir Louis H. Davies, representing Canada, and Hon. John W. Foster, representing the United States, attended the meeting.

The conference was concluded on the 17th November, 1897, after a "Joint statement of conclusions respecting the fur-seal herd frequenting the Pribilof Islands and Behring Sea" had been formally agreed to and signed by the several delegates.

The text of the finding of the experts is as follows:—

Joint Statement of Conclusions Respecting the Fur Seal Herd Frequenting the Pribilof Islands in Behring Sea.

The undersigned, duly empowered delegates, engaged during recent years in the investigation of the condition and habits of the fur seal herd frequenting the Pribilof Islands in Behring Sea, viz. :—
On behalf of Great Britain—D'Arcy Wentworth Thompson;

On behalf of Canada—James Melville Macoun,

On behalf of the United States—Charles Sumner Hamlin and David Starr Jordan;

Have met in conference under instructions from our respective governments. Under these instructions we were directed:

"To arrive, if possible, at correct conclusions respecting the numbers, conditions and habits of the seals frequenting the Pribilof Islands at the present time as compared with the several seasons previous and subsequent to the Paris Award."

As a result of such conference, now completed, we, the above-named Charles Sumner Hamlin, David Starr Jordan, D'Arcy Wentworth Thompson, and James Melville Macoun, find ourselves in accord on the propositions contained in the following joint statement of conclusions respecting the fur seal herd frequenting the Pribilof Islands, and make this our report.

JOINT STATEMENT.

1. There is adequate evidence that, since the year 1884, and down to the date of the inspection of the rookeries in 1897, the fur seal herd of the Pribilof Islands, as measured on either the hauling grounds or breeding or breeding grounds, has declined in numbers at a rate varying from year to year.

2. In the absence for the earlier years of actual counts of the rookeries such as have been made in recent years, the best approximate measure of decline now available is found in these facts:

(a) About 100,000 male seals of recognized killable age were obtained from the hauling grounds each year from 1871 to 1889. The table of statistics given in appendix I shows, on the whole, a progressive increase in the number of hauling grounds driven and in the number of drives made, as well as a retardation of the date at which the quota was attained during a number of years previous to 1889.

(b) In the year 1896, 28,964 killable seals were taken after continuing the driving till 27th July, and in 1897, 19,189 after continuing the driving till 11th August.* We have no reason to believe that during the period 1896 and 1897 a very much larger number of males of recognized killable age could have been taken on the hauling grounds.

The reduction between the years 1896 and 1897 in the number of killable seals taken, while an indication of decrease in the breeding herd, can not be taken as an actual measure of such decrease. A number of other factors must be taken into consideration, and the real measure of decrease must be sought in more pertinent statistics drawn from the breeding rookeries themselves.

3. From these data it is plain that the former yield of the hauling grounds of the Pribilof Islands was from three to five times as great as in the years 1896 and 1897, and the same diminution to one-third or one-fifth of the former product may be assumed when we include also the results of hunting at sea.

4. The death rate among the young fur seals, especially among the pups, is very great. While the loss among the pups prior to their departure from the islands has been found in the last two

* The nominal quota of 30,000 for 1896 and of 20,890 for 1897 included food skins taken in the fall of 1895 and 1896.

years to approach 20 per cent of the whole number born, and though the rate of subsequent mortality is unknown, we may gather from the number which return each year that from one-half to two-thirds have perished before the age of three years—that is to say, the killable age for the males and the breeding age for the females.

5. The chief natural † causes of death among the pups, so far as known at present, are as follows, the importance of each being variable and more or less uncertain :

(a) Ravages of the parasitic worm, *Uncinaria*, most destructive on sandy breeding areas and during the period from 15th July to 20th August.

(b) Trampling by fighting bulls or by moving bulls and cows, a source of loss greatest among very young pups.

(c) Starvation of pups strayed or separated from their mothers when very young or whose mothers have died from natural causes.

(d) The ravages of the great killer (*Orca*), known to be fatal to many of the young and perhaps also to older seals.

At a later period drowning in the storms of winter is believed, but not certainly known, to be a cause of death among the older pups.

6. Counts of certain rookeries, with partial counts and estimates of others, show that the number of breeding females bearing pups on St. Paul and St. George was, in 1896 and 1897, between 160,000 and 130,000, more nearly approaching the higher figure in 1896 and the lower in 1897. **

7. On certain rookeries, where pups were counted in both seasons, 16,241 being found in 1896, and 14,318 in 1897, or, applying a count adopted by Professor Thompson, 14,743 in the latter year, there is evident a decrease of 9 or 12 per cent within the twelve month in question. The count of pups is the most trustworthy measure of numerical variation in the herd. The counts of harems, and especially of cows present, are much inferior in value. The latter counts, however, point in the same direction. The harems on all the rookeries were counted in both seasons. In 1896 there were 4,932; in 1897 there were 4,418, a decrease of 10.41 per cent. The cows actually present on certain rookeries at the height of the season were counted in both seasons. Where 10,198 were found in 1896, 7,307 were found in 1897, a decrease of 28.34 per cent. †

8. It is not easy to apply the various counts in the form of a general average to all the rookeries of the islands. We recognize that a notable decrease has been suffered by the herd during the twelvemonth 1896 to 1897, without attempting, save by setting the above numbers on record, to ascribe to the decrease more precise figures.

9. The methods of driving and killing practised on the islands, as they have come under our observation during the past two years, call for no criticism or objection. An adequate supply of bulls is present on the rookeries; the number of older bachelors rejected in the drives during the period in question is such as to safeguard in the immediate future a similarly adequate supply; the breeding bulls, females, and pups on the breeding rookeries are not disturbed; there is no evidence or sign of impairment by driving of the virility of males; the operations of driving and killing are conducted skilfully and without inhumanity.

10. The pelagic industry is conducted in an orderly manner and in a spirit of acquiescence in the limitations imposed by the law.

11. Pelagic sealing involves the killing of males and females alike, without discrimination and in proportion as the two sexes coexist in the sea. The reduction of males effected on the islands causes an enhanced proportion of females to be found in the pelagic catch; hence this proportion, if it vary from no other cause, varies at least with the catch upon the islands. In 1895, Mr. A. B. Alexander, on behalf of the Government of the United States, found 62.3 per cent of females in the catch of the *Dora Siewerd* in Behring Sea, and in 1896, Mr. Andrew Halkett, on behalf of the Canadian Government, found 84.2 in the catch of the same schooner in the same sea. There are no doubt instances, especially in the season of migration and on the course of the migrating herds, of catches containing a very different proportion of the two sexes.

12. The large proportion of females in the pelagic catch includes not only adult females that are both nursing and pregnant, but also young seals that are not pregnant and others that have not yet brought forth young, with such also as have recently lost their young through the various causes of natural mortality. ††

† That is to say, not including losses ensuing from the killing of mothers at sea.

** The number of dead pups counted on the rookeries between 8th August and 14th, in 1896, was 11,045. It is recognized that this number is an underestimate, inasmuch as a greater number must have been overlooked than were counted twice. It is also recognized that the great majority of these pups died from the attacks of the worm *Uncinaria*.

* The importance of this source of loss we now find to be much less than was supposed to be the case from the investigations made in 1896. (See Reports for 1896, Jordan, p. 45; Thompson, p. 20; Macoun, MSS.)

** For detailed account of the census of 1896, see Jordan, Preliminary Report for 1896, p. 15; Thompson, Report for 1896, p. 19; Macoun, Report, 1896, MSS. For a discussion of suggested corrections to the census of 1896, Jordan, Final Report, 1897. For details of the census of 1897, see Thompson, Report, 1897; Macoun, Report 1897; Jordan, Report, 1897. A correction to be made in the census of 1896 arises from the agreed assumption that the total number of breeding females was 1.75 times the number seen in the height of the season. Later observations show that the actual total is at least twice the maximum number ever seen at once on a rookery.

† The extreme irregularity of the number of cows present on the rookeries from day to day, and the consequent invalidity of any comparison of their number, is shown by the counts made on Lukanin and Kitovi rookeries during the season of 1897. See Appendix II.

†† Statements on which to base an estimate of the relative numbers of these several classes are necessarily incomplete, but the following notes may serve as a partial guide:

Townsend, Report 1895, pp. 46, 47.
Alexander, Report 1895, pp. 142, 143.
Macoun, Report 1897, MSS.
Lucas, Report 1897, MSS.

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13. The polygamous habit of the animal, coupled with an equal birth rate of the two sexes permits a large number of males to be removed with impunity from the herd, while, as with other animals, any similar abstraction of females checks or lessens the herd's increase, or, when carried further, brings about an actual diminution of the herd. It is equally plain that a certain number of females may be killed without involving the actual diminution of the herd, if the number killed do not exceed the annual increment of the breeding herd, taking into consideration the annual losses by death through old age and through incidents at sea.

14. While whether from a consideration of the birth rate or from an inspection of the visible effects, it is manifest that the take of females in recent years has been so far in excess of the natural increment as to lead to a reduction of the herd in the degree related above, yet the ratio of the pelagic catch of one year to that of the following has fallen off more rapidly than the ratio of the breeding herd of one year to the breeding herd of the next.†

15. In this greater reduction of the pelagic catch, compared with the gradual decrease of the herd, there is a tendency toward equilibrium, or a stage at which the numbers of the breeding herd would neither increase nor decrease. In considering the probable size of the herd in the immediate future, there remains to be estimated the additional factor of decline resulting from reductions in the number of surviving pups caused by the larger pelagic catch of 1894 and 1895.

16. The diminution of the herd is yet far from a stage which involves or threatens the actual extermination of the species, so long as it is protected in its haunts on land. It is not possible during the continuance of the conservative methods at present in force upon the islands, with the further safeguard of the protected zone at sea, that any pelagic killing should accomplish this final end. There is evidence, however, that in its present condition the herd yields an inconsiderable return either to the lessees of the islands or to the owners of the pelagic fleet.

D'ARCY WENTWORTH THOMPSON,
JAMES MELVILLE MACOUN,
CHARLES SUMNER HAMLIN,
DAVID STARR JORDAN.

† The catch of the pelagic fleet, Canadian and American, in 1897 in Bering Sea, was 16,657 seals. In the summer of 1896 it was 29,500. The aggregate catch which directly influenced the herd of 1897 was 38,922, a number made up by adding to the summer's catch of 1896 the north-west coast catch in the spring of 1897. Up to the present time, accordingly, the pelagic catch already taken (16,657) and operating directly against next year's supply is 57.22 per cent less than the pelagic catch which operated against the supply of 1897 (see, also, Appendix I); or, if compare merely the summer catches, inasmuch as the possible spring catch of 1896 is an unknown factor, we have a reduction of 43.46 per cent.

APPENDIX I.

Statistics regarding land and sea killing, 1871-1897.

Year.	Date quota filled. (a.)	Hauling grounds driven. (a.)	Number of drives. (a.)	Killed on land. (b.)	Killed at sea.
1871.....	July 23.....	46	43	102,960	16,911
1872.....	25.....	43	30	108,819	5,336
1873.....	24.....	51	37	109,177	5,229
1874.....	17.....	61	41	110,585	5,873
1875.....	16.....	55	37	106,460	5,033
1876.....	Aug. 1 (c.)...	36	30	94,657	5,515
1877.....	July 14.....	44	32	84,310	5,210
1878.....	18.....	54	35	109,323	5,544
1879.....	16.....	71	36	110,411	8,557
1880.....	17.....	78	38	105,718	8,418
1881.....	20.....	99	34	105,063	10,382
1882.....	20.....	86	36	99,812	15,551
1883.....	19.....	81	39	79,509	16,557
1884.....	21.....	101	42	105,434	16,971
1885.....	27.....	106	63	105,024	23,040
1886.....	26.....	117	74	104,521	28,494
1887.....	24.....	101	66	105,760	30,628
1888.....	27.....	102	73	103,304	26,189
1889.....	31.....	110	74	102,617	29,858
1890.....	20 (d.)...	87	55	28,059	40,814
1891.....	.....	(e.)	(e.)	12,040	59,568
1892.....	.....	(e.)	(e.)	7,511	46,642
1893.....	.....	(e.)	(e.)	7,396	30,812
1894.....	Aug. 4.....	.....	.....	16,270	61,838
1895.....	July 27.....	.....	.....	14,846	56,291
1896.....	27.....	31	21	28,964	43,917
1897.....	Aug. 7.....	42	27	20,890	(f.) 25,079

(a.) These figures refers to the hauling grounds of St. Paul.

(b.) These totals include all males killed for any purpose on the islands.

(c.) In 1876 the killing was begun at an unusual date, said to be on account of an exceptionally late season.

(d.) Closed by order of the agent in charge.

(e.) Years of the *modus vivendi*.

(f.) As reported to date.

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APPENDIX II.

Record of arrival of cows*.

Date.	Cows present.	Date.	Cows present.
<i>Amphitheatre of Kitovi.</i>		<i>Record of harems—Continued.</i>	
June 12	0	July 13	46
13	0	25	53
14	2	<i>Lukanin rookery.</i>	
15	3	June 12	1
16	3	13	1
17	4	14	3
18	6	15	5
19	7	16	6
20	8	17	11
21	9	18	19
22	23	19	25
23	37	20	37
24	45	21	52
25	56	22	74
26	76	23	103
27	105	24	131
28	137	25	176
29	168	26	207
30	210	27	257
July 1	246	28	
2	290	29	
3	362	30	635
4	414	July 1	
5	499	2	890
6	518	3	938
7	550	4	1,088
8	585	5	1,197
9	†587	6	1,264
10	660	7	1,371
11	703	8	1,531
12		9	†1,541
13	654	10	1,680
14	556	11	1,755
15	703	12	
16	678	13	1,736
17	698	15	1,841
18	566	14	306
19	556	15	327
20	429	16	325
21	528	17	338
22	416	18	228
23	469	19	290
24	465	20	214
25	426	21	215
26	463	22	219
27	406	23	212
28	804	24	196
29	414	25	186
30	427	26	148
31	375	27	157
<i>Record of harems.</i>		28	177
June 14	1	29	149
20	3	30	127
30	1C	31	124
July 8	35		

* Weather clear ; no storms or surf—except one day when rain fell, causing a larger number of cows to take to the water and making it difficult to distinguish those present from the rocks.

† Rain.

‡ After July 14, it became impossible, on account of the scattering of the cows, to continue the count for the entire rookery without too great loss of time, and so a section of 18 harems was singled out and the count continued on it.

Immediately following the finding of the experts, a meeting of the diplomatic and executive representatives of the three governments took place to discuss the broader question of executive action in connection with the Behring Sea seal question, together with the possible adjustment of certain other important questions pending between Canada and the United States in connection with fisheries, reciprocal immigration, commercial reciprocity, etc.

This meeting concluded without any definite result in the direction of immediate action, and although the proceedings were not made public, the propositions as submitted by the representatives on the part of the United States were published in the press in the following form:—

At a conference, November 16th, with Sir Wilfrid Laurier, Sir Louis Davies and Mr. Adam, of the British Embassy, Mr. Foster (for the United States) proposed:

First. That the governments of Great Britain and the United States agree at once to a *modus vivendi* providing for a complete suspension of the killing of seals in all the waters of the Pacific Ocean and Behring Sea, for one year from December 31, 1897, and for suspension of all killing of seals on the Pribylov Islands for the same period.

Second. That the British Ambassador and one or more representatives of the Canadian government, on the one part, and such representative or representatives as may be designated by the President of the United States, on the other part, shall, with as little delay as possible, take up for consideration, with a view to settlement by means of treaty stipulations, the fur-seal question, the protection of fish in the waters of rivers and lakes contiguous to the United States and Canada, the subject of reciprocal emigration, commercial reciprocity, or any other unsettled question between the United States and Canada, which either of the governments may see proper to bring forward.

On the return of the Canadian representatives certain correspondence was exchanged between them and the United States negotiators, the principal communications have just been published in an executive document of the United States government, and may be included in this connection:

Sir Wilfrid Laurier to Mr. Foster.

PRIVY COUNCIL, CANADA, OTTAWA, 24th November, 1897.

DEAR MR. FOSTER,—Your memorandum embracing the substance of proposals made by you at a conference held between you and myself, Sir Louis Davies and Mr. Adam of the British embassy, has been submitted by me since my return to Ottawa to my colleagues.

Your second proposition practically embodies the suggestions made by myself and my colleagues, and meets, I need hardly say, with the full approval of the Canadian government. Though the regulations prepared by the Paris tribunal for the killing of seals in Behring Sea and in the Pacific Ocean have been made revisable only at the end of five years, we are quite willing to enter at once and without waiting for the end of the period thus fixed, into an agreement to review the whole question for the object of settling by treaty stipulations, not that question alone but all others in which at present the relations between the two countries are not as satisfactory as they ought to be, viz: "The protection of fish in the waters of rivers and lakes contiguous to the United States and Canada, the subject of reciprocal immigration, commercial reciprocity, of any other unsettled question between the United States and Canada which either government may see proper to bring forward."

This proposition, however, is made by you contingent upon and subject to the condition contained in the first: "That the governments of Great Britain and the United States agree at once to a 'modus vivendi' providing for complete suspension of the killing of seals in all the waters of the Pacific Ocean and Behring Sea for one year from December, 1897, and for a suspension of all killing of seals on the Pribyloff Islands for the same period.

There are difficulties in agreeing to that proposition, which I fear will be found insuperable.

Immediately on my return I requested my colleague, Sir Louis Davies, to obtain information as to the number of sealers who are fitting out for the coming year's operations and as to the approximate compensation it would be expected to be paid to them in case pelagic sealing was prohibited for a year.

The information furnished me is to the effect that the fleet is preparing as usual, that the prohibition of pelagic sealing for a year would practically destroy the business for several years, because the masters, the mates and white crews for the larger part, belonging to other parts of Canada would leave British Columbia. The sum which would likely be demanded as compensation is far beyond what it would be possible for us to induce parliament to vote even if we could recommend it.

Under these circumstances, and in view of the finding of the experts at the late conference, that in the greater reduction of the pelagic catch of late years, compared with the gradual decrease of the herd, there is a tendency towards equilibrium, or a stage at which the numbers of the breeding herd would neither increase nor decrease, and further that the diminution of the herd is yet far from a stage which involves or threatens the actual extermination of the species so long as it is protected in

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its haunts on land.' I am in hopes that you will agree to the proposition submitted at our verbal conference by Sir Louis Davies and myself and not press for the immediate suspension of pelagic sealing. The coast catch during the months of January, February, March and April, as gauged by the catches of the past few years, is very small. Last year the catch of the Canadian sealing fleet amounted only to six thousand one hundred, and in the year before, to eight thousand three hundred and fifty. If the fleet, therefore, are permitted to prosecute pelagic sealing for these four months, but little comparative harm would be done to the herd. Following these months is the close season, embracing May, June and July, during which, of course, no pelagic sealing can be carried on except on the Asiatic coast. It appears to me, therefore, highly probable that the joint commission suggested could finally conclude its labours long before the time when, under the Paris regulations pelagic sealing could begin in Behring Sea.

If that commission reached a satisfactory conclusion, and the Congress of the United States approved of it, there would be no difficulty in obtaining the necessary imperial legislation to carry out whatever recommendations might be agreed to which respect to the suspension or cessation of pelagic sealing in time to prevent the prosecution of the business in Behring Sea next year.

It is obvious, however, that any conclusion which might be reached by the joint commission must, to be effective, be ratified by Congress as well as by imperial legislation, and unless the session of Congress which opens in the coming month of December and closes, I understand, about the 4th of March, ratifies any treaty which might be agreed to before its termination, it would necessarily lie over for another year.

This would involve the renewal of the suspension for a second year, with a further claim for compensation on the part of the sealers. I would also more strongly urge upon you the view here presented, because pelagic sealing being at present a legitimate business carried on under the sanction of the Paris regulations cannot be stopped until the imperial parliament has enacted the necessary legislation prohibiting it, and as that parliament will not meet until early in February next it seems obvious that such legislation could not be hoped for until, at any rate, late in the month of February. At that date, the result of the labours of the joint commission, if it was constituted at an early day, would be known and could be submitted for approval at the coming session of Congress.

Under all these circumstances, therefore, we do not see how it is possible to agree to the suggested suspension, but we see no reason to doubt, if the appointment of a joint a commission results in the submission of a treaty which Congress would ratify, the necessary imperial legislation could be procured in time to carry out its recommendations will regard to Behring Sea sealing before the close season ends and pelagic sealing begins and so attain the object you have in view.

Yours respectfully,

WILFRID LAURIER.

Mr. Foster to Sir Wilfrid Laurier.

DEPARTMENT OF STATE, WASHINGTON, December 2, 1897.

DEAR SIR WILFRID,—I received, on the 30th ultimo, through the British embassy, your letter of the 24th ult., in which you kindly communicate your answer to the proposition which I submitted in the conference which I had the pleasure to hold with you, your colleague and Mr. Adam, of the British embassy, on the 16th ultimo.

Your answer is in effect a declination of my proposition, and a renewal of the proposal made in the conference by Sir Louis Davies, and which at the time I stated my government could not accept.

The considerations in support of your colleague's proposal, re-stated by you, have been submitted to the President, and he directs me to express his regret that they are not of such a nature as to justify him in reversing the position taken by me in our conference.

You intimate that if pelagic sealing is continued during the earlier months of the year the catch would not exceed 6,000, which you think would do little harm to the herd. This might be the case if it were in its normal condition, but such a catch now would be approximately equal to 30,000 in normal times, and in its present depleted condition would create a serious inroad on the herd. The state of "equilibrium" contemplated by the experts to which you refer was at a still more depleted stage than even now exists. It is admitted that the industry is at present unprofitable for both the lessees and the pelagic sealers. Should the herd reach the "equilibrium" pointed out by you it will have passed the period when negotiations will be of any avail.

But in addition to the injury that a continuance of early pelagic sealing will do to the herd, it will also entail on the United States the heavy expense of patrol during the entire summer, even though a settlement should be reached, as you think possible, before August, as the Victoria fleet will be at sea, an expense which for the past four years has averaged about \$150,000 annually.

As to your statement that the imperial parliament will not convene till February, we should be quite willing to have the proposed suspension of sealing take effect at such a date in February as would enable the necessary legislation to be passed provided a *modus vivendi* could be signed at once. Such an arrangement, would, it is believed, obviate the general difficulty to which you refer.

There is no disposition on our part to embarrass the Dominion government by asking impossible or unreasonable conditions. This is the more apparent when I recall the fact that four years ago when the Paris tribunal rendered its award, that body, in view of the critical condition to which the herd was then reduced, recommended the two governments to suspend the killing of seals for a period of two or three years. If such a measure was called for then, how much more reasonable is the request for a single season's suspension now, after four more years of disastrous slaughter of female seals during which period the experts agree the herd has steadily declined.

Your frank courteous letter reveals the fact, to which I had occasion to refer during your recent friendly visit to this city and which constitutes a serious obstacle to our negotiations. We seem to have failed to impress upon the Canadian government, past or present, our view that pelagic sealing ought to be voluntarily given up because it is unneighbourly in that it is destroying a valuable industry of our government, and inhumane because it [is exterminating a] noble race of animals useful to the world. We paid Russia a large sum for Alaska and the chief prospective return then visible was the seal industry, which had yielded the Russian government and subjects large profit. We enjoyed the industry undisturbed for about fifteen years reaping a rich return to the government and the lessees, the estimated revenue to the federal treasury up to 1891 being over \$11,000,000, a sum much larger than was paid to Russia for the entire territory. Suddenly the pelagic sealers entered upon the work of destruction and they have brought the industry to the point when it is no longer profitable. This work of destruction has been prosecuted as a conceded legal avocation, and when we have called attention to the rapid diminution of the herd and the treaty obligation to protect and preserve it we have been met by the declaration that its actual extermination is not immediately threatened. When it is proposed to negotiate for the surrender of the legal right of pelagic sealing we are told that this cannot be brought about by a fair compensation to those engaged in the industry, but that the question must be included with a number of other subjects having no relation to it whatever and that it must await the fate of all these matters, some of which, as commercial reciprocity and the tariff, are very complex in their character, and others, as the north eastern sea fisheries, of long standing and very difficult of adjustment.

Notwithstanding the President feels that the subject of the proper protection of the seals should not be complicated with other questions of intricate public policy and conflicting interests, in his earnest desire to promote a more friendly state of relations between the two neighboring countries, he has consented that all those questions should be embraced in one series of negotiations if meanwhile a *modus vivendi* could be agreed upon which would save the seals from destruction while the negotiations were in progress.

You have been misinformed as to the duration of coming congress and it will continue beyond the fourth of March next without constitutional limitation. But it could hardly be anticipated that the subjects which you desire to have considered would be adjusted by treaty stipulations and the necessary resulting legislation enacted, with the despatch indicated in your letter, even with the most friendly spirit of conciliation. The variety of questions to be considered and the interests to be consulted would compel deliberation in the negotiations and might create discussion before legislation could be secured.

I have explained at some length the reasons which control the President in adhering to the position which, under his instructions, I assumed during our informal conference because of my earnest wish to have you understand that we are greatly desirous of bringing about a better understanding with your government. I am extremely sorry and greatly disappointed that your visit to Washington gives so little promise of satisfactory results, but I entertain the hope that it may yet bear good fruits.

I remain, etc.,

Yours very truly,

JOHN W. FOSTER.

DIPLOMATIC CORRESPONDENCE.

During the year, considerable diplomatic correspondence occurred between Her Majesty's government and that of the United States, the two most important communications being that from the United States Secretary of State Sherman to the Ambassador at the Court of St. James, dated 10th May, and the reply thereto from the Foreign Office to the Colonial Office, dated 26th July, 1897.

These communications appear in the Papers presented to the Imperial Houses of Parliament in September, 1897, United States, No. 4, 1897 (C. 8662), and for convenience and general information are here reproduced:—

Mr. Sherman to Mr. Hay.—(Communicated by Mr. Hay, May 22.)

DEPARTMENT OF STATE, WASHINGTON, May 10, 1897.

SIR,—The British Ambassador called upon me on the 3rd instant and handed me a copy of a despatch to him from Her Majesty's Principal Secretary of State for Foreign Affairs, bearing date the 21st ultimo. This despatch constitutes the reply of the British Government to the proposals of

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the President, as presented in the note of your Embassy of the 10th ultimo, for a *modus vivendi* for the suspension of all killing of seals for the present season, and for a joint Conference of the Powers concerned with a view to the necessary measures being adopted for the preservation of the fur-seal in the North Pacific. It will be seen that both proposals are rejected.

I need hardly say that the President is greatly disappointed at this action, especially when it is based upon such unsubstantial and inadequate reasons. The President's concern, in view of the depleted condition of the seal herd, was occasioned not alone from an examination of Dr. Jordan's Report of 1896 and what he had reason to suppose were the conclusions of Professor Thompson, but it was based upon a series of observations and statistics covering a much longer period than that treated by those gentlemen, establishing a state of facts beyond refutation, and which is in part set forth in my note to the British Ambassador of the same date as my cablegram to you. It is therefore quite surprising that Her Majesty's Secretary should base his rejection of the proposals of this Government, so impressively presented, upon the Report of one scientist whose facts and conclusions are incorrectly apprehended and the delayed Report of another, which is for the first time made public concurrently with the receipt of his Lordship's note.

It would have been gratifying to me and useful to my Government, in studying the important subject under consideration, if Professor Thompson's Report could have been made public with the promptness which marked the appearance of that of Dr. Jordan. In that case there would have been ample time for both Governments to have examined the Reports of these two eminent scientists before the opening of another sealing season. But it seems to have better suited the purposes of Her Majesty's Government to withhold Professor Thompson's Report until an opportunity was afforded to examine that of Dr. Jordan, and thus enable the former to pass the latter in review, criticize its statements, and as far as possible minimize its conclusions. It is not pleasant to have to state that the impartial character which it has been the custom to attribute to the reports of naturalists of high standing has been greatly impaired by the apparent subjection of this Report to the political exigencies of the situation. It is further to be regretted that the Report was so long delayed that no opportunity was afforded this Government to examine it before the definite and final rejection of the President's proposals, based mainly upon its conclusions, was communicated to me. This conduct recalls the incident which preceded the Arbitration at Paris, and which came near rendering that Arbitration abortive, when a similar Report of a British Commission was withheld until after the Case of each Government was exchanged and the Report of the American Commission made public.

Lord Salisbury asserts that Dr. Jordan's Report does not contain any facts warranting the statement that there is a "depleted condition and prospective early extinction of the herd." The note of your Embassy of the 10th ultimo does not attribute such a statement to Dr. Jordan, but it is difficult to understand how any one can read his Report without reaching the conclusion that such is the real condition of the herd. On p. 18 he says: "From this time (1886) on the decline has been more rapid and has been continuous." On p. 21 he clearly recognizes diminution, as evidenced by photographs, as also by decrease of harems. On p. 66 he uses this expression: "As the herd is steadily diminishing the spring or north-west catch is becoming relatively unimportant." Other citations might be made, but it would seem unnecessary in view of his declarations, often repeated in his Report, respecting pelagic sealing, from which I give only one extract (p. 29): "Pelagic sealing, in the judgment of the members of the present Commission, has been the sole cause of the continued decline of the fur-seal herds. It is at present the sole obstacle to their restoration, and the sole limit of their indefinite increase. It is therefore evident that no settlement of the fur-seal question as regards either the American or Russian islands can be permanent unless it shall provide for the cessation of the indiscriminate killing of fur-seals, both on the sealing grounds and on their migrations. There can be no 'open season' for the killing of females if the herd is to be kept intact."

Professor Thompson's Report is plainly written with a view to minimize as far as possible the depleted condition of the herd on the Pribyloff Islands, and requires a critical examination not possible within the limits of the present instruction, but its general purport may be briefly stated. It is to be regretted that he should have contracted his study far within the purview of his instructions. In the outset of his Report he says: "The main object of my mission was the collection of information and statistics with regard to the working and effectiveness of the Regulations" of the Paris Tribunal. But we look in vain in his Report for any discussion of that all-important subject. He confined his inquiry and Report to the subordinate subject of the number of seals resorting to the islands, and particularly to the relative numbers in 1895 and 1896. The result of his observations and inquiry seemed to be that on some rookeries there was an increase and on others a decrease, but on the whole a possible state of equilibrium for the past two years, although he concedes a diminution as compared with 1892. If all the Professor claims is admitted, it does not militate against the contention that since pelagic sealing became general the decline of the herd has been steady and rapid. The apparent equilibrium noted in his Report is well explained by Dr. Jordan when he says (p. 18): "There is evidence that the *modus vivendi* of 1892-93, by which Behring Sea was closed to the sealing fleet, has produced for 1895 and 1896 a slight check of the diminution. The reason for this is that, in addition to the saving of mothers, no pups were starved to death in 1892 and 1893, and those which might have been starved have returned as breeders or as killable seals in 1895 and 1896." Since the receipt of Lord Salisbury's despatch explicit inquiry has been made of Dr. Jordan as to the relative condition of the herd in 1895 and 1896 and in previous years, and he has furnished the chapter on the "Decline of the Herd" from the forthcoming Final Report of himself and associates, from which the following extract is taken: "While the amount of the decline cannot be stated with mathematical exactness, it is possible from the data at hand to make an approximate estimate. From a careful study of all the conditions, in our opinion the fur-seal herd of the Pribyloff Islands

has decreased to about one-fifth its size in 1872-74; to somewhat less than one-half its size in 1890, and that between the seasons of 1895 and 1896 there has been a decrease of about 10 per cent."

Although Professor Thompson has been very careful throughout the Report to say nothing likely to embarrass his Government, in the "conclusions" the voice of the true scientific investigator speaks in firm and certain tones. While he regards "the alarming statements of the herd's immense decrease" as overdrawn, he says "there is still abundant need for care and for prudent measures of conservation in the interest of all It is not difficult to believe that the margin of safety is a narrow one, if it be not already in some measure overstepped. We may hope for a perpetuation of the present numbers, we cannot count upon an increase. And it is my earnest hope that a recognition of mutual interests and a regard for the common advantage may suggest measures of prudence which shall keep the pursuit and slaughter of the animal within due and definite bounds." In view of such explicit language it is not easy to understand how Lord Salisbury can reconcile his refusal to entertain the proposals of the President with the interests of his own countrymen, to say nothing of the friendly relations which he desires to maintain with the United States, Russia, and Japan.

The experience had with the scientific Commissions of 1892, as well as the Reports of 1896 just under review, shows that it is difficult through them to reach a harmony of views; but we have at hand certain statistics of undisputed authority pointing unmistakably to conclusions which should be controlling.

The operations of the pelagic fleet in Behring Sea since the Paris Regulations have been in force are as follows:—

1894—37 vessels, 31,585 seals taken, or an average of 853 per vessel.

1895—59 vessels, 44,169 seals taken, or an average of 748 per vessel.

1896—67 vessels, 29,500 seals taken, or an average of 440 per vessel.

It thus appears that nearly double the number of vessels in 1896 were not able to take as many seals as were taken in 1894, and the catch per vessel fell off nearly one-half. Lord Salisbury attributes this large falling-off in Behring Sea "to the stormy weather prevailing," but does not cite his authority. I am not aware of any published report to that effect. Captain Hooper, who commanded the American cruising fleet in Behring Sea in 1895 and 1896, reports: "The weather in Behring Sea was not materially different in the past two years. Conditions admitted of boarding operations by the fleet twenty-five days in 1895 and twenty-four days in 1896." An examination and comparison of the logs of sealing-vessels for 1895 and 1896 confirm Captain Hooper's report. The above figures, with the statistics contained in my note of the 9th ultimo to the British Ambassador, make it very clear that the seal herd is becoming rapidly depleted, and that "the margin of safety," as Professor Thompson expresses it, has been "already overstepped." It is to be inferred that "the margin of safety" is intended to signify the point at which pelagic sealing ceases to be profitable. He cannot have had in mind biological extermination, for that point could not have been reached so long as a single bull and harem existed. The point when sealing ceased to be profitable seems to have been reached during last year. A Table appended to his Report shows that the total product of the pelagic catch of 1896 in the London market was about half the amount of that of 1895, and Lord Salisbury informs us that this result has "brought many owners of the sealing-vessels to the verge of bankruptcy." It thus appears that the condition of things predicted by the Government of the United States, as quoted below, has already come to pass—the commercial extermination of the seals. If pelagic sealing continues to be tolerated a limited number of vessels will carry on the indiscriminate slaughter, in the hope, by a favourable cruise, of recouping the losses of the previous year, and the rookeries on the islands will be still further depleted. But the biological existence of the fur-seal may still be continued, and Her Majesty's Ambassador may repeat the declaration, so often made during the past two years, that there is "no reason to fear that the seal herd is threatened with early extermination."

In this connection it may not be unprofitable to recall the action of the two Governments respecting the efforts made to revise the Regulations adopted at Paris. The expressed object of the Paris Arbitration was "the preservation of the fur-seals," and the Regulations adopted by the Tribunal were framed with a view to "the proper protection and preservation of the fur-seal resorting to Behring Sea." On the 23rd January, 1895, Secretary Gresham addressed a note to the British Ambassador, stating that the first year's experience had "convinced the President that the Regulations enacted by the Paris Tribunal have not operated to protect the seal herd from the destruction which they were designed to prevent," and he asked that a Commission of scientists and experts be appointed by the Governments of the United States, Great Britain, Russia, and Japan to report upon the proper measures to be adopted, and pending the deliberations of the Governments a *modus vivendi* be agreed upon suspending sealing in Behring Sea. Nearly four months elapsed without an answer from the British Government, when, on the 14th (? 10) May, 1895, a second note was sent, reiterating the President's solicitude, urging a reply, and predicting that unless some further restrictions were adopted the seals would "be exterminated for all commercial purposes within a very few years." On the 27th May, the British answer was received, in which it was complacently stated "that the condition of affairs is not of so urgent a character as the President has been led to believe," and that there was no "such urgent danger of total extinction of the seals as to call for a departure from the arbitral Award by which the two nations have solemnly bound themselves to abide."

Secretary Olney, 24th June, 1895, by direction of the President, renewed the proposition in different terms, but the British Government repeated its declination to make "any extension of the Regulations solemnly laid down by an International Board of Arbitration."

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After a second year's experience of the Regulations, Secretary Olney, 11th March, 1896, called the attention of the British Ambassador to the catch of 1895 in Behring Sea (the largest ever made in that sea), and expressed the hope that the British Government would realize "the absolute necessity of consenting for the coming season to some further Regulation . . . to the end that the valuable herd be saved from total extinction." On the 27th April, Sir Julian Pauncefote replied that Her Majesty's Government saw no reason to believe the catch in Behring Sea was "so large as to threaten early extermination," and that there was no "necessity for the immediate imposition of increased restrictions."

This correspondence is recalled to show that, from the first year the Paris Regulations were put in force, each succeeding President and Secretary of State has been firmly convinced that they were inadequate for the purpose for which they were adopted, and that the British Government has just as firmly resisted all overtures for even a conference of the Governments concerned for the purpose of considering whether further Regulations were required to protect the seals, and has rested its refusal upon "the Arbitral Award by which the two nations have solemnly bound themselves to abide."

In view of this attitude of the British Government, I deem it opportune to make an examination (even at the risk of being somewhat tedious) into the manner in which it has responded to the action of the Paris Tribunal, and to what extent and in what spirit it has observed the decision and recommendations of that Tribunal.

A perusal of the Protocols of that Tribunal will show that the preparation of the Regulations was intrusted to three Arbitrators nominated by the neutral Governments, and when their unanimous Report was presented it was provided in Article II that the Regulations should be applied to all the waters of the Pacific Ocean and Behring Sea north of the 35th degree of north latitude, thereby including all the waters east of Japanese and Russian territory. Lord Hannen, the British Arbitrator, objected to this provision, and moved an amendment limiting the area to all that part of the ocean and sea east of the 180th meridian. Baron Courcel, President of the Tribunal, stated on behalf the neutral Arbitrators that, in framing Article II, "they had acted out of regard for Russia and Japan, Powers not represented before the Tribunal of Arbitration, and towards the waters of whom it appeared not equitable to drive back the English and American pelagic sealers during the whole time of the close season." But he acquiesced in Lord Hannen's amendment, and it was adopted. (Protocol LIV.) It is plain from the proceedings that the Tribunal regarded the extension of the Regulations to the Asiatic waters as a matter of justice to Russia and Japan, and they would have been so extended if those Powers had been parties to the Arbitration.

When, in accordance with Article VII of the Treaty of 1892, the Russian and Japanese Governments were approached with a view to securing their adhesion to the Regulations, they both replied they could only do so on their extension to the Asiatic waters. Secretary Gresham reports that as early as October, 1893, he verbally brought this attitude of the subject to the attention of the British Ambassador, who recognized the force of the position assumed, and said the situation seemed to suggest the propriety of a Treaty between the four Powers "for the preservation, for their common benefit, of the fur-seals between the two continents and north of the 35th degree of north latitude."

Mr. Bayard was instructed, 27th October and 20th November, 1893, to seek to bring about such an arrangement or Treaty; 23rd January, 1894, Mr. Gresham brought the subject to the attention of the British Ambassador, and on the 2nd May, no answer being received, the proposition was again urged. Secretary Olney brought the subject again to the attention of the British Government in a note dated the 24th June, 1895, the proposition being presented in a new form; and on the 19th August a general negative reply was made to Mr. Olney's note.

Under date of the 2nd April, 1896, Secretary Olney informed Mr. Bayard that the Russian Government was about to initiate negotiations at London for the extension of the Paris Regulations over the Asiatic waters, and at the request of the Government Mr. Bayard was instructed to cooperate in such negotiations. Mr. Bayard at once put himself in communication with the Russian Ambassador, but on the 14th May he was informed by Lord Salisbury that Her Majesty's Government had decided to dispatch a naturalist to the Russian seal islands, and that, pending the receipt of his Report, his Government would not enter upon negotiations. The British Naturalist returned to London in October, 1896, but up to this date, His Lordship has given no indications of a desire or intention to upon the negotiations. In fact, the despatch to which I now reply rejects the proposition of the President for a similar Conference or negotiation. The effect of Lord Hannen's amendment of Article II of the Regulations has been to bring about the state of affairs which the neutral Arbitrators desired to avoid—to wit, to transfer the sealing-vessels to the Asiatic waters during the closed season in the American waters, which they expected would be prevented by negotiations between the interested Governments. Such negotiations Great Britain has steadily omitted and declined to enter upon.

Again, the Arbitrators appended to their decision or Award a series of declarations, not binding upon the contracting Governments, but which were recommended for their adoption. The American Arbitrators at once accepted the declarations, but Lord Hannen hesitated to accept the second paragraph, which is as follows:—

"In view of the critical condition to which it appears certain that the race of fur-seals is now reduced in consequence of circumstances not fully known, the Arbitrators think fit to recommend both Governments to come to an understanding in order to prohibit any killing of fur-seals, either on land or sea, for a period of two or three years, or at least one year, subject to such exceptions as the two Governments might think proper to admit of.

"Such a measure might be recurred to at occasional intervals if found beneficial."

Lord Hannen declared that, "although approving the spirit in which it (the second paragraph) is conceived, and although regarding as very desirable that the destruction of the fur-seals might be entirely suspended during a certain period of time, so as to enable nature to retrieve the losses which this race of animals has undergone, he does not feel authorized by the terms of his mandate to express an opinion on the subject;" and the Canadian Arbitrator concurred with his British colleague. (Protocol LIV).

Immediately after the receipt of the official copy of the Award and declarations, the 12th September, 1893, Secretary Gresham cabled instructions to Mr. Bayard to ask the concurrence of Great Britain in the enforcement of the second declaration. Mr. Bayard reported, the 13th September, that he had made known his instructions to the British Government. No answer having been received on this point, Secretary Gresham repeated the offer to Sir Julian Pauncefote, the 24th January, 1894. I do not find that response to this proposition was ever made. The wisdom of the recommendation is abundantly proved by the experience of the past three years, and it strongly supports the repeated applications which have been made by the Government of the United States for a *modus* suspending all killing of the seals until a Conference could be had to readjust the Paris Regulations.

The indifference with which the British Government treated the repeated appeals of this Government for prompt action towards the adoption of measures to enforce the Regulations "solemnly laid down by an International Board of Arbitration," illustrates the measure of respect entertained for that august Tribunal. On the 12th September, 1893, within a month after the Award had been rendered, Secretary Gresham instructed Mr. Bayard by cable (cited above) to inform the British Government of the desire of the Government of the United States to take up without delay the subject of the enforcement of the Regulations, so as to make them effective before the next sealing season. This notice was given to the British Foreign Office on the 13th September, more than three months before the opening of the sealing season. No progress having been made, the 17th November, Secretary Gresham cabled Mr. Bayard that the President was anxious that an agreement of this subject should speedily be reached. On the 4th December, Secretary Gresham consented, at the desire of the British Government, that the negotiations might be transferred to Washington, but he gave notice to Lord Rosebery that "the rapidly shortening interval before the next season will commence admonishes both Governments to expedite the negotiations." On the 24th January, 1894, the Secretary addressed an urgent note to the British Ambassador, complaining that nothing had yet been accomplished, and the time lost had brought them "to the opening of another sealing season without any definite steps having been taken for the execution of the Paris Award." A month later, the 22nd February, the Secretary cabled Mr. Bayard that, in answer to his repeated inquiries, the British Ambassador informed him he was still without instructions, and he was directed to say "this long delay is difficult to understand, and it is the President's desire that you represent the matter impressively to Her Majesty's Government. On the 17th March Secretary Gresham sent another urgent cablegram to Mr. Bayard, complaining of still further delay, for which "this Government is not responsible," and which was threatening to "become embarrassing for both Governments." The negotiations were not entered upon until six months after they were invited by the United States; the British Act (the 23rd April, 1894) to enforce the Regulations was not passed until four months after the sealing season had opened, and the final Order in Council (the 27th June, 1894) on the subject was not issued until six months after the sealing fleet had put to sea in disregard of the Award of the Tribunal.

The manner in which the British Government has discharged its police duties under the Award is in marked contrast with its appeal for a strict observance of the five years period of the Regulations. An equal obligation rests upon each Government to patrol the waters embraced in the Award area, in order to see that the Regulations are not violated by the sealing-vessels. In 1894, the Government of the United States furnished twelve vessels for the patrolling fleet at great expense, and only one vessel was furnished by the British Government. In 1895, five United States vessels patrolled the Award area and only two British vessels, one for a short time only in Behring Sea, and the other took no part whatever in the patrol, as its presence was almost constantly required in Unalaska Harbour to take over the British sealing-vessels seized in Behring Sea. Owing to the repeated complaints of the Government of the United States as to the inadequacy of the British patrol, an additional cruiser was ordered into Behring Sea during the season of 1896, although it was stated by the British Government that, "so far as they have been able to judge, the force employed up to the present time has been sufficient." As it is show that practically no patrol service had been rendered in Behring Sea by the British cruisers during the previous year, the inference from this language would seem to be that Her Majesty's Government understood that the American cruisers only were to perform the patrol duty, and the British cruisers to take over and act upon the validity of seizure of British vessels.

The detailed enforcement of the Regulations has further developed on the part of the British Government a strange misconception of the true spirit and intent of the Arbitrators. Under Article 6 of the Regulations the use of fire-arms in Behring Sea was prohibited, and to enforce that prohibition it was agreed between the two Governments for the year 1894 that sealing-vessels might have their arms and ammunition placed under seal. But on the 11th May, 1895, although this Government had every reason to believe from the Order in Council that the British Government had given its concurrence to the arrangement, the British Ambassador gave notice that his Government would not renew the arrangement as to the sealing of arms for the coming season, and defended its action on the ground that the possession of arms, &c., by a sealing-vessel was "not forbidden by the Award Regulations."

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This tardy action of the British Government in refusing to renew the arrangement of 1894 led to much trouble and inconvenience in connection with the patrol of Behring Sea. The British Government made grievous complaint against the severe measures of search resorted to by the American cruisers, which gave rise to a lengthy correspondence. On the 2nd July, 1896, Secretary Olney submitted a proposition to put an end to the controversy by an examination of vessels entering Behring Sea, and an inspection by a Representative of the United States at British Columbian ports of all skins taken in Behring Sea, to discover whether or not fire-arms were used; but this proposition was not accepted. A further attempt was made by Secretary Olney to procure some agreement for the season of 1897, when it was urged that American vessels frequenting Behring Sea were required to have their arms sealed, and on returning to their home ports their skins were carefully inspected, while Her Majesty's Government refuses to enforce the provision as to arms, and declines the inspection of skins—measures which this Government regards as "absolutely essential for preventing the unlawful destruction of the seals." Nevertheless, another season has been entered upon without any settlement of this vexed question.

In this connection, I recall the serious defect pointed out in the correspondence, in the British Act for the enforcement of the Regulations. Under the British Act passed to carry out the *modus vivendi* of 1891, whereby all killing of seals was prohibited in Behring Sea, it was provided that the presumption of guilt would lie against the vessel "having on board fishing or shooting implements or seal skins." A provision of a kindred nature was inserted in the British Act for the enforcement of the Russian *modus* of 1893. The Act of Congress of 1894 to enforce the Regulations of the Paris Award contained a similar provision; but the British Act of 1894 for the same purpose contained no provision whatever as to presumptive guilt respecting the possession of fire-arms or skins at forbidden times or in forbidden waters. And to emphasize its purpose in the matter, when the British Act to enforce the Russian agreement was re-enacted in 1895, the provisions of the Act of 1893 as to presumptive illegality was omitted. This action of the British Government was made the subject of an earnest protest on the part of my predecessor, but to no purpose. The practical effect is to make it impossible in many cases to convict British sealing vessels, although there may be the strongest presumptive evidence of guilt, evidence which, under the Act of Congress, would in most cases procure the conviction of an American sealing-vessel.

I shall only cite one further instance of the failure and refusal of the British Government to give full effect to the Paris Regulations. Article 5 provided that the vessels engaged in sealing should enter daily in their official log-books the number and sex of the seals taken and that these entries should be communicated by each Government to the other at the end of each season. This Regulation was prescribed in order to procure reliable statistics as to the proportion of female seals killed, but it was found to be unsatisfactory and imperfect in its practical operation. The catch of American vessels was subjected to an official inspection at the home port, and it was found that they reported a much greater proportion of female seals taken than the British sealers. Although in many instances the British sealers were close to the American sealers, yet the American sealers reported from two to five times as many females as males, a result entirely at variance with the British returns. This state of facts led the Acting Secretary of State, the 10th May, 1895, to request of the British Government their consent to the stationing of United States inspectors at British Columbian ports for the purpose of verifying the log entries of British sealing-vessels, with the offer of a reciprocal privilege in American ports to British inspectors. No answer having been received, on the 13th September, and again on the 18th September, the request made in the previous May was renewed. On the 24th of September the British Ambassador replied that the request for inspectors was not acceptable to Her Majesty's Government, "on the ground that the matter is already provided for by the Award Regulations, the sealers bring bound themselves to keep a record of sex."

The measure was regarded by this Government as so important that on the 15th December, 1896, Secretary Olney recalled it to the attention of the British Ambassador, in connection with the sealing of arms. The answer of the British Government to this second application was that "the compulsory examination by experts of skins on landing at British ports would require legislation in Canada," and that the views of the Canadian Government would have to be ascertained. In answer to the inquiry of Secretary Olney on the 23rd January, 1897, as to when the Canadian Government was likely to take action, the Ambassador replied on the 24th March, but Her Majesty's Government were "still in correspondence with the Canadian Government" and that a further communication would be made as soon as possible. No further communication has been made.

I regret that this statement has become so lengthy, but in view of the fact that the British Government, when pressed for a remedy to well-established defects in the Regulations or the Acts and Rules agreed upon for their enforcement, has appealed to "the Arbitral Award which the two nations have solemnly bound themselves to abide." I have felt the present occasion opportune to make a review of the events which have transpired since that Award was rendered, and to challenge a comparison of the conduct of the two Governments with regard to the final action of the International Tribunal of Arbitration. In no respect has the United States Government failed to observe the exact terms of the Award or to accept its recommendations in their true spirit and full effect, even though the have entailed heavy expense and caused great damage to long-established interests of this nation.

On the other hand, I think I have shown that the British Government has from the beginning and continuously failed to respect the real intent and spirit of the Tribunal or the obligations imposed by it. This is shown by the refusal to extend the Regulations to the Asiatic waters; by the failure to put in operation the recommendations for a suspension of the killing of the seals for three, for two, or even for one year; by the neglect to put the Regulations in force until long after the first sealing had been entered on; by the almost total evasion of the patrol duty; by the opposition to

suitable measures for the enforcement of the prohibition against fire-arms; by the omission to enact legislation necessary to secure conviction of the guilty; and by the refusal to allow or provide for an inspection of skins in the interest of an honest observance of the Regulations.

The obligations of an international Award, which are equally imposed on both parties to its terms, cannot properly be assumed or laid aside by one of the parties only at its pleasure. Such an Award which in its practical operation is binding only on one party in its obligations and burdens, and to be enjoyed mainly by the other party in its benefits, is an Award which, in the interest of public morality and good conscience, should not be maintained. Having in view the expressed object of the Arbitration at Paris and the declared purpose of the Arbitrators in prescribing the Regulations, when it became apparent, as it did after the first year's operation of them and with increased emphasis each succeeding year, that the Regulations were inadequate for the purpose, it was the plain duty of the British Government to acquiesce in the request of that of the United States for a Conference to determine what further measures were necessary to secure the end had in view by the Arbitration.

A course so persistently followed for the past three years has practically accomplished the commercial extermination of the fur-seals and brought to nought the patient labours and well-meant conclusions of the Tribunal of Arbitration. Upon Great Britain must therefore rest, in the public conscience of mankind, the responsibility for the embarrassment in the relations of the two nations which must result from such conduct. One of the evil results is already indicated in the growing conviction of our people that the refusal of the British Government to carry out the recommendations of that Tribunal will needlessly sacrifice an important interest of the United States. This is shown by the proposition seriously made in Congress to abandon negotiations and destroy the seals on the islands, as the speedy end to a dangerous controversy, although such a measure has not been entertained by this Department. We have felt assured that as it has been demonstrated that the practice to pelagic sealing, if continued, will not only bring itself to an end, but will work the destruction of a great interest of a friendly nation, Her Majesty's Government would desist from an act so suicidal and so unneighbourly, and which certainly could not command the approval of its own people.

The President therefore cherishes the hope that, even at this late day, the British Government may yet yield to his continued desire, so often expressed, for a Conference of the interested Powers; and, in delivering to Lord Salisbury a copy of this instruction, you will state to him that the President will hail with great satisfaction any indication on the part of Her Majesty's Government of a disposition to agree upon such a Conference.

Respectfully yours,

(Signed.) JOHN SHERMAN.

Colonial Office to Foreign Office.—(Received July 26.)

DOWNING STREET, JULY 26, 1897.

SIR,—I am directed by Mr. Secretary Chamberlain to acquaint you, for the information of the Marquess of Salisbury, that he has had under his consideration the despatch from Mr. Secretary Sherman to Mr. Hay respecting the seal fishery.

After an expression of disappointment and surprise at Her Majesty's Government having rejected the proposals made by the Government of the United States, Mr. Sherman proceeds to comment on the delay which occurred in the publication of Professor D'Arcy Thompson's Report. He says (paragraph 3):

"It would have been gratifying to me and useful to my Government, in studying the important subject under consideration, if Professor Thompson's Report could have been made public with the promptness which marked the appearance of that of Dr. Jordan. In that case there would have been ample time for both Governments to have examined the Reports of these two eminent scientists before the opening of another sealing season. But it seems to have better suited the purposes of Her Majesty's Government to withhold Professor Thompson's Report until an opportunity was afforded to examine that of Dr. Jordan, and thus enable the former to pass the latter in review, criticize its statements, and as far as possible minimize its conclusions. It is not pleasant to have to state that the impartial character which it has been the custom to attribute to the reports of naturalists of high standing has been greatly impaired by the apparent subjection of this Report to the political exigencies of the situation. It is further to be regretted that the Report was so long delayed that no opportunity was afforded this Government to examine it before the definite and final rejection of the President's proposals, based mainly upon its conclusions, was communicated to me. This conduct recalls the incident which preceded the arbitration at Paris, and which came near rendering the arbitration abortive, when a similar Report of a British Commission was withheld until after the case of each Government was exchanged and the Report of the American Commission made public."

Again (paragraph 5):—

"Professor Thompson's Report is plainly written with a view to minimize as far as possible the depleted condition of the herd on the Fribyloff Islands;" and (paragraph 6) "although Professor Thompson has been very careful throughout the Report to say nothing likely to embarrass his Government."

The reasons for the delay in the preparation and publication of Professor Thompson's Report were given in Lord Salisbury's despatch to Sir J. Pauncefote of the 7th May. Those explanations cannot, however, have been before Mr. Sherman when he permitted the insertion of the above-quoted

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statements in his despatch, and Mr. Chamberlain would not refer to this point, although so prominently put forward, if he did not feel it necessary for the vindication of Professor Thompson's high character and reputation to declare that the allegations made against him are totally unfounded, and therefore equally unjustifiable. Turning to the practical issues raised in Mr. Sherman's despatch, I am to point out that he is mistaken in assuming that Her Majesty's Government attributed to Dr. Jordan the statement that there is a "depleted condition and prospective early extinction of the herd." The words in question were used in Mr. Sherman's note to which Her Majesty's Government were replying, and they must adhere to their opinion that the statement is not warranted by any facts contained in the Report.

The passages cited from that paper are merely expressions of opinion, and the grounds upon which such opinions are based are not set forth in the report, and the passage on p. 21, where it is asserted, "he clearly recognizes diminution, as evidenced by photographs, as also by decrease of harems," must be read with his statement that "there is no assurance that photographs taken the same date on successive years show the same or relative conditions, as the arrival of the seals, and doubtless their movements on the rookeries, are affected by the state of the weather and the advancement of the season."

The statement quoted from Dr. Jordan's final report with which Her Majesty's Government have not yet been furnished, is interesting. It says:—

"From a careful study of all the conditions, in our opinion the fur-seal herd on the Pribyloff Islands has decreased to about one-fifth of its size in 1872-74, to somewhat less than half its size in 1890, and that between the seasons of 1895 and 1896 there has been a decrease of about 10 per cent."

On p. 22 of his preliminary report, Dr. Jordan estimates the seal-herd in 1896 as consisting of "143,071 breeding females, or a total number of about 440,000 of seals of all grades," and he adds, "there may have been, in 1896, 155,000 breeding seals, or a total of 475,000." Dr. Jordan's matured reflections therefore, on the comparative state of the herd, have apparently led him to consider that the loss during the period 1895-96 was not $7\frac{1}{2}$ per cent. as he thought in November last, but "about 10 per cent."

In the passage referred to on p. 22, he only carries his comparison back to 1880, when he estimates the herd at "600,000 breeding females, 1,500,000 of all grades," but he has now apparently carried his comparison further back, and estimates that in 1872-74 the herd was about five times its present size. This would mean that at that period the herd numbered 700,000 breeding females, and 2,200,000 seals of all grades collectively, and Her Majesty's Government will await with interest his explanation of the disappearance of 100,000 breeding females and 700,000 seals of all grades in the period between 1872-74 and 1880, when pelagic sealing had not yet begun. Mr. Chamberlain is not aware that it has ever previously been admitted that there was a decrease in the herd between 1872-74 and 1880, and apparently Dr. Jordan himself was not aware of it when he wrote his preliminary Report, as on p. 17 of that paper, he states that "until 1872, and perhaps a few years after, the herd continued to increase. During the period 1872 to 1878, it doubtless remained practically in a state of equilibrium under the various checks acting upon it, of which the trampling of pups was the chief. The North-west catch, which remained stationary at about 5,000 during those years, being another element of check." Whether the earlier or later views of Dr. Jordan are to be taken as expressing his final opinion, the discrepancy shows the difficulty attending the discussion of the question in consequence of the absence of any really trustworthy data on which comparisons of the size of the herd at different periods can be based, and justifies the action of Her Majesty's Government in refusing to be drawn into a discussion of the question until further information has been acquired.

Mr. Sherman again refers to the falling-off in the pelagic catch last year in Behring Sea in support of the contention that the herd has declined, and cites the figures of the catch for 1894, 1895, and 1896, from which it would appear that the catch per vessel in 1896, had fallen off nearly one-half as compared with 1894.

The catch of 1894 was altogether exceptional, as will be seen from the Table printed at p. 198 of the Report of the Secretary of the United States' Treasury for 1895, and exceeded that of any previous year, as well as that of the subsequent years, and the extraordinary variations in the catch from year to year which characterize the industry, render it impossible to deduce from the average catch per vessel in any year any safe conclusion as to the state of the herd.

Mr. Sherman questions the assertion that the falling-off in last season's catch was partly due to stormy weather, and cites Captain Hooper's statement that boarding operations were possible during twenty-four days in 1896, as compared with twenty-five in 1895, a statement which Her Majesty's Government have no reason to doubt, though it does not follow that sealing operations in canoes are practicable whenever boarding is practicable, still less that the weather is favourable for sealing, and as Lord Salisbury is aware, Admiral Palliser, in his Report on the season, described the weather as "exceptionally bad." It is unnecessary to elaborate this point further than to add that Her Majesty's Government might equally well maintain from a comparison of the results of the North-west coast catch in 1895 and 1896, that seals were more numerous in the latter year.

The number of seals is limited, and it is impossible, therefore, that the catch per vessel should remain the same while the number of vessels engaging in it has almost doubled. The presence of a greater number of vessels must necessarily interfere to some extent with each other's operations, and moreover the constant patrolling of the limited area of the fishery by steam-vessels must tend to disturb the seals and diminish the catch, which in Behring Sea is made almost entirely from sleeping seals, even if the constantly repeated boarding to which the British vessels have been subjected had

not constituted a material hindrance to the operations of the sealing fleet. The extent to which British sealing-vessels have been unnecessarily harassed by the United States patrol-vessels during 1895 and 1896 may be judged from the fact that in 1894, when the British sealing fleet numbered only twenty-two vessels, thirty-six boarding operations were performed, an average of one and a-half per vessel, while in 1895, when a fleet of forty British vessels was engaged, the number of boardings rose to 183, an average of four and a-half per vessel, and in 1896 the British fleet of fifty-seven vessels was subjected in Behring Sea alone to 171 boardings by the United States patrol, an average of three times per vessel. It is interesting to note that in 1895 seventy-six United States' vessels were subjected to only 156 boarding operations. If it is borne in mind that at each boarding operation by United States vessels the whole catch is pulled out of the salt in which it is packed, and each skin carefully examined, and then left to be resalted and repacked by the crew of the sealing-vessel, some idea may be formed of the extent to which the operations of the sealing fleet are subjected to active obstruction, in addition to the loss caused through the effect of the constant movements of the steam patrol-vessels in scaring the seals. In addition, most of the vessels were boarded one or more times by Her Majesty's ships. It is necessary here to note that, in his efforts to prove the approaching commercial extermination of the fur-seal, Mr. Sherman has, unintentionally, no doubt, by quoting without reference to its context a passage from Lord Salisbury's despatch of the 21st April, placed upon it a construction which is not borne out by its language.

He says :—

"A Table appended to his Report shows that the total product of the pelagic catch of 1896 in the London market was about half the amount of that of 1895, and Lord Salisbury informs us that this result has 'brought many owners of the sealing-vessels to the verge of bankruptcy.'"

What Lord Salisbury did actually say was that "the small catch and low prices obtained for the skins last year brought many of the owners of the sealing-vessels to the verge of bankruptcy."

It is perhaps unnecessary to dwell further on this part of Mr. Sherman's despatch, as it has been answered by anticipation in Lord Salisbury's despatch, of the 7th May, to which no reply has been received, but in view of the fact that Mr. Sherman speaks throughout as if pelagic sealing were the sole cause of the alleged depletion of the herd, it may be well to again call attention to the conclusion there drawn from Dr. Jordan's estimates of the herd at different periods, viz., that the decline of the herd was much more extensive before pelagic sealing became general than it has been since.

Mr. Chamberlain cannot pass without notice the attack upon Her Majesty's Government for declining to consider an immediate revision of the Fishery Regulations established by the Arbitration Tribunal at Paris in 1893, as this attack forms so considerable a portion of the despatch, that silence might be construed by the United States' Government as an admission that Mr. Sherman's observations cannot be answered.

The expressed object of the arbitration was "the preservation of the fur-seals," and the Regulations adopted were framed with a view to "proper protection and preservation of the fur-seal resorting to Behring Sea."

From a perusal of this despatch of the 10th May it might be inferred that the "proper protection and preservation of the fur-seal" is identical with the suppression of pelagic sealing, and this view is consistent with the attitude maintained by the United States' Government from the outset.

In support of their views the United States' Government have departed from the noblest traditions of their country which had earned universal honour by their efforts to vindicate the freedom of the high seas.

The nation which is now so zealous for prohibiting the killing of seals on the high seas was, in 1832, with equal zeal asserting a claim of right for its citizens not only to kill seals on the high seas, but to land and slaughter them on the shores of a friendly nation. The Power which now reproaches Her Majesty's Government with "unneighbourly" conduct because they decline to abolish an industry the lawfulness of which has never been questioned except by the United States, and has, only four years since, been vindicated by the highest international Tribunal, did not shrink in 1832, when the United States sealing-vessel "Harriet" had been seized for violating the territory of the Republic of Buenos Ayres in the pursuit of fur-seals, from landing an armed party at Soledad and carrying off the crew and cargo of the vessel, and from declaring that the seal fishery on those coasts was in future to be free to all Americans, and that the capture of any vessel of the United States would be regarded as an act of piracy.

The shores of the Pribyloff are to-day just as much uninhabited as were the shores of the Falkland Islands and Tierra del Fuego fifty years ago, but no British subject has ever claimed the right to land and kill seals there as the United States' citizens did on the South Atlantic under the protection of the guns of a United States' man-of-war.

British subjects, and Her Majesty's Government for them, have only claimed the right of every subject of a free State to exercise their undoubted right of fishery on the high seas; yet, while exercising that right, British subjects have been seized, fined, and imprisoned, in the face of the protests of Her Majesty's Government. And now, after Her Majesty's Government, in their desire for an amicable arrangement with the United States, had agreed to submit to arbitration their claim to exercise a right never before disputed, and to leave to the Tribunal to determine when that right had been vindicated, under what restrictions it should, in the interests of both countries, continue to be exercised, and after they have ever since scrupulously adhered to those restrictions, they find themselves, notwithstanding these concessions and sacrifices, accused of unneighbourly conduct.

When the Award was made it was welcomed in the United States because it was believed that the restrictions were sufficient to render pelagic sealing unprofitable, and that the interests of the lessees of the Pribyloff Islands would not under the new condition of affairs be materially or injuriously affected.

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When it was discovered from the results of the first year's fishery that the Regulations, severely as they pressed on the British industry, were not sufficient to destroy it, the United States Government began to press Her Majesty's Government to agree to revise the Regulations. The same arguments as had just before been urged in vain upon the Tribunal were repeated. Pelagic sealing it was declared was suicidal, and the extermination of the fur-seal was imminent. Her Majesty's Government refused to agree to set aside an Award arrived at after the most careful deliberation by the Tribunal, merely because it was found that British subjects could, under the restrictions imposed by it still continue to prosecute their industry successfully.

The agitation and pressure were continued, and exaggerated statements as to the condition of the head were circulated, till, when Her Majesty's Government sent their Agents to inquire into the actual facts in 1896, it was found that, in spite of the large catch of 1895, the herd actually numbered more than twice as many cows* as it had been officially asserted to contain in 1895. The result of these investigations, as pointed out in Lord Salisbury's despatch of the 7th May, has further been to show that pelagic sealing is much less injurious than the practice pursued by the United States lessees of killing on land every male whose skin was worth taking. If the seal herd to-day is, as Professor Jordan estimates, but one-fifth of what it was in 1872-74, that result must be, in great measure, due to the fact that, while the islands were under the control of Russia that Power was satisfied with an average catch of 33,000 seals, subsequently under the United States control more than three times that number have been taken every year, until the catch was perforce reduced because that number of males could no longer be found.

Last year while the United States Government were pressing Her Majesty's Government to place further restrictions on pelagic sealing they found it possible to kill 30,000 seals on the islands, of which Professor Jordan says, p. 21, 22,000 were to the best of his information 3-year olds, though p. 17 he estimated the total number of 3-year old males on the islands as 15,000 to 20,000. If such exhaustive slaughter is continued it will, in the light of the past history of the herd, very quickly bring about that commercial extermination which has been declared in the United States to be imminent every year for the last twelve years.

Enough has perhaps been said to justify the refusal of Her Majesty's Government to enter on a precipitate revision of the Regulations, and if further justification were required it is to be found in the nature of the industry as carried on by British subjects, especially if compared with the proceedings of United States citizens.

A large amount of British capital has been invested in ships specially fitted for the seal fishery, which cannot readily be turned to other uses, and much skill has been acquired by those employed on the vessels which is useless for other purposes, and Her Majesty's Government would require very complete justification before they could assent to measures which would render a large proportion of this capital and labour unprofitable. The United States industry is carried on on land, no capital is required except a small sum annually for the maintenance of the few Indians on the islands, whose principal sustenance is, in fact, seal's flesh, and for bringing the skins to market. A partial or total cessation of sealing is therefore a light matter to the United States citizens as compared with its result to British subjects.

The sealing industry, moreover, as carried on by British subjects is at best a highly speculative one. If by good fortune seals are met with in abundance and the weather is suitable it may prove highly remunerative, provided prices are good. But when the weather is bad, and seals are timid and prices at last year are low, heavy losses are incurred. To add to these risks uncertainty as to the conditions under which the industry may be carried on would be equivalent to putting an end to it altogether. Mr. Sherman's strictures on the conduct of Her Majesty's Government should be read in the light of these facts.

In further support of his indictment of Her Majesty's Government Mr. Sherman proceeds to review "the manner in which it (the British Government) has responded to the action of the Paris Tribunal, and to what extent and in what spirit it has observed the decision and recommendations of that Tribunal."

This review contains some signal omissions and also some inaccuracies to which attention must be called. Mr. Sherman begins by recalling the fact that when the draft Regulations were submitted to the Tribunal they provided that the Regulations should apply to all the waters of the Pacific Ocean to the north of the thirty-fifth degree of north latitude and that the late Lord Hannen objected to this provision, and moved an amendment limiting the area to that part of the ocean and sea east of the 180th meridian, and he cites part of the words used by the President of the Tribunal in acquiescing in the amendment, but omits the concluding portion which was "Nevertheless, as far as he was concerned he did not desire to do anything which might be prejudicial to the position of Great Britain or of the United States, in the negotiation which the Governments of these two countries might engage ultimately with Russia and Japan." Mr. Sherman also omits to mention that the amendment was unanimously agreed to. Lord Hannen's views on this point therefore, were equally shared by his United States colleagues on the Board.

Mr. Sherman continues: "When, in accordance with article VII of the treaty of 1892, the Russian and Japanese Governments were approached with a view to securing their adherence to the regulations, they both replied they could only do so on their extension to the Asiatic waters," and when Secretary Gresham verbally in October, 1893, brought this view of the subject to the attention of the British Ambassador, he recognized the force of the position, and said the situation seemed to suggest the propriety of a treaty between the four powers "for the preservation, for their common

* The number of cows, according to the official estimate of the 1895, was 70,423; the count in 1896 showed 143,071 cows.

benefit of the fur seals between the two continents, and north of the 35th degree of north latitude." As a matter of fact the identic note to the Maritime Powers inviting their adhesion to the regulations was not dispatched till the 20th August, 1894.

In a despatch of the 26th October, 1893, however, Sir J. Pauncefote records a conversation with Mr. Gresham, in which he reports :—

"He (Mr. Gresham) took the opportunity of mentioning that the Russian and Japanese Governments would probably, as a condition of their adhesion to the regulations prescribed by the Award, insist that the southern limit laid down in Article 2 of the Regulations, namely, the 35th degree of north latitude should be extended as far as the Japanese coast, so as to protect the Russian and Japanese rookeries. Mr. Gresham was of opinion that it would be difficult to resist this demand on equitable grounds, it being based on reciprocity. In reply to his inquiry, I said that the contention might seem plausible enough, but I did not know how it would be viewed by Her Majesty's government. I understand that Mr. Bayard has been instructed to confer with your Lordship thereon."

There is thus a discrepancy between Mr. Gresham's report, as quoted by Mr. Sherman of the language used at this interview by Sir J. Pauncefote, and Sir J. Pauncefote's own report of the same interview.

However, this may be, and whatever instructions may have been sent to Mr. Bayard as to the interests of Russia and Japan, he apparently did not consider that he was desired to bring the question before Her Majesty's Government for his official note of the 20th November made no allusion to the subject, and that note, with the exception of a verbal communication on the 20th September, 1893, expressing the desire of his Government for prompt action in procuring legislation to give effect to the Award, and in securing the adhesion of other powers was the first communication received from him on the question of the Award.

No note from Mr. Gresham of the 23rd January, 1894, on the subject of the seal fishery appears to be on record, and the note of the 24th January, to which possibly Mr. Sherman alludes, contains no allusion to the subject of the Japanese and Russian fisheries, nor does any communication appear to have been made to Her Majesty's Government on the 2nd May, 1894, in reference to this question. Mr. Sherman appears to have been misinformed as to what actually took place in regard to this matter.

On the 11th March, 1894, Mr. Gresham, in the course of a discussion on the subject of the legislation proposed by the respective Governments for enforcing the Award, threw out a suggestion for a convention between the four powers principally interested, namely : Great Britain, the United States, Russia, and Japan, to embrace a complete scheme of regulations applicable not only to the high seas, but also within the sovereignty of each Power, and he coupled this with a proposal that meantime the *modus vivendi* established during the arbitration, should be renewed and extended over the whole area of the award. Such a *modus vivendi* would have practically prevented any pelagic sealing on the eastern side of the Pacific, and would have driven the whole body of pelagic sealers to the western side, the Japanese and Russian fisheries which Mr. Sherman now believes the United States Government were anxious to protect. Her Majesty's government replied, five days later, on the 16th March, that they saw no objection to the proposed negotiation between the four Powers, and were willing to renew the *modus vivendi* on the same terms as before, but could not consent to its extension. As the United States insisted on the extension, the proposal dropped for the time.

It is possible that Mr. Sherman may have had in mind the proposals made by Mr. Gresham, on the 23rd January, 1895, to which he previously referred. To that note, after communication with the Dominion Government, a reply was returned on the 17th May, which was received by the United States Government, as Mr. Sherman states in an earlier part of his despatch on the 27th May. That reply, to which Mr. Sherman refers as "complacently" stating "that the condition of affairs is not of so urgent a character as the President has been led to believe," and that there was no "such urgent danger of total extinction of the seals as to call for a departure from the Arbitral award by which the two nations have solemnly bound themselves to abide," contained a very full statement of the reasons for the belief expressed by Her Majesty's Government to which they have not yet had any reply, and Mr. Sherman omits to mention that alternative proposals were submitted for the prosecution of a joint inquiry into the facts, the necessity for which has been fully established by the results of last year's investigation. If that proposal of Her Majesty's Government had been promptly accepted, the first trustworthy information as to the state of the seal herd would have been available at the end of 1895 instead of at the end of 1896, and would have afforded, with the information collected in the latter year, some criterion of the progress or decline of the herd.

The reasons which induced Her Majesty's Government to decline to enter upon a joint negotiation with the three Powers interested in suppressing pelagic sealing were fully set forth in the correspondence, and it is unnecessary here to do more than call attention to the fact that since 1893 Great Britain has had an arrangement with Russia in regard to the seal fishery in which that Power is interested, and that, as the seal herds are generally alleged to be quite distinct and not to intermingle, no advantage would have been gained by a joint negotiation, which could only have been based upon incomplete knowledge of facts.

Mr. Sherman proceeds further to reflect upon the action of the late Lord Hannen and of Her Majesty's Government in regard to the second declaration annexed to the Award of the tribunal, which urged a suspension for a short period of any killing of seals either on land or sea. Mr. Sherman states that Mr. Gresham instructed Mr. Bayard on the 12th September, 1893, to ask the concurrence of Great Britain in the enforcement of this declaration, and that Mr. Bayard reported on the 13th September that he had made known his instructions to the British Government. Mr. Bayard must have failed to make his meaning clear, for Lord Rosebery's despatch of the 13th September to

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Sir J. Pauncefote, recording his conversation with Mr. Bayard, speaks only of arrangements "for carrying into effect the Award of the Behring Sea Tribunal of Arbitration," and makes no reference to the second declaration annexed to the Award. On the 20th of the same month Mr. Bayard communicated a further instruction from his Government on the subject of the enforcement of the Award, but also without any reference to the declarations, as is also the case in the formal note addressed by Mr. Bayard to Lord Rosebery on the 20th November. The first reference to the subject is contained in Mr. Gresham's note to Sir J. Pauncefote of the 24th January, 1894, in which, after urging the early enforcement of the Regulations, he adds "the United States would be glad to prohibit entirely for a period of three years, or for two years, or for one year, the killing of seals, but unless Her Majesty's Government should be willing to agree to that measure it only remains for the two governments at once to give effect to the regulations determined upon by the tribunal as necessary in conformity with the treaty." In forwarding this note Sir J. Pauncefote observed that he had read this statement in Mr. Gresham's note with surprise, as it was inconsistent with his former language on the same subject at an interview on the 13th December, when, as reported by Sir J. Pauncefote in a despatch dated the 16th of that month, Mr. Gresham had stated "as regards the second declaration, respecting a further cessation of seal killing at sea and on land, Mr. Gresham stated that he was opposed to closing the industry during the coming season. Such a course would, he thought, raise a great outcry in this country, and, moreover, it was important to ascertain what had been the effect of the cessation of seal killing for two consecutive seasons in Behring Sea." This language, it need scarcely be observed, disproves Mr. Sherman's belief that the United States government had been urging Her Majesty's government to agree to the adoption of the second declaration from the moment they were informed of it. Moreover, it is to be observed that on the 24th January, 1894, when in the manner quoted, the suggestion to adopt the declaration was thrown out, it was too late, as the sealing fleet had already started for the spring fishery. Her Majesty's Government did not, however, as Mr. Sherman supposes, fail to respond, for in their reply, dated the 24th February, they stated with reference to the suggestion that they were willing to agree as a temporary measure to renew the *modus vivendi* for the continued closing of Behring Sea. This offer did not meet with the views of the United States.

Mr. Sherman's account of the action of Her Majesty's Government in regard to the adoption of measures for enforcing the regulations is also incomplete. In calling attention to the delay which took place in passing the legislation for giving effect to the award, he omits to mention that part of the delay was due to the difficulty caused by the desire of the United States Government to transfer the negotiations to London, although all the previous discussions in connection with the Behring Sea difficulties had been carried on at Washington, and Her Majesty's Ambassador there was fully informed on the whole question, and, further, that for some time the United States Government persisted in a desire to proceed to enforce the regulations by means of a convention instead of by legislation, a course which was impossible for this country, where treaties restricting or interfering in any way with the rights and liberties of the subject require the sanction given by express laws. The proposed legislation, too, mainly affected Her Majesty's subjects in Canada, and it was necessary therefore to refer constantly to the Dominion Government in the matter, and there was no undue delay on the part of Her Majesty's Government in dealing with it.

The British Act received the Royal assent on the 23rd April, 1894, just seventeen days after the United States' Act was passed; the Order in Council giving the necessary powers to United States' officers to act under the British Act was passed on the 30th April, and instructions were sent to Her Majesty's naval officers by telegraph the same evening, and the Act was thus brought into force before the beginning of the close time fixed by the Regulations. The statement in Mr. Sherman's despatch, therefore, that "the British Act to enforce the Regulations was not passed until four months after the sealing season had opened, and the final Order in Council (the 27th June, 1894) on the subject was not issued until six months after the sealing fleet had put to sea in disregard of the Award of the Tribunal" is misleading. The Regulations, except in so far as they prescribed a special flag for sealing vessels, and the making certain entries in the log and taking out a license, all made no change in regard to the methods of sealing during the spring. The legislation was passed in time to enforce the close season, and during the close season arrangements were completed with the United States in regard to the flags, &c., and it was to give effect to these arrangements that the second Order in Council, viz., that of the 27th June was passed, more than a month before the close season ended. It is difficult therefore to know what is exactly meant by saying that "the sealing fleet had put to sea in disregard of the Award of the Tribunal," unless it refers to the departure of the fleet for the coast fishery in which the Award makes practically no change.

In regard to the charge of neglect of the police duties under the Award, Mr. Chamberlain would observe that the sealing fleet consists entirely of small sailing-vessels. In 1894 forty-four were employed during the spring season, and thirty-seven in Behring Sea. In 1895 the number in the spring season was fifty-two, and in Behring Sea fifty-nine, and in 1896 the numbers were forty-three and sixty-seven respectively. The main duty of the patrol is to prevent infringement of the 60-mile zone in Behring Sea, and to prevent sealing during the close time, and even if the masters of the sealing-vessels were bent on evading the law, instead of being, as they are, most anxious to conform to it, Her Majesty's Government are satisfied that one man-of-war or revenue-cutter is quite equal to looking after eight small sailing-schooners.

Her Majesty's Government also send three vessels to patrol the western side of the Pacific to see to the enforcement of the arrangement with Russia, and though United States pelagic sealers equally engage in the fishery on that side, and United States have a similar arrangement in regard to it, Mr. Chamberlain has never heard of any United States vessel taking any part in the patrol on

that side, and Her Majesty's Government have, therefore, had employed in the patrol of the seal fisheries on one side of the Pacific or the other five or six men-of-war as a rule, as compared with five or six revenue-cutters on the part of the United States, and they have every reason to believe that this force is ample for the discharge of the proper duties of the patrol.

The "strange misconception of the true spirit and intent of the Arbitrators," said by Mr. Sherman to have been developed on the part of the British Government, has been entirely on the part of the United States—a misconception which Her Majesty's Government have frequently had to point out. The Agreement for allowing vessels to have their arms sealed up was not renewed, because, as Mr. Sherman was well aware, it was made a pretext by United States officers for the unwarrantable seizure of two British vessels. Moreover, Her Majesty's Government made provision for the examination of sealing-vessels before clearing for Behring Sea, and the issue to them of certificates by the Customs authorities, to the effect that they had no fire-arms on board. The United States' Government declined to accept these certificates and insisted that British sealing-vessels should undergo a further and, as might be expected, unsuccessful search at the hands of a United States' officer.

The United States Government can scarcely have seriously expected that Her Majesty's Government would consent to cast such a grave asperion on the character of their officials. The Award, it must be remembered, is carried out, so far as British vessels are concerned, under a law of the Imperial Parliament, and Her Majesty's Government have accepted the assistance of United States commissioned officers in enforcing that law, but they have not conferred on them, nor did the Tribunal of Arbitration suggest that they should confer on them, the duty of supervising and controlling the action of British naval or customs officers appointed to that duty, and they are pleased to think that in spite of all the boarding and searching with which the British sealing fleet has been harassed, not a single instance has been established of the use of fire-arms by British vessels contrary to the Regulations.

The so-called serious defect in the British Act for the enforcement of the regulations is the next point in Mr. Sherman's indictment. He refers to the omission of the clause, contained in the Act passed to carry out the *modus vivendi* of 1891, which provided that the presumption of guilt would lie against the vessel having on board fishing or shooting implements, or seal-skins at forbidden times or in forbidden waters, and declares that "the practical effect is to make it impossible in many cases to convict British sealing-vessels, although there may be the strongest presumptive evidence of guilt, evidence which, under the Act of Congress, would in most cases procure the conviction of an American sealing-vessel."

It would have been of much assistance to Her Majesty's Government if Mr. Sherman had mentioned one or two of these cases, as only ten British vessels have been seized during the three years that the Act has been in force. Of these, two were seized in 1894, not for violation of the Award, but having unsealed arms on board, the alleged arms in one case being a musket with the barrel cut down, used for signalling to the vessel's boats. There was absolutely no evidence in either case that the arms had been used, and the Admiral decided not to bring vessels so improperly seized to trial. One vessel was seized last year by the United States on the pretext that there was a shot-hole in one of the skins, though the most exhaustive search failed to reveal any arms on board, and after a few days' detention the United States' officer in charge of the patrol released her. There remain only seven vessels, therefore, brought to trial in three years, and of these four have been convicted and heavy fines or forfeiture inflicted. The cases referred to by Mr. Sherman are therefore reduced to three. One of these vessels was seized on the ground that the master had not entered up in his log for two days the number of seals taken, and the Court promptly dismissed the case with costs against the prosecutor. The other vessel released had been seized on a charge of using fire-arms in killing seals in Behring Sea. Having been previously sealing on the Japan coast, where the use of fire-arms is allowed, on entering Behring Sea the master had his ammunition and arms carefully counted by the United States' officers at Attu before beginning sealing. When searched subsequently there appeared to be some discrepancy in the ammunition, and one skin had a hole in it presenting an appearance like that of a shot-hole. The discrepancy in the ammunition was fully accounted for, but the vessel was sent for trial, and of course acquitted. The third case of acquittal was somewhat similar to the last, except that the evidence was even less strong, and the Commander of the British patrol fleet only sent her for trial because his instructions gave him no discretion where a distinct offence is charged against a vessel by a United States' officer. It is implied that because the clause making the possession of sealing implements *prima facie* evidence justifying seizure appeared in the Act for the enforcement of the *modus vivendi* in 1891 it should also have appeared in the Act of 1894 for enforcing the Award. But the circumstance were completely altered. Under the *modus vivendi* Behring Sea was closed to sealing. If a vessel with sealing equipment was found within the well-defined limits of the sea, her presence raised the presumption that she was there for an unlawful purpose. The Award, on the other hand, established a close season over the whole area of the North Pacific east of 180° from the 1st May to the 1st August. When the close season begins the sealers have to find their way back to port through the closed area for hundreds of miles with their arms and skins on board. Before the season opens in Behring Sea they have again to find their way through the closed area with their equipment on board to be ready to begin operations as soon as the close time ends. If the clause were in the British Act every one of the vessels either going to or returning from the prosecution of their lawful fishery could be seized solely because of the possession of the implements and produce of her calling. It would be evidently unjust to enforce such a provision.

Even if the operation of the clause were restricted to the 60-mile zone in Behring Sea, it would obviously, with the fogs and currents there prevailing, when for days together it is impossible to get

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a sight of the sun, be unjust to presume that whenever a sealing-vessel was found inside a geographical line which she may have had no opportunity of fixing, that she was necessarily there for an unlawful purpose. Such a measure would be contrary to the spirit of justice, and inflict unnecessary and unmerited hardships on a part of Her Majesty's subjects who are most anxious to observe the law in every particular.

The final instance cited by Mr. Sherman of "the failure and refusal" of the British Government to give full effect to the Paris Regulations," deals with the question of the entries required in the official log-books of the number and sex of the seals taken. He speaks of the "daily" entry, though the word does not appear in the Regulations, and complains that the Returns furnished by British sealing vessels are untrustworthy, and that Her Majesty's Government have refused to allow the catch of British sealing-vessels to be examined in Canadian ports by United States' Inspectors.

Mr. Sherman omits to mention the contention of Her Majesty's Government that the results of such inspection for the purpose of determining the sex of the seal from which the skin has been taken are at the best of very doubtful value, and that although in the case of males three years old or over, or of females which have borne young, it is possible to determine the sex from an examination of the skin with more or less accuracy, it is not possible to do so with any approach to certainty in the case of the skins of young males or females.

Mr. Sherman's charges are summed up in the final paragraphs of his despatch. They have been answered above in detail and it has been shown in regard to the alleged refusal to extend the Regulations to the Asiatic waters that Regulations believed at the time by Her Majesty's Government and the Government of Russia to be adequate in regard to these waters, have been in force there since 1893, and that when Russia in 1895 complained of their inadequacy, Her Majesty's Government took the first opportunity in 1896 of inquiring into the state of the herd on the Russian Islands, and are conducting fur investigation with the same object this year.

In regard to the refusal of Her Majesty's Government to agree to the total suspension of the killing of seals for a period of years, it has been shown that such a measure was in the first instance deprecated by the United States Government, and when it was brought up it was too late, though in any case Her Majesty's Government could not have agreed to such a measure, as it would have involved the ruin of an important British industry.

The alleged neglect to put the Regulations in force until after sealing had been entered upon has been answered by showing that all the substantive Regulations were enforced by the date fixed by the Tribunal.

The "evasion of the patrol duty" has been disposed of by showing that Her Majesty's Government have actually had a larger force engaged in patrolling the seal fisheries of the Pacific than the United States, and that the force is more than adequate for the purposes.

The "opposition to suitable measures for the enforcement of the prohibition against fire-arms" has been shown to be unfounded. The possession of fire-arms by a sealing-vessel is not in itself illegal. It is their use which is prohibited, but it has been shown that British vessels do not clear with fire-arms, that no instance of their use has been established, and that Her Majesty's Government were compelled to withdraw from the arrangement for the sealing of arms, because they found that not only did it no serve to save British vessels from unnecessary interference, but was actually made a pretext for unwarrantable seizures.

They have not omitted to enact legislation necessary to secure the conviction of the guilty, but they have refused to pass legislation certain to embarrass and injure the innocent.

They have refused to seek legislation authorizing an inspection of skins because they do not believe that such an inspection would serve any useful purpose.

They have performed with the utmost rigour all the requirements of the Award, but they have had to make continual and unavailing protests against the attempts of the United States to hamper and embarrass the operations of British subjects pursuing their lawful vocation.

The fact that in spite of these embarrassments British sealers have been able to prosecute their industry with success has led to the continual efforts of the United States to obtain such further Regulations as would effectively prevent that result, without regard to the object aimed at the Tribunal in the Regulations they laid down, which was to preserve the seal fishery for the benefit of both countries.

Her Majesty's Government have never argued that the Regulations were perfect, but, they have maintained that before they can be revised in a scientific manner accurate information as to the increase or decrease of the herd must be available, and that such information can only be obtained by accurate observations extending over a sufficient period to enable accidental circumstances to be eliminated, and as soon as that is at hand they will be ready to enter on a discussion of the question in the impartial and friendly spirit with which they can confidently claim to have acted throughout this controversy.

I am, &c.,

(Signed) EDWARD WINGFIELD.

PROHIBITION OF PELAGIC SEALING BY CITIZENS OF THE UNITED STATES.

Legislation has recently been adopted and approved by the President of the United States prohibiting a citizen of the United States or person owing duty of obedience to the laws or treaties of the United States, or person belonging to or on board a vessel of the United States from engaging in the industry of Pelagic sealing in the waters of the Pacific Ocean, north of the thirty-fifth degree of north latitude, and including Behring Sea and the Sea of Okhotsk.

The text of this Act, together with that of the regulations approved by the President for the enforcement of that part prohibiting the importation of skins taken in such waters into the United States, are contained in the Treasury circular hereunder:—

PROHIBITION OF THE KILLING OF FUR-SEALS IN THE WATERS OF THE NORTH PACIFIC OCEAN, AND OF THE IMPORTATION OF FUR-SEAL SKINS TAKEN IN SUCH WATERS.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,

WASHINGTON, D. C., December 30, 1897.

To the Collectors and other Officers of the Customs:

The following act prohibiting the killing of fur-seals in the waters of the North Pacific Ocean, and the regulations made thereunder are published for the information and guidance of all concerned:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That no citizen of the United States, nor person owing duty of obedience to the laws or the treaties of the United States, nor any person belonging to or on board of a vessel of the United States, shall kill, capture, or hunt, at any time or in any manner whatever, any fur-seal in the waters of Pacific Ocean north of the thirty-fifth degree of north latitude and including Behring Sea and the sea of Okhotsk.

SEC. 2. That no citizen of the United States, nor person above described in section one, shall equip, use, or employ, or furnish aid in equipping, using or employing, or furnish supplies to any vessel used or employed, or to be used or employed in carrying on or taking part in said killing, capturing, or hunting of fur-seals in said waters, nor shall any vessel of the United States be so used or employed.

SEC. 3. That every person guilty of a violation of this Act, or of any regulations made thereunder, shall, for each offense, be fined not less than two hundred dollars or more than two thousand dollars, or imprisoned not more than six months, or both; and every vessel, its tackle, apparel, furniture, and cargo, at any time used or employed in violation of this Act, or of the regulations made thereunder, shall be forfeited to the United States.

SEC. 4. That if any vessel of the United States shall be found within the waters to which this Act applies, having on board fur-seal skins or bodies of seals or apparatus or implements suitable for killing or taking seals, it shall be presumed that such vessel was used or employed in the killing of said seals, or that said apparatus or implements were used in violation of this Act until the contrary is proved to the satisfaction of the court.

SEC. 5. That if any violation of this Act or of the regulations thereunder may be prosecuted either in the district court of Alaska or in any district court of the United States in California, Oregon, or Washington.

SEC. 6. That this Act shall not interfere with the privileges accorded to Indians dwelling on the coast of the United States under section six of the Act of April sixth, eighteen hundred and ninety-four, but the limitations prescribed in said Act shall remain in full force.

SEC. 7. That this Act shall not affect in any way the killing or taking of fur-seals upon the Pribilof Islands, or the laws of the United States relating thereto.

SEC. 8. That any officer of the Naval or Revenue-Cutter Service of the United States, and any other officers duly designated by the President, may search any vessel of the United States in port or on the high seas suspected of having violated or of having an intention to violate the provisions of this Act, and may seize such vessel and the offending officers and crew and bring them into the most accessible port of the States and Territory mentioned in section five of this Act for trial.

SEC. 9. That the importation into the United States by any person whatsoever of fur-seal skins taken in the waters mentioned in this Act, whether raw, dressed, dried, or manufactured, is hereby prohibited, and all such articles imported after this Act shall take effect shall not be permitted to be exported, but shall be seized and destroyed by the proper officers of the United States.

SEC. 10. That the president shall have power to make all necessary regulations to carry this Act into effect.

Approved, December 29, 1897.

Marine and Fisheries—Fisheries Branch.

REGULATIONS.

1. No fur-seal skins, whether raw, dressed, dyed, or otherwise manufactured, shall be admitted to entry in the United States, unless there shall be attached to the invoice a certificate, signed by the United States consul at the place of exportation that said skins were not taken from seals killed within the waters mentioned in said act, specifying in detail the locality of such taking, whether on land or at sea, and also the person from whom said skins were purchased in their raw and dressed state, the date of such purchase, and the lot number. Consuls shall require satisfactory evidence of the truth of such facts by oath or otherwise before giving any such certificate.

No fur-seal skins, raw, dressed, dyed, or otherwise manufactured shall be admitted to entry as part of a passenger's personal effects unless accompanied by an invoice certified by the consul as herein provided.

All fur-seal skins, whether raw, dressed, dyed, or otherwise manufactured, the invoices of which are not accompanied by the certificate above prescribed, shall be seized by the collector of customs and destroyed as provided for section 9 of the act of December 29, 1897.

2. Every article manufactured, in whole or in part, from fur-seal skins, the invoice of which is presented as aforesaid to the consul, shall have legibly stamped thereon the name of the manufacturer and the place of manufacture, and shall be accompanied by a statement in writing under the oath of said manufacturer that said skin or skins used in said article were taken from seals not killed at sea within the waters mentioned in said act, specifying the locality in detail, and also the person from whom said skins were purchased in their raw and dressed state, the date of said purchase and the lot number.

3. When an application is made to a consul for a certificate under these regulations the invoice and proofs or origin presented by the exporter shall be submitted to the Treasury Agent designated for the purpose of investigation, and the consul shall not certify any such invoice until agent shall have made his report.

4. All articles manufactured in whole or in part from fur-seal skins and imported into the United States shall have the linings thereof so arranged that the pelt of the skin or skins underneath shall be exposed for examination.

5. All fur-seal skins, whether raw, dressed, dried, or otherwise manufactured in whole or in part, whether imported as merchandise of a passenger's effects, shall be sent to the public stores for careful examination and inspection to prevent evasion of the law.

All garments made in whole or in part of seal skins, and taken from this country may be re-entered on presentation of a certificate of ownership from the collector of customs of the port of departure, which certificate shall have been obtained by the owner of the garment by offering the same to the collector for inspection before leaving this country.

7. Nothing in these regulations shall affect the right of any officer of the customs to inspect and seize any fur-seal skin or garment imported which he may find to have been imported in violation of said act.

APPROVED

L. J. GAGE, *Secretary of the Treasury.*

WILLIAM MCKINLEY.

THE BEHRING SEA CLAIMS COMMISSION.

The nature and personnel of this commission was explained in the report of last year, and it was shown that the written arguments of the counsel for both countries and the reply of the counsel on behalf of Great Britain, were to be presented in time to permit of a meeting at Montreal on the 16th June of this year.

This was done and pursuant to the adjournment at Victoria the meeting was held at Montreal on the date named.

This meeting occupied one day, some incidental work being necessary besides the examination of some witnesses produced on behalf of the United States.

It was then arranged that the meeting of the commission for the final oral argument of counsel should take place at Halifax, and accordingly the sessions began on the 25th August in the Legislative Council Chamber of the Provincial Building of Nova Scotia.

The argument proceeded without adjournment other than incident to the daily sessions, and was concluded on the 29th September.

The commissioners held their final session at Boston, in December, 1897, and determined the extent to which the United States were liable to Great Britain in respect of the claims filed, assessing the respective amount of compensation to be paid to Her Majesty on behalf of the owners, masters, officers and crews of the

different vessels; the interest allowed being at the rate of 6 per cent, which was the statutory rate at Victoria, British Columbia, during the period covered. The award is distributed as followed :—

	Damages.		Interest.		Award.	
<i>Vessels' Claims.</i>	\$	cts.	\$	cts.	\$	cts.
Carolena	13,341	72	9,020	71	22,362	43
Thornton	13,521	10	9,142	53	22,663	63
Onward	9,376	00	6,339	74	15,715	74
Favourite	3,202	00	2,165	08	5,367	08
Anna Beck	21,692	50	13,366	19	35,058	69
W. P. Sayward	12,537	50	7,725	22	20,262	72
Dolphin	31,484	00	19,399	38	50,883	38
Grace	26,213	50	16,125	67	42,339	17
Alfred Adams	10,124	00	6,238	07	16,362	07
Ada	20,902	69	12,880	01	33,782	70
Triumph	1,750	00	1,078	29	2,828	29
Juanita	11,493	00	5,702	44	17,195	44
Pathfinder	13,796	00	6,845	12	20,641	12
Black Diamond	15,173	00	7,528	32	22,701	32
Triumph	15,450	00	7,665	77	23,115	77
Lily	11,739	00	5,832	48	17,571	48
Ariel	4,950	00	2,456	03	7,406	03
Kate	3,050	00	1,513	31	4,563	31
Minnie	8,460	00	4,197	57	12,657	57
Pathfinder	800	00	370	67	1,170	67
Winnifred	3,283	05	1,061	52	4,344	57
Henrietta	9,599	85	2,421	19	12,021	04
Oscar & Hattie	2,250	00	715	05	2,965	05
Totals	264,188	91	149,790	36	413,979	27
<i>Personal Claims of Masters and Mates.</i>						
Daniel Munroe	3,000	00	2,028	50	5,028	50
John Margotich	2,500	00	1,690	42	4,190	42
Hans Guttorinsen	3,000	00	2,028	50	5,028	50
Harry Norman	2,500	00	1,690	42	4,190	42
James Ogilvie	3,000	00	2,028	50	5,028	50
James Blake	2,500	00	1,690	42	4,190	42
J. D. Warren	2,000	00	1,232	33	3,232	33
John Reilly	1,500	00	924	25	2,424	25
George R. Ferey	2,000	00	1,232	33	3,232	33
A. D. Laing	1,500	00	924	25	2,424	25
Louis Olsen	2,000	00	1,232	33	3,232	33
M. Keefe	1,500	00	924	25	2,424	25
W. Petit	2,000	00	1,232	33	3,232	33
C. A. Lundberg	1,000	00	616	17	1,616	17
Totals	30,000	00	19,475	00	49,475	00
Grand Totals	294,188	91	169,265	36	463,454	27

It will be seen that in regard to the vessels claims the assessment has been divided thus: damages, \$264,188.91; interest, \$149,790.36; award, \$413,979.27; and in respect of the personal claims of the masters and mates, the division is: damages, \$30,000.00; interest, \$19,475.00; award, \$49,475.00.

The total amount of damages allowed is therefore :—

	Damages.	Interest.	Award.
Vessels.....	\$264,188 91	\$149,790 36	\$413,979 27
Personal claims.....	30,000 00	19,475 00	49,475 00
Totals.....	\$294,188 91	\$169,265 36	\$463,454 27

Marine and Fisheries—Fisheries Branch.

To this, however, should be added the provisional awards in respect of the schooner "Black Diamond" and of the personal claim of Captain James Gaudin, as follows:—

	Damages.	Interest.	Award,
"Black Diamond".....	\$5,000 00	\$3,075 00	\$8,075 00
Capt. Gaudin.....	1,000 00	616 17	1,616 17
	\$6,000 00	\$3,691 17	\$9,691 17

Which will raise the total award to \$473,145.44.

Owing to the absence from the country of the parties interested, these latter claims were not formulated at the time the schedule which was eventually submitted to the Paris tribunal was prepared, and as a motion for striking them out had been made by the counsel on behalf of the United States before the commissioners, the question was reserved.

It transpired that it was the intention of the parties to the treaty that all claims should be adjudicated upon, and although the commissioners finally dismissed these particular claims as not being within their jurisdiction under the strict terms of the convention, they made, at the instance of the negotiators of the two governments, a separate report finding damages as above stated.

The article on the Behring Sea question contained in the departmental report for 1895, embraces a list and summary of the claims as submitted to the United States Government in the diplomatic correspondence.

RUSSIAN SEIZURES—"WILLIE MCGOWAN" AND "ARIEL."

In the report for 1893, p. CIV, under the heading "Pelagic fur-sealing," is an account of the seizure of Canadian schooners by the Russian authorities in 1892, together with the text of the decision in each case, of a commission appointed by the Russian Imperial government to enquire into the several cases.

Among the seized schooners were the "Willie McGowan" and "Ariel," in respect of which the commissioners decided that the seizures were not regular, although maintaining the other seizures and interferences, some seven in number.

An offer was made by the Russian Government of \$40,078.75, compensation for the seizure of these two vessels which offer was accepted by both Her Majesty's government and that of Canada as a full settlement of the claims of the "Willie McGowan" and "Ariel."

Respectfully submitted,

R. N. VENNING.

Ottawa, 31st December, 1897.

APPENDIX No 14.

SCHEDULE of Fishery Officers in the Dominion of Canada, as revised to
December, 1897.

NOTE—Names in *italics* receive no salary, (Of.) means Officers, (W.) Wardens, (I.) Inspectors, (G.) Guardians and (Agt.) Agent.

PROVINCE OF ONTARIO.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Sheppard, O. B. (I.)	Toronto	Province of Ontario.
Dunn, Capt. E.	Owen Sound	Having jurisdiction over Georgian Bay and the Great Lakes.
Pearson, Capt. Geo. Wm.	do	do do the whole province of Ontario.
Kyle, Morrison	Rat Portage	Lake of the Woods and other waters of Rainy River district.
Cross, J. W.	Port Arthur	The whole district of Algoma.
<i>Pim, Chas. Jas.</i>	Caribou Island	Lake Superior around Caribou Island.
Elliott, Thos. H.	Sault Ste. Marie	From the Otter Head, Lake Superior to French River, Algoma
Macdonald, J. K.	Toronto	Lake Kagawong, Manitoulin Island.
<i>Boyd N. M.</i>	Kagawong	do do
<i>Lamorandière P. R. de.</i>	Killarney	Georgian Bay, from Current to French River.
<i>Barron, Ed., jr.</i>	French River	do from Killarney to Byng Inlet.
<i>Lamondin, Joseph.</i>	Byng Inlet	do Gladstone Island to Sophia Rock.
<i>Huff, Thomas W.</i>	Jones' Island	do part of Parry Sound Harbour.
<i>White, C. L.</i>	Snug Harbour	do vicinity of Pointe au Baril.
<i>Columbus, Chris.</i>	Penetanguishene	Part of Murray Township, Muskoka District.
Smith, Frank J.	Midland	Georgian Bay, from French River to Point Marks.
<i>Marchildon, Thos.</i>	Lafontaine	do from Point Marks to Pointe Boucher.
Edmonstone, Robt	Ballaclava	do around Christian, Hope and Beckwith Islands.
Lennox, Isaac	Wiarton	do from Allanwood to Colpo's Bay.
<i>Boyd, W. S.</i>	North Keppel	do from Colpo's Bay to Cape Hurd.
Briggs, Chas.	Paisley	Lake Huron, from Cape Hurd to Southampton, inclusive.
Ball, H. W.	Goderich	do from Southampton to Goderich, inclusive.
Quarry, H. B.	Parkhill	do from Goderich to Blue Point.
Pollock, J. C.	Forest	do and St. Clair River, Blue Point to Baby's Point.
Raymond, C. W.	Mitchell's Bay	Lake St. Clair, from Little Lake to its head.
Boismier, Joseph	Sandwich	do from Dover East to the mouth of Detroit.
Stewart, John	Point Pelee Island	River, and from thence to its outlet.
<i>Bartlett, Horace H.</i>	North Harbour Id.	Lake Erie, around Point Pelee Island and adjacent islands.
Lamarche, Peter	Wheatley	do North Harbour and Middle Sister Islands.
<i>Malott, E. A.</i>	Kingsville	Lake Erie, fronting on the county of Essex.
Laird, Jas. K.	Blenheim	do do Essex.
Freeland, Wm.	St. Thomas	do do Kent and inland waters.
Sharp, David.	Port Ryerse.	do do Elgin.
Couper, Archibald	Dunnville	Lake Erie, fronting on the counties of Norfolk, Haldimand, as far as South Cayuga.
Farrell, John.	Cayuga	Lake Erie, from South Cayuga to Moulton Bay and Grand River, from mouth to division lines, townships of Canborough and North Cayuga.
Kerr, Fred.	Hamilton	Grand River, from and including North Cayuga to Brantford. Having jurisdiction over all Ontario, but district proper comprises Lake Ontario, from Burlington Beach, to Niagara River and Lake Erie to Low Banks.
Sargent, Wm.	Bronte	Lake Ontario, from Burlington Beach to Port Credit.
Stobo, Isaac	Scarboro'	do fronting county of York.
<i>Hall, Thos.</i>	Lloydtown	Hall's Lake, York County.
Freeman, Sylvanus	Brighton	Lake Ontario, fronting on the counties of Northumberland and Durham and tributaries thereof.
Gilchrist, Chas.	Port Hope	Rice Lake in electoral district of West Northumberland with Trent and Keene Rivers and tributaries thereto.

Marine and Fisheries—Fisheries Branch.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF ONTARIO—Continued.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Perry, Chas.	Port Whitby.	Lake Ontario, fronting on the county of Ontario South.
Clarke, W. P.	Belleville.	Bay of Quinté, from Deseronto to head waters of said bay in the township of Murray, also that portion of Trent River in counties of Northumberland and Hastings.
Redmond, Joseph, jr.	Picton.	Lake Ontario, fronting on the county of Prince Edward.
Sills, E. H.	Napanee.	do counties of Lennox and Addington, and upper part of Amherst Island.
Finkle, R. R.	Bath.	Lake Ontario, fronting Earnestown township in Lennox and Addington, and the lower part of Amherst Island.
Crosby, A. H.	Belleville.	Head of Bay of Quinté from Three Brothers' Island, near Kingston, to Trenton.
Vanass, Philip.	Wolfe Island.	Lake Ontario, around Wolfe, Horse-shoe and Pigeon Islands.
Ward, Wm.	Toronto.	The waters around Toronto Island, including Toronto and Ashbridge Bays and River Don.
Purdy, John.	Kingston.	Lake Ontario, fronting on the townships of Pittsburg and Kingston, county Frontenac.
Craig, Wm. ....(G)	Glenburnie.	Township of Storrington, county Frontenac.
Cox, John.	Howe Island.	Lake Ontario and River St. Lawrence, around Howe Island.
Acton, Nassau.	Gananoque.	River St. Lawrence, from Wolfe Island to Jack Straw Light-house, Admiralty Islands; also part of Gananoque River.
Davis, John H.	Gananoque.	River St. Lawrence, Sheriff's Point to Head of Grenadier Id.
Poole, Robt.	Poole's Resort.	do from Rockport to Prescott.
Mooney, John.	Maitland.	do from Brockville to Cornwall.
Miron, Olivier.	Alfred.	South Nation River, county of Prescott.
Boucher, W. W.	Ottawa.	Ottawa River and its tributaries, from Ottawa to Fitzroy township, county of Carleton.
Riddle, Matthew.	Mohr's Corners.	Ottawa River, from Fitzroy to McNab, including Lake des Chats.
Hicks, H.	Arnprior.	Ottawa River, from McNab to Horton and Lake des Chats.
Richardson, C. S.	Sturgeon Falls.	Lake Nipissing, Sturgeon, Mattawa River, French River and tributaries.
Bastedo, David E.	Bracebridge.	Townships of Macaulay, McLean, Ridout in N. R. Ontario Co., and Franklin, Bennett and Stephenson in Mukoka.
Castle, Henry.	Gravenhurst.	Lakes Muskoka, Skeleton, Rousseau and Joseph.
Green, Jediah.	Stirling.	Townships of Huntingdon, Hungerford, Sydney, Thurlow and Tyendinaga, county Hastings.
Steele, George R.	Lorimer Lake.	Townships in Parry Sound of Cowper, Foley, Christie, McDougall, McKellar, Ferguson, Carling, Shawanaga, Burpee, Hagerman, Harrison, Burton and Mackenzie.
Forsyth, Edmund.	Loring.	Townships of Walbridge, Brown, Wilson's Mills, Mowat, Blair, McKonkey and Hardy, in Parry Sound.
Lockhart, Wm.	Denville.	Townships of Croft, Chapman, Strong, Joly, Laurier, Machar, Lout, Ferrie, Mills, Pringle, Gurd and Himsworth, in Parry Sound.
Clarke, Geo.	Orillia.	Lakes Simcoe and Couchiching, also Rivers Severn and Holland.
McDermott, Wm.	Beeton.	South Riding of the county of Simcoe.
McFayden, H.	Durham.	The head waters of Saugeen River and tributaries.
.....	.....	North branch of Sydenham River, from junction with main river, to its sources.
McQueen, Tim.	Chatham.	River Thames, from its mouth to Lewisville.
Crotty, John.	Bothwell.	do from Lewisville to Wardsville.
McCann, Peter.	London.	do from Wardsville to London.
Croome, W. P.	Mount Vernon.	Grand River and its tributaries, from Brantford upwarks.
Coleman, David.	Alton.	North Riding of the county of Wellington.
Hughson, Andrew.	Orangeville.	The whole Electoral District of Cardwell.
.....	.....	Credit River and its tributaries in the counties of Dufferin and Peel.
Veal, John.	Nestleton.	East side Lake Scugog southerly including the east side of Scugog Island in the township of Reach, county Ontario and fronting in township Cartwright in county of Durham.
Blakely, Alex.	Port Credit.	Credit River from Norval to its mouth, in the county of Peel.
Bowerman, John.	Port Perry.	West side of Lake Scugog from Washburn's Island including west side Scugog Island township of Reach.
Bradshaw, Arch.	Lindsay.	Inland waters of township of Ops, Victoria County.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF ONTARIO—Concluded.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Bowen, J. C.	Marmora	Townships of Marmora, Madoc, Elzever, Rawdon, and Belmont.
Fitzgerald, Geo. W.	Lakefield	The county of Peterborough within the townships of Harvey, Burleigh, Dummer, Douro, Smith and Ennismore, also Otonabee River from Peterborough to Rice Lake.
Breeze, David	Peterborough	Otonabee River, from Peterborough to Rice Lake, county of Peterborough.
Gainforth, Wm.	Haliburton	Gull and Burnt Rivers and tributaries, with Drag, Eagle, Moose, Redstone and Crooked Lakes, in Peterborough.
Sweet, B. H.	Bancroft	Inland waters of Hastings County, lying north of townships of Lake, Tudor and Grimsthorpe.
Purcell, H. R.	Enterprise	Townships of Camden, Portland, Loughboro', Sheffield and Kennebec, in Addington.
Stalker, Jas.	Plevna	Townships of Palmerston, Clarendon, North Canonto, South Canonto and Miller, in Addington.
Lake George	Tichbourne	That part of Frontenac north of Loughboro' Lake.
Flood, Ant. J.	Delta	Upper and lower Beverly Lakes and Wiltse and Mud Lakes, in Leeds, and tributaries to Morton, Lyndhurst and Griffin Lakes, in the county of Leeds.
Moorehead, John	Long Point	From Lyndhurst to the division line, between Leeds and Lansdowne, in the county of Leeds.
Greer, Jas.	Outlet	Gananoque River from Marble Rock to township of Lansdowne, county of Leeds.
Bullis, S. Y.	Athens	Charleston Lake, in the county of Leeds.
Jeacle, George	Westport	Rideau, Upper Rideau, Openicon, Otty, and neighbouring Lakes, county of Leeds.
Ross, Jas. H. (G)	Smith's Falls	Rideau River, Burritt's Rapids to Smith's Falls.
Deacon, Eph.	Bolingbroke	River Tay and tributaries, and Fall Bay River, in Lanark.
Campbell, R. O.	Burritt's Rapids	Rideau River and tributaries, from Ottawa to Burritt's Rapids, including Jock River, in Carleton.
McCuaig, R. C. W.	Ottawa	Province of Ontario.

PROVINCE OF QUEBEC.

Hon. Peter Mitchell (I.)	Montreal	Province of Quebec and Maritime Provinces.
Lavoie, Nap. (Of.)	L'Islet	Lower St. Lawrence River and Gulf.
Gregory, J. U. (Agt.)	Quebec	Having jurisdiction in the whole province of Quebec.
Smith, Joseph	Cedar Hall	Lake and River Metapedia, in the county of Bonaventure.
Brown, Chas.	Escuminac	Restigouche River and its tributaries in the Cos. of Restigouche and Victoria, N.B., and Rimouski and Bonaventure, P.Q.
Green, Jas.	Magnasha	Bay des Chaleurs, Co. Bonaventure, coast from Maguasha to Grand Cascapedia River, inclusive.
Forest, George	Bonaventure River	Bay des Chaleurs, Co. Bonaventure, coast from Grand Cascapedia River to Paspebiac.
Chapados, F. X.	L'Anse au Gascon	Bay des Chaleurs, Co. Bonaventure, coast from Paspebiac to Point Macquereau.
Keays, John	Pabos	County of Gaspé, Point Macquereau to corner of the Beach.
Langlois, Walter	Douglastown	do from corner of the Beach to Cape Rosier.
Aspireau, Moise	Griffin Cove	do from Cape Rosier to Fame Point.
Chevrier, J. A.	Amherst, M. I.	Gulf of St. Lawrence around the Magdalen Islands.
*Joncas, P. L.	House Harbour, Magdalen Islands	Magdalen Islands, except Amherst and Entry Islands.
Letourneau, Louis	Montlouis	River St. Lawrence, county of Gaspé, from Fame Point to Duchesnay township.
Bouchard, Didace	Ste. Anne des Monts	River St. Lawrence, county of Gaspé, parishes of Duchesnay, Christie, Tourelle and Cap Chatte.
Marin, Fabien	Ste. Félicité	River St. Lawrence, county of Rimouski, from Cap Chatte to River Blanche, including River Matane.
Thériault, Edouard	Rimouski	River St. Lawrence, county of Rimouski.
Lavoie, Zéphirin	St. Anaclet	River St. Lawrence, County Rimouski.
Levesque, Nap.	Isle Verte	River St. Lawrence, fronting on the county of Témiscouata.

*Collector of customs; specially connected with the fishing bounty.

Marine and Fisheries—Fisheries Branch.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF QUEBEC—Continued.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Sirois, George.....	Kamouraska.....	River St. Lawrence, fronting on the county of Kamouraska, to Pointe à la Loupe, county Témiscouata.
Gagnon, Ephrem.....	St. Michel de Bellechasse.	River St. Lawrence, fronting on the counties L'Islet, Montmagny, Bellechasse and Lévis.
Huot, L. P.....	St. Roch de Québec	River St. Lawrence, around the Island of Orleans.
Bhéreur, U.....	Malbaie.....	North Shore of the River St. Lawrence, fronting on the county of Charlevoix.
Catellier, L. N.....	Tadoussac.....	Lakes in rear of Murray Bay and Bay St. Paul.
Comeau, N. A.....	Godbout.....	Waters of counties of Chicoutimi and Saguenay.
Mignault, T.....	Montmagny.....	Gulf of St. Lawrence, county of Saguenay from Manicouagan to Baie des Rochers, (<i>Godbout Division</i>).
Duburger, Geo.....	Pointe à-Pic, Charlevoix.	Gulf of St. Lawrence, county of Saguenay from Baie des Rochers to Point St. Charles, (<i>Mcisie District</i>).
Gaudin, Geo.....	Cape Cove, Gaspé.	Gulf of St. Lawrence, county of Saguenay from Sheldrake River to Esquimaux Point, (<i>Mingau Division</i>).
Legouvie, John (W.).....	Lobster Cove, — Gaspé.	Gulf of St. Lawrence, on the county of Saguenay from Esquimaux Point to <i>Natashquan River</i> .
Whitely, W. H.....	St. John's Nfld.	Gulf of St. Lawrence, county of Saguenay, from Checatca to Blancs Sablons, (<i>Bonne Espérance Division</i>).
Lenay, David.....	New Ireland.....	Lakes Trout, William, Black, St. Joseph and county of Mégantic.
McCaw, John.....	Sherkrooke.....	Lakes in counties of Sherbrooke and Stanstead, also Lakes Brompton and Aylmer, in the counties of Richmond and Wolfe.
Dupuy, Louis.....	do.....	Counties of Richmond and Wolfe.
McLeod, Allan.....	Echo Vale.....	About 10 miles of the waters of Lakes Mégantic and Spider with the tributaries in the county of Compton.
Carr, Guy.....	Compton Station.	County of Compton and Lake Massawippi, and tributaries in county of Stanstead.
Boynton, Chas. G.....	Georgeville.....	The east half of Lake Memphremagog, in the Co. of Stanstead.
Ball, Hugel.....	Tuck's Landing.....	The west side of Lake Memphremagog, in the county of Brome.
Phelps, Sylvester E. W.....	Bolton Centre.....	Township of Bolton, east and west, in the county of Brome.
Sturtevant, Sydney.....	Knowlton.....	Brome Lake, county of Brome.
Manson, Jeremiah M.....	Potton.....	Township of Potton, county of Brome.
Needham, Ernest E.....	Bolton Glen.....	Township of east and west Bolton, county of Brome.
Luke, P. E.....	Philipsburg.....	Missisquoi Bay and Pike River, in the county of Missisquoi.
Levêque, Pierre.....	Grande Ligne.....	Richelieu River, from St. Johns to Lake Champlain.
Dion, J. O.....	Chambly Canton.....	Richelieu River, from Sorel to Richelieu Village.
DeWitt, Henry.....	Châteauguay.....	Lake St. Louis, west to and from Mouth of Châteauguay River, including said River to Châteauguay Town, extending to western boundary of Beauharnois.
Barrette, Honoré.....	do.....	River St. Lawrence, county of Châteauguay westward to the Mouth of Châteauguay River.
Reid, Zotique.....	Ste. Philomène.....	Inland waters county Châteauguay except that part of Châteauguay River from the town of Châteauguay to its Mouth.
Riendeau, Joseph.....	Jacques Cartier Square, Montreal	River St. Lawrence, from Huntington southern boundary to Three Rivers.
Morris, John.....	St. Lambert.....	River St. Lawrence, the counties of Chambly and Laprairie and city of Montreal.
Robitaille, Chas.....	St. Sulpice.....	St. Lawrence River, counties of L'Assomption and Verchères, including inland waters.
McMillan, John D.....	Dundee.....	That part of St. Lawrence River known as Lake St. Francis, fronting on the county of Huntington, including inland waters.
Mongeau, Paul.....	Sorel.....	River St. Lawrence, fronting on the county of Richelieu. Lake St. Peter, county of Yamaska, and the upper part of River St. Francis, within said county.
Piché, L. N.....	Drummondville.....	River St. Francis, in the county of Yamaska, to Richmond.
Boisvert, Geo.....	Bécancourt.....	River St. Lawrence and Lake St. Peter, county of Nicolet. do fronting on and including the county of St. Maurice and Three Rivers.
Caron, Gabriel.....	Louiseville.....	River St. Lawrence and Lake St. Peter, counties of Maskinongé and Berthier.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF QUEBEC—Concluded.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
Filiatrault, Damien.....	Ste. Rose, Laval..	The Rivers Jésus and des Prairies, in the counties of Terrebonne, Two Mountains, Laval, Jacques Cartier and Hochelaga.
Belisle, Jos.....	Ste. Agathe des Monts	County Terrebonne.
.....	.....	River St. Lawrence, fronting on Jacques Cartier County.
Montpetit, Julien.....	Isle Perrot.....	do surrounding Isle Perrot.
Boivin, Jos.....	River Beaudet	do fronting on the county of Soulanges.
Paquet, Urgèle.....	St. Andrew's East.	Lower Ottawa River, from Oka to Carillon, and North River, from its mouth to Lachute.
Quesnel, Arthur.....	Rigaud.....	Ottawa River, from Point Fortune to Como.
Vinet, Victor.....	Vaudreuil.....	Ottawa River, from Como to Point Cascades.
Chenier, P. Dosithe.....	Hull.....	Both sides of the Ottawa River, fronting on the counties of Ottawa and Russell, and Prescott, in Ontario.
Weisner, Emiel.....	Blanche.....	Townships of Mulgrave and Lathbury, Ottawa county.
Mohr, Irwin.....	South Onslow.....	North side of Ottawa River, fronting on the county of Pontiac, from county line to River Coulonge.
Coghlan, J. T.	Chapeau.....	Ottawa River, county of Pontiac, from Fort Coulonge to Des Joachims.

PROVINCE OF NOVA SCOTIA.

Bertram, A. C.....(I)..	North Sydney.....	District No. 1.—Cape Breton Island.
Hockin, Robt.....(I)..	Pictou.....	District No. 2.—Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants counties.
Ford, L. S.....(I)..	Milton	District No. 3.—Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's counties.
	<i>Annapolis County.</i>	
Parker, Hamilton.....	Port George	The whole county of Annapolis.
	<i>Antigonish County.</i>	
McAdam, Alex. R.....	Malignant Cove...	The whole county of Antigonish.
	<i>Cape Breton County</i>	
McPherson, Joseph.....	North Sydney	The whole county of Cape Breton.
Lovitt, Henry.....	Louisburg	Cape Breton County.
McCuish, John.....	Scatarie	do
McDonald, Joseph.....	Little Loraine	do
McInnis, Michael R.....	Amagnadus Pond.....	do
McLean, John.....	Gabarus Lake.....	do
McLean, Murdock.....	Leitch's Creek.....	do
Rees, C. E.....	Cow Bay.....	do
Sullivan, Timothy.....	Little Bras d'Or.....	do
	<i>Colchester County.</i>	
Davidson, J. W.....	Bass River.....	The county of Colchester.
McGregor, E. H.....	Lower Stewiacke.....	do
	<i>Cumberland County</i>	
Fowler, Elijah.....	Parrsboro'.....	County of Cumberland.
Angevine, Frank.....	Middleboro.....	do
Reid, John D.....	Pugwash.....	do
Smith, Geo. O.....	Oxford.....	do
	<i>Digby County.</i>	
Bishop, Geo. B.....	Digby.....	Municipality of Digby.
German, Wm.....	Meteghan.....	do of Clare.

Marine and Fisheries—Fisheries Branch.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF NOVA SCOTIA—Continued.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
<i>Guysboro' County.</i>		
Davis, Joseph.....	Guysborough	County of Guysborough.
Reid, Alex.....	Port Hillford.....	do
<i>Halifax County.</i>		
Kennedy, Wm.....	Hubbard's Cove.....	County of Halifax.
Gaston, Robert.....	Pope's Harbour.....	do
Rowlings, Geo.....	Musquodoboit Hr.....	do
<i>Hants County.</i>		
Mosher, Jas. R.....	Kempt Shore.....	County of Hants, West Hants.
<i>Inverness County.</i>		
McLean, D. F.....	Port Hood.....	No. 1—Western division.
McLellan, John B.....	River Inhabitants.....	No. 2—Southern division.
McKeen, Lewis.....	Mabou.....	No. 3—Mabou division.
Chisholm, Arch. A.....	S. W. Margaree.....	No. 4—Eastern division.
Ingraham, Albert.....	N. E. Margaree.....	No. 5—Northern division.
Aucoin, Wm.....	Eastern Harbour.....	No. 6—Part of Northern division.
McIntosh, Angus.....	Pleasant Bay.....	Inverness coast from Pleasant Bay to Meat Cove inclusive.
McDonnell, Duncan.....	Long Point.....	do do Long Point to Low Point.
<i>King's County.</i>		
Miller, Jas. S.....	Canning.....	The whole of King's county.
McIntyre, W.....	Aylesfoird.....	do do
Reid, R. F.....	Wolfeville.....	do do
<i>Lunenburg County.</i>		
Webber, John A.....	Chester.....	The whole county of Lunenburg.
Solomon, W. M.....	W. LaHave Ferry.....	do do
<i>Pictou County.</i>		
McDonald, Alex. J.....	Bailey's Brook.....	Eastern division, from Antigonish county line to Pictou Hr.
McQueen, J. D.....	Little Harbour.....	Southern division, comprising Sutherland, Moose, East and St. Mary Rivers.
Pritchard, A. O.....	New Glasgow.....	Central division, comprising Pictou Hr., and East, West and Middle Rivers.
Kitchin, James.....	River John.....	Western division, from Colchester Co. line to Cole's Reef, Pictou Hr.
<i>Queen's County.</i>		
Freeman, J. N.....	Liverpool.....	The whole of Queen's county.
<i>Richmond County.</i>		
Boyle, Dougald R.....	Arichat West.....	No. 1. Isle Madame and Arichat Division.
Morrison, Archd.....	Cannes.....	(No. 2. Western). Whole county.
Brymer, Arthur.....	Lower L'Ardoise.....	No. 3. Eastern division.
<i>Shelburne County.</i>		
Hines, Geo. K.....	Shelburne.....	The whole of Shelburne county.
Goudey, E. S.....	Barrington.....	From Clyde River to Yarmouth county.
<i>Victoria County.</i>		
Campbell, Chas. L.....	New Campbellton.....	No. 2. Middle division.
McCharles, Danl.....	Middle River.....	No. 3. Southern division.
Hellen, Wm.....	Cape North.....	The whole of Victoria county.
Fraser, Jno. A.....	Baddeck.....	do do

SCHEDULE of Fishery Officers, &c.—*Continued.*PROVINCE OF NOVA SCOTIA—*Concluded.*

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
	<i>Yarmouth Co.</i>	
Hatfield, Abram M.....	Arcadia	The whole of Yarmouth county.

PROVINCE OF NEW BRUNSWICK.

Pratt, J. H. (I).	St. Andrews	District No. 1. The county of Charlotte.
Chapman, Robt. A. (I).	Moncton	District No. 2. Restigouche, Gloucester, Northumberland, Kent, Westmorland and Albert counties.
Miles, H. S. (I).	Oromocto	District No. 3. St. John, King's Queen's, Sunbury, York, Carleton and Victoria counties.
Harding, F. J. (Agt).	St. John	The whole province.
	<i>Albert County.</i>	
Dowling Caleb. S.	Alma	The whole county of Albert.
	<i>Charlotte County.</i>	
Brown, Barth.	Campobello	Vicinity of Campobello and West Isles.
Campbell, D. F.	St. Andrews	Inner Bay, Passamaquoddy.
Chancy, Warren	Grand Manan	Grand Manan Island and spawning grounds.
Mathewson, John	St. George	Parishes of St. George, Pennfield and Lepreau.
Todd, Frank	St. Stephens	The whole of Charlotte county.
	<i>Gloucester County.</i>	
Doucet, Jérôme E.	Petit Rocher	County of Gloucester.
Canty, Thos	Bathurst	do do
Robichaud, Wm C	Inkerman	do do
	<i>Kent County.</i>	
Leblanc, Olivier J. O.	Buctouche	Parishes of Wellington and St. Mary.
Hannah, Wm. J.	Richibucto	The whole county of Kent.
	<i>King's County.</i>	
Brown, James	Hammond Vale	Lakes in Hammond Parish.
	<i>Northumberland Co</i>	
Williston, J. G.	Bay du Vin	South part Miramichi Bay to Point au Quart.
Abbott, Lemuel	Chatham	Miramichi River to Newcastle.
	<i>Queen's County.</i>	
Hetherington, J. T.	Johnston	The whole of Queen's county.
	<i>Restigouche County.</i>	
McLean, Donald	Charlo.	Baie des Chaleurs, Belledune to Dalhousie.
Brown, Chas.	Escuminac, P. Q.	From Dalhousie to Tide Head.
	<i>Sunbury County.</i>	
McLean, Cecil H.	Burton	County of Sunbury.
	<i>St. John County.</i>	
Cochrane, John	I.C.R. Station, St. John	St. John city and vicinity.
O'Br Joseph	Carleton, St. John	St. John county.

Marine and Fisheries—Fisheries Branch.

SCHEDULE of Fishery Officers, &c.—Continued.

PROVINCE OF NEW BRUNSWICK—Continued.

Name of Overseer.	P. O. Address.	Extent of Jurisdiction.
	<i>Victoria County.</i>	
Wilson, Leonard.....	Grand Falls. . . .	The whole county of Victoria.
	<i>Westmorland Co.</i>	
Melançon, Ambroise . . .	Pré d'en haut	Dorchester Parish and Petitcodiac River.
Copp, Geo. E.	Bay Verte	Parishes of Sackville and Westmorland and part of Botsford.
Leblanc, N. D.	Shediac	Parishes of Salisbury, Moncton, Shediac and that part of Botsford to Big Shemogue Harbour.
	<i>York County.</i>	
Orr, Robt.	Fredeficton	The whole county of York.

PROVINCE OF PRINCE EDWARD ISLAND.

Lord, A. (Agt.)	Charlottetown	Prince Edward Island.
Matheson, J. A. . . . (I.)	Campbellton	do do
Davison, John	Bedeque	The county of Prince.
Nolan, Dan	Souris	do of King's.
Hobkirk, W. C.	Charlottetown,	do of Queen's.

PROVINCE OF MANITOBA.

Tupper, R. Latouche (I.)	Selkirk	The province of Manitoba.
<i>Gardner, Rich</i>	do	do do
<i>Martineau, H.</i>	The Narrows, Lake Manitoba.	Lakes Manitoba, Ebb and Flow, Dog and tributaries.
<i>Gunn, Robt.</i>	Winnipeg	Within his district as forest ranger.
<i>Stevenson, E. F.</i>	do	In his district as Crown timber agent.

NORTH-WEST TERRITORIES.

Miller, E. W.	Qu'Appelle.	All the North-west Territories.
Foster, John.	Silton	The Silton District.
Young, Harrison S	Edmonton	District of Edmonton.
Cook, R. S.	Prince Albert.	do of Prince Albert.
Lucas, S. B.	Holbrooke	do of Peace Hills, Alberta.
McKenzie, R. S.	Stobart	do of Prince Albert, Saskatchewan.
Thompson, J. R.	Calgary	do vicinity of Calgary.

PROVINCE OF BRITISH COLUMBIA.

McNab, John. (I.)	New Westminster.	The province of British Columbia.
McKay, J. W.	Kamloops	District of Yale, B.C.
Meason, W. L.	William's Lake. . . .	Kootenay, R., from Clinton to Barkerville.
Phillips, Michael.	Kootenay	do district.
Higginson, T. S.	New Westminster.	In his district as Crown timber agent.
Ellison, Price	Vernon	O'Kanagan lake and river.
Gaudin, Capt. James (Ag)	Victoria	Having jurisdiction in the whole province.
Walbran, J. T., Capt. . . .	do	do do do
Galbraith, N. M.	do	do do do

SCHEDULE of Fishery Officers, &c.—Continued.

FISH CULTURE.

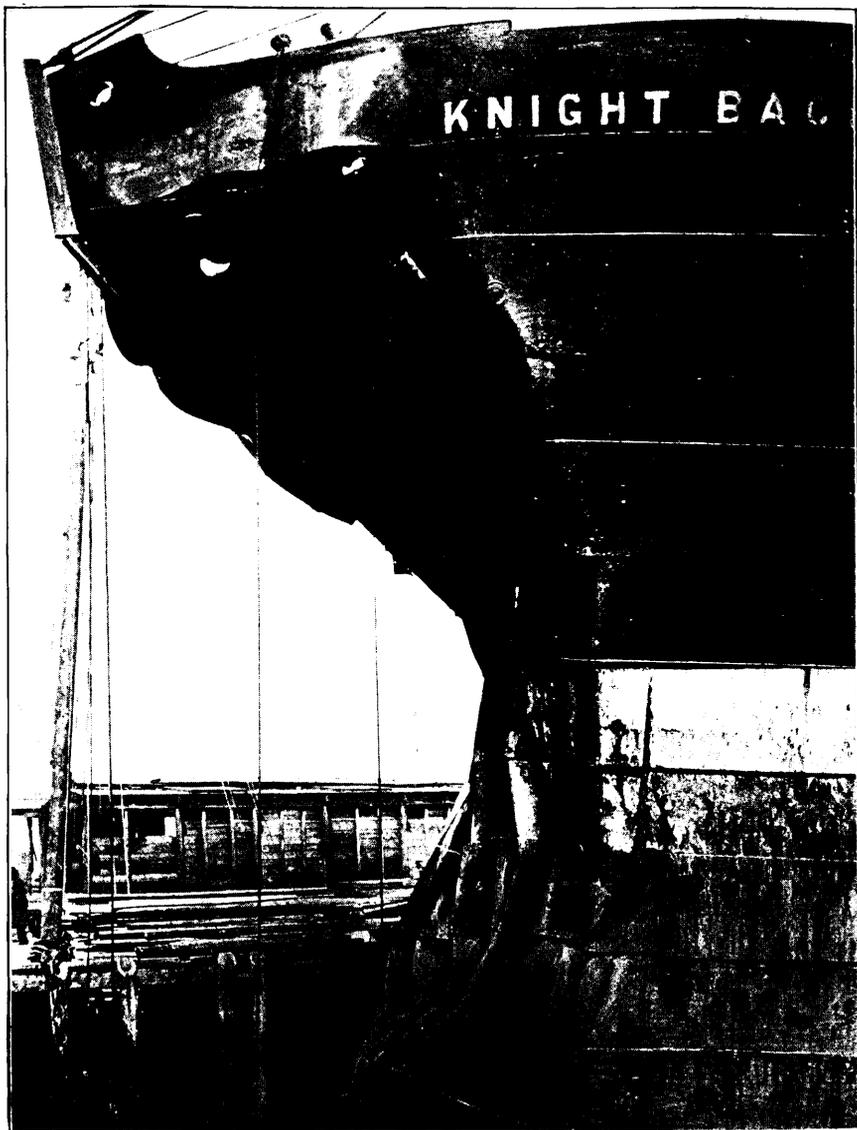
Name.	Rank.	P. O. Address.
Kenefick, John.....	Officer in charge of Government Fish Hatchery.....	Newcastle, Ont.
Parker, Wm.....	do do.....	Sandwich, Ont.
Walker, John.....	do do.....	Ottawa, Ont.
Finlayson, Alex.....	Asst. officer in charge of Government Fish Hatchery..	Magog, Que.
Catellier, L. N.....	Officer in charge of Government Fish Hatchery.....	Tadoussac, Que.
Davis, Henry.....	do do.....	Gaspé Basin, Que.
Mowat, Alex.....	do do.....	Campbellton, N.B.
McCluskey, Chas.....	do do.....	Grand Falls, N.B.
Sheasgreen, Isaac.....	do do.....	South Esk, Miramichi, N.B.
Ogden, A.....	do do.....	Bedford Basin, N.S.
do.....	Government Lobster Hatchery.....	Pictou, N.S.
Keheo, W.....	Asst. officer in charge of Government Fish Hatchery..	Sydney, C.B., N.S.
McNab, John.....	Officer in charge of Government Fish Hatchery.....	New Westminster, B.C.
Tupper, LaTouche, R.....	do do.....	Selkirk, Mam.
Kemp, Ernest.....	do Oyster culture.....	Ottawa, Ont.

All captains of the Fisheries Protection Service are also fishery officers, with power of a justice of the peace for all purposes of the Fisheries Act. During the season of 1897 they were as follows :—

- Commander O. G. V. Spain, of the cruiser "Acadia."
- Capt. S. Bélanger, of the cruiser "Aberdeen."
- Capt. J. H. Pratt, of the cruiser "Curlew."
- Capt. Geo. M. May, of the cruiser "Constance."
- Capt. W. H. Kent, of the cruiser "Kingfisher."
- Capt. C. T. Knowlton, of the cruiser "Osprey."
- Capt. Ed. Dunn, of the cruiser "Petrel," for Ontario.
- Capt. G. W. Pearson, of the cruiser "Dolphin," for Ontario.
- Capt. J. T. Walbran, of the cruiser "Quadra," for British Columbia.

RECAPITULATION OF FISHERY OFFICERS.

Province.	Number of Officers.
Ontario.....	100
Quebec.....	69
Nova Scotia.....	58
New Brunswick.....	31
Prince Edward Island.....	5
Manitoba.....	5
North-west Territories.....	7
British Columbia.....	9
Officers and crews of the fisheries protection vessels.....	178
Fishery guardians employed during the season of 1897.....	210
Total.....	672



[Frontispiece.]
BOW OF "KNIGHT BACHELOR" AFTER STRIKING A *GROWLER*.
(See page 6, Introduction.)

Hudson Bay Expedition, 1897.

REPORT

OF THE

EXPEDITION TO HUDSON BAY

AND CUMBERLAND GULF

IN THE

STEAMSHIP "DIANA"

UNDER THE COMMAND OF

WILLIAM WAKEHAM

MARINE AND FISHERIES CANADA

IN THE YEAR 1897

PRINTED BY ORDER OF PARLIAMENT



OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY

1898

Hudson Bay Expedition, 1897.

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Hudson Bay Expedition, 1897.

HUDSON BAY EXPEDITION, 1897.

REPORT.

OTTAWA, December, 1897.

The Honourable

Sir LOUIS H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Canada.

SIR,—As the officer in command of the expedition to Hudson Bay and Strait I beg to submit the following report.

I propose to submit this report under the following heads:—

- 1st. The journal of daily events.
- 2nd. A detailed account of the more important events of the voyage and my observations on the ice met with.
- 3rd. A short account of some of the previous voyages into the bay, and statements of the views of whaling captains and others, together with my own conclusions on the subject of the navigation of the strait.
- 4th. The fishing capabilities of the region, and extent to which aliens carry on fishing or whaling within our territorial limits.

In accordance with the instructions contained in your letter of the 23rd of April last, I proceeded to Halifax to take command of the SS. "Diana," which vessel had been chartered for the purpose of the expedition, and, before proceeding directly with the report as above, it may be well for me to explain fully how this ship came to be selected for the voyage to Hudson Bay.

When it was decided to inquire anew into the question of the season during which Hudson Strait could fairly be considered navigable for commercial purposes, and to test the matter by sending out a ship which should proceed to the north, and if possible penetrate the strait at a much earlier date than had been contemplated on the former expeditions, it was at once suggested that the department's ship "Stanley" should be employed for this service.

This vessel had been built for winter service in the Strait of Northumberland. She was of great strength and power and had ample accommodation, and to many she appeared to be in every way suited for the work. The question of her fitness having, however, been submitted to Captain Finlayson, who had sailed her since her arrival in this country, and to her chief engineer, as well as to myself, we were all of the opinion that she was not a fit and proper ship for the proposed service, for the following among other reasons:—

Firstly: The "Stanley" was built for a special service, where she had to meet with comparatively light ice. She draws but little at the bow, so that she can run up on the ice and crush through it by her weight. She is fitted with tanks and pumping gear for so trimming her, that she may if she rises on ice too heavy for her to break through,

either add to her weight forward and crush it down, or by deepening her aft, slide back off it. All this may be done in light field ice, but with such ice as is met with in Hudson Strait this sort of manœuvring would be useless and impossible.

Secondly: The "Stanley," strong as she undoubtedly is, would not be able to stand any heavy ice pressure. It is well known that the simple tumble home of the light ice with which she has to contend has already dinged her between the frames, and we have been obliged to double her. A vessel to be able to stand a nip must be almost solid in the walls, and there must be no considerable space between the timbers.

Thirdly: In light ice such as the "Stanley" has to contend with, her screw, which is of great diameter and fixed, is safe, but in heavy ice, with her fine run, it would always be in danger and would certainly be carried away. Should she lose her screw she would be absolutely helpless, as the little canvas she carries on her pole-masts would be of no use whatever. Vessels fitted for ice have either removable screws or screws of small diameter. The rudder of the "Stanley" is not removable afloat and could not be replaced by a spare one in the event of accident. Ships fitted for extended ice navigation carry spare rudders which can be shipped afloat, are well supplied with canvas, and could if necessary be wholly managed under sail.

Fourthly: Being built for a short ferry service, the "Stanley's" consumption of coal is altogether out of proportion with her coal carrying capacity; she has no room for coal for an extended voyage and could not venture more than a couple of weeks from her coal base.

The cost of coal delivered at the entrance to the Hudson Strait for the season would amount to more than the charter of a suitable vessel.

Fifthly: Experience with the "Stanley" has shown that she makes her best work when quite light, that is, as light as she can be kept; for owing to her heavy hull and tanks and the great weight of her machinery she always draws a good deal of water. With provision and coal for a long voyage, for which work she was not fitted and constructed, she would be unduly deep, show but little freeboard and offer to the ice a wall side which it was never intended to subject to lateral ice pressure. In such a trim she would not be safe in the ice of the Strait of Northumberland to say nothing of the heavy field or rafted ice which one must expect to meet in Hudson Strait.

Other reasons could be given why the "Stanley" is not a suitable vessel for an expedition, or experimental voyage, such as it was proposed we should make and I therefore, strongly urged the department not to think of employing her.

Our experience of the ice in Hudson Strait in June and the early days of July was such that I am fully convinced I was right in the advice I gave.

On many occasions we were subject to pressure such as the "Stanley," good ship as she is, could not have withstood for an instant, and what the "Stanley" can not stand in ice it would be madness to think of putting the ordinary iron or steel ship of commerce into. Had I been only making a voyage into Hudson Bay between July and October, I would have had no objection to offer to the "Stanley" beyond the one of cost; she would answer for this sort of a trip better than any other ship I know of. This however was not what I had to do.

Given the known climatic and ice condition in Hudson Strait in June and the results of the experience of those who have navigated the strait from the days of Hudson down, I had to see that the expedition was provided with a ship properly constructed for ice navigation. This being the case, I advised that we charter a vessel such as is ordinarily used in the seal or whale fishery. That I was correct in giving this advice, is proved by the fact that, about a month after I had done so, a copy of a letter from Admiral Markham was received by your department advising the charter of either the "Terra-Nova" or "Esquimaux,"—Dundee steam whalers of exactly the same type as the vessel I had suggested.

Admiral Markham, in his letter recommending either of these vessels, says:—"Both would be admirably adapted for the purpose we would require, viz., to report on the state and condition of the ice in the strait during the summer months. If the Canadian Government have voted \$35,000 for the survey of Hudson Strait I do not see why they should not charter one or the other of these ships. They possess a speed of about eight knots and are specially constructed for ice navigation."

Hudson Bay Expedition, 1897.

The above statement, from one so admirably fitted to judge, should set at rest the question of the class of vessel required for testing the navigability of Hudson Strait during the early and late parts of the season.

It should be borne in mind that Admiral Markham, besides being one of the most distinguished of Arctic navigators, made a voyage through Hudson Strait on board the "Alert" in July, 1886, and, being a director of the proposed Hudson Bay and Pacific Railway Company, was personally interested in seeing that the most suitable class of vessel was employed for the service.

Before the receipt of Admiral Markham's letter arrangements had, however, been made for the charter of a vessel in St. John's, Newfoundland. As a result of these the "Diana" was secured.

The following table will show the relative tonnage and horse power of the vessels named :—

Name.	How built.	Where built.	When built.	Tons net.	Tons gross.	Horse power.	
Terra Nova.....	Wood	Dundee.....	1884	450	744	120	Screw.
Esquimaux.....	"	".....	1865	466	593	70	"
Diana.....	"	".....	1870	275	473	70	"

It should here be remarked that the "Diana" though originally built in 1870 was rebuilt in 1892. She was sent home to her original builders; thoroughly opened out and made practically a new ship of. She enjoys the reputation of being one of the handiest and fastest of the Dundee ships.

Among other vessels suggested to your department was the "Port Pirie." This ship figures in the Mercantile Navy List as belonging to the Anglo-Australasian Steam Navigation Company, of London. She was built of steel at Hepburn in 1886, is of 1,829 net tons, 3,020 gross tons, of 350 horse power, screw.

The "Port Pirie" being an ordinary steel steamer which her owners admitted would have to be specially fortified for the work if accepted, it was decided that, however well suited she might be for a trip to Hudson Bay in August or September, she was not a safe ship to put into the heavy ice which we might certainly expect to meet in June or July.

I have thought it right to deal fully with the question of the ship selected for the service as it has been asserted that "to demonstrate the ease with which Hudson Strait can be navigated it was necessary to employ a vessel something similar to what might be expected to carry on the trade if the route came into use."

Now, as I understand the position, there is no question of the navigability of the strait with suitable vessels during a certain season. This was settled in 1886 when Captain Gordon made his final report on the subject. He stated, page 90 report for 1886 :—"Having now made voyages in three years to the Hudson Strait, and having carefully examined the reports of the observers, etc., I have the honour to submit the following statement in regard to the navigation of these waters."

He describes the class of ships he considers best suited for the practical commerce of the route, and concludes by saying :—"I consider that the season for the opening of navigation to such vessels as the above will, on the average, fall between the 1st and 10th of July. The closing of the season would be about the first week in October."

Therefore, I was not sent up to decide whether Hudson Strait could be navigated with suitable vessels within the dates mentioned—that question was settled, but what was required to meet the claims of those not satisfied with the dates above given, was a further test over a longer season, both spring and fall.

My instructions were to be off the mouth of the strait at the earliest possible moment when an entrance could be effected. I was, then, to press the steamer through

the strait, to ascertain its navigability, and, having reached the bay, to return to the Atlantic and make several trips in and out, and, after having settled the question as far as it could be settled in the spring and when all doubt as to the navigability was passed, I was to leave the strait and proceed on other work; resuming the navigation of the strait in the autumn of the year with a view of determining how late it is navigable, and for this purpose to repeat the operation of cruising, in and out, as I did in the spring.

By these instructions it is admitted that there is a season when there is no doubt of the navigability of the strait and, during this season, when presumably they are navigable for commercial purposes, I was not instructed to remain there.

Therefore for the work we had to do—that of pressing through the strait and into the bay at the earliest possible moment and remaining in the fall beyond the date which my predecessor had suggested for the close of navigation—I certainly required a suitably constructed ship and, given the conditions we met with, we could have had no more fit or suitable vessel than the “Diana,” and such a ship as the “Port Pirie” would never have survived the test.

The officers and men of the “Diana” were selected with special care and a due regard to the nature of the navigation required. The navigating officer, Capt. Whitley, had an extended experience; he was specially recommended by Messrs. Job Brothers, of St. John's, Newfoundland, owners of the “Diana” and other vessels of the same type. He had served under, and was recommended by, Capt. Samuel Blandford, one of the best known and most successful ice captains in Newfoundland. Captain Blandford had himself made several voyages to Hudson Strait and was the first to discover the great cod fishing resources in the neighbourhood of Cape Chudleigh and Button Islands.

Captain James Joy, of St. John's, was selected as first officer. He also had handled ships in the ice and had served as ice master on several of the Dundee vessels. Capt. Joy had the additional recommendation that he had made several fishing voyages to the mouth of Hudson Strait in the SS. “Nimrod” and was already conversant with the currents and the movements of the ice in Ungava Bay and round the mouth of the strait.

Even the petty officers and men had, nearly all of them, been engaged either on whalers, Arctic relief vessels, or on the former expeditions to the Hudson Bay and Strait made under Captain Gordon; so that every possible precaution was taken both in the choice of the vessel and in the selection of the officers and crew to man her.

We had hoped to have had the “Diana” at Halifax in time to have left by the 20th of May; but, owing to her delay in the ice at the sealing, she only reached Halifax on the 16th of May, and we were engaged until the 3rd of June in taking in supplies, coaling and fitting up the saloon and staterooms in the 'tween decks forward, for our passengers.

We had on board, when we left Halifax, on the ship's books:—

- 1 the officer in command.
- 1 sailing master.
- 2 mates.
- 3 boatswain, carpenter and coxswain.
- 12 able seamen.
- 2 engineers.
- 5 oilers and stokers.
- 1 secretary and photographer.
- 1 surgeon.
- 1 chief steward.
- 2 cooks.
- 2 assistant stewards.
- 3 members of the Geological Surve,
- 6 men in employ of do
- 1 representative for Manitoba and the North-west Territories, or 43 persons in all on board at the date of sailing.

Up to the last moment we had expected that Captain Edmund Burke, R.N., would have accompanied the expedition, and suitable accommodation had been provided

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for him. One of the gentlemen of the Geological Survey was not accompanied by the usual assistant, so that the number for which I had provided accommodation was reduced by two.

The ship was provisioned for a crew of fifty, for a voyage of seventeen months.

LIST of some of the terms used in ice navigation by whalers, sealers and others.

- Floe A large mass of floating ice.
 Pan A small floe or small piece; one that can be forced aside or slewed.
 A field A large body of ice that may be seen around.
 Land floe Ice frozen fast to the shore.
 Packed ice Are small pieces closed together and held by the pressure of ice and currents.
 Ice blink Is a peculiar pale yellow reflection on the sky; indicating the presence of ice at a distance.
 The ice pack 's that large body of solid ice extending across the whole sea and beyond which it is impossible to advance.
 Slack ice Is detached, so that it can be worked through. Ice is said to be slacking when it begins to be open so as to be navigable.
 Running abroad Ice is said to be running abroad when it opens out or slacks away so as to be navigable.
 A nip Ice is said to be nipping when it begins to close by reason of the action of winds or currents, so as to prevent the passage of a vessel.
 Calving Ice is calving when the small pieces break off from the bottom and rise to the surface of the water.
 A lead Is a strip of navigable water opening into the pack.
 A blind lead, a pocket Is a short opening into the pack and terminating against solid or thick ice.
 Hummocky ice Is rough, uneven or thick ice.
 Porridge ice Is small, finely ground up ice.
 Slob Is snow afloat and forming into ice.
 Siah Is thin young new ice, just formed in thin sheets.
 Lolly Is loose new ice.
 Waking Is the following in the wake of another vessel through leads and slack ice.
 Backing, ramming or butting Is backing off and running the ship at ice in order to force or head a way through it.
 Slewling Is forcing the vessel ahead against the corner of a piece of ice, with the intention of causing it to slew or swing out of the way, so as to force a passage by it.
 Tracking Is following along the edge of the ice pack.
 Water sky Is a dark or bluish appearance of the sky indicating open water beyond the pack.
 Slatches Are considerable pools of open water in the ice.
 Swatch Is a small pool of open water in the ice.
 Swatching Watching for seals round a swatch.
 Wash Is the sound of the sea breaking against ice.
 Rote Newfoundland term for wash.
 Rafting Occurs when two pans meet with force either by the action of the winds or currents—the edges are broken off and either rise on top of or pass under the body of the pans.
 Pressure ridge Is the ridge or nall thrown up while the ice has rafted.

- GrowlerIs a more or less washed and rounded lump of ice which rolls about in the water, formed from broken up bergs or detached pieces of heavy old Arctic floe ice.
- Decker.....Rafters at a pressure ridge (Newfoundland).
- Black sheetIs thin dark looking ice with no snow on it; usually found between pans of older ice. At night or at a distance looks like open water.
- Collar ice.....Is the margin of ice froze fast to an island or shore, presenting an abrupt wall against which the floating ice rises and falls with the tide.

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PART I.

DAILY JOURNAL OF THE EXPEDITION.

Thursday, 3rd June, 1897.—The members of the expedition being on board, together with the necessary stores, we left Halifax at 1 p. m. Weather fine and clear; rounded the inner automatic buoy at 3 p. m., and stood up for Scatari. Wind southerly with rain and haze. Stood a little further off the land as the night came on.

Friday, 4th June.—Night dark with heavy showers. At 4 a. m., hauled in to make the land of Cape Breton; 8 a. m., morning fine and clear, with a haze over the land. Noon—came on strong breeze from the north-east, which freshened during the afternoon and somewhat stopped our headway. Rounded Scatari at 5.30 p. m., and shaped our course midway between Cape Ray and St. Paul's.

Saturday, 5th June.—At daylight saw both lands; stood up for Cape Anguille. Fine, calm and smooth in the morning. Weather warm during the day; towards sunset, wind freshened from the north-east and got colder. Abreast of Bay of Islands at 8.30 p. m.

Sunday, 6th June.—Fine, clear weather. Point Rich abeam about ten miles off at 10 a. m. Headed down for the centre of the strait. Passed Greenly Island at 3.30 p. m., and stood on down. Met a little open ice to the west of Point Amour; this ice increased as we stood to the eastward. Worked the ship through it at full speed until after sunset, about 9 p. m., when slowed down and went ahead easy. Off Cape Norman light at 10 p. m. Ice open but getting heavier; a few growlers here and there among the field ice. Barometer 30.2 and falling. At 10.30 p. m. we stopped the ship in the ice for the night.

Monday, 7th June.—Under way at daylight. 2.30 a. m. worked ship out of the ice to the northward into comparatively clear water. Strong north-east, very cold. At 7.15 a. m., passed close off Table Island and stood along shore; light open ice and a few small bergs. Off Battle Harbour at 8 a. m. A boat came out to us, stopped the ship, and the occupants came on board. All well here; this is the first ship that has passed. The spring had been early and for some time westerly winds had prevailed and little ice had been seen. The people report a hard winter further north. They tell us we will not likely meet much ice. Continued at 8.30 a. m. Soon met more ice which is being set on shore by the strong north-east breeze now blowing. Working through more or less open ice all day. The ice is heavy and sound, showing no signs of having been honeycombed by heat. We worked through the ice in an off shore direction. In spite of the strong breeze blowing the water is quite smooth, which shows there must be a considerable body of ice outside of us. At 7.45 p. m. ice close all about, and, weather coming on thick, jammed the ship into ice and stopped the engines. Position about eight miles off Round Island. Before it came down thick had ice all about us as far as we could see.

Tuesday, 8th June.—At 2 a. m. under way and working slowly through the ice under easy steam. Ice very heavy and compact inside of us; headed the ship in an off shore direction to get into slacker ice. Some water sky showing off to the eastward. Only a vessel specially constructed and fortified for ice could stand driving at it as we did this morning. Had a light fall of snow for a short time during the morning. At 10.15 a. m. got into some open ice and proceeded full steam; passed Wolf Island about ten miles off at 8.30 a. m. Steamed in a northerly direction all day; at times the ice being close had to slow down; at other times it seemed to run abroad, when we made good headway. Weather overcast all day with occasional snow flurries. At 7 p. m. we were well off shore and standing to the north-east to get on the outer edge of the ice field. The night being thick, with snow at intervals, stopped the engines at 8 p. m.

Wednesday, 9th June.—The night was overcast, with sleet and snow; clearing a little at 3 a.m., and the ice slacking, got under way and steamed ahead, generally in a north-easterly direction. Ice getting much heavier. At 7 30 a.m., ice closed ahead; stopped ship. The ice we are in now is much heavier than anything we have so far seen. At 8 p.m. fast in the ice all day. The ice outside of us is of unusual heaviness for these waters. We measured with the lead some of the spurs which projected under water from one side of the pan to which we were fast; there was three fathoms of water over the spurs which themselves seemed to be many feet in thickness. As far as can be seen from the masthead, this ice extends to seaward of us and the sky shows no sign of open water; between us and the land the ice though tight is lighter. A few bergs can be seen to seaward. Towards night the weather cleared up and it began to freeze hard. The high hills inshore are visible about twenty-five miles off. Crew are engaged this day in moving coals from the main hold to the bunkers. Most of our men have been north before, either with Captain Gordon in the "Neptune" or the "Alert," or with Peary in the "Hope," or on whaling vessels; they are all of the opinion that the conditions are of unusual severity, and that the ice we are now in is Baffin's Bay ice. Through this, there is under the present conditions no chance of penetrating, and we can only trust to a change of wind from the south of west to loosen the ice.

Thursday, 10th June.—At 2.45 a.m. no change in the conditions. Hard frost last night. At 7 a.m. began to shift coal in the bunkers. Sounded at 9 a.m., found 50 fathoms, so that we are on a bank; bottom, hard gravel. Bottom temperature 29 degrees. Latitude 54 degrees 7 minutes. No sign of open water anywhere; towards evening came on thick with milder weather and a light air from the south south-east.

Friday, 11th June.—Same conditions, no change, thick fog, calm, no sign of open water. Ice appears to look more porous and water soaked. Fog was less dense during the middle of the day, but closed down again at sunset. Bottom is seventy-five fathoms; shows but little drift, line up and down. Tried for fish but got nothing.

Saturday, 12th June.—Same conditions; packed solid all around. No wind, fog continues. Sounded in eighty-eight fathoms. Temperature at bottom $29\frac{8}{10}^{\circ}$; surface 31° . Drifted to the southward slightly. From an observation this noon, it seems we have drifted to the south about twenty miles since we were beset on Wednesday. This p.m. the fog lifted for a short while, and quite a heavy swell was perceptible in the ice, which loosened somewhat about the ship. Came down thick again at 4 p.m. The swell subsided and the ice again packed closely about the vessel with a good deal of grinding and groaning. While the weather was clear, no open water could be seen, but the ice blink to the eastward was distinct. Wet and thick all evening. Crew engaged to-day in cleaning up the ship.

Sunday, 13th June.—A good deal of swell perceptible in the ice to-day; for short intervals the fog lifted, and the ice slacked about the vessel. At 7 p.m. began to see lanes of open water to the south-east. Fog closed down again at 8.30 p.m.

Monday, 14th June.—Heavy swell during the night and the vessel was pounded a good deal. The swell subsided at 4 a.m. Thick all night. At 9.15 a.m. weather clearing. Got under way and steamed in a south-easterly direction, through some very heavy ice, much of it reaching above the rail. At 11 a.m. ice closing in again all around; stopped the ship as we were making no progress; came down thick again. Crew engaged taking in fresh water from the ice. One hundred and twenty fathoms no bottom, 29° .

Tuesday, 15th June.—Strong north-east, with rain from midnight. Ice set tight about the ship; no swell; barometer fell last night to 29.6° ; we hope that when the glass next rises, the wind will haul to the westward and set the ice off shore; same weather all day and evening with heavy showers at intervals; 64 fathoms; 29° at bottom.

Wednesday, 16th June.—Same conditions continue with fog and rain; 55 fathoms at 7 a.m. Ice closely packed around the ship; the ice is in large pans; it is old heavy ice of great thickness, much of it floating six or eight feet above water; wind this after-

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noon from the north-east. When the fog lifts a little we see no signs of open water in any direction. Fog and rain continue to midnight. Ice close packed all about.

Thursday, 17th June.—Shortly after midnight heavy swell came on from the south-east and ice began to run abroad; at 2 a.m. got under way to clear ship from the pans; heading the ship in an easterly direction under easy steam; rain, snow and fog; passed through some very heavy ice, much of it from twenty to forty feet in thickness; worked our way at varying speed through the leads; ice gradually opening out; at 9.15 a.m. more open water and lighter ice; went ahead full speed north north-east; still thick with snow flurries; heavy swell from the south-east; wind veering to the north; in the afternoon the wind backed to the south south-east. By 6 p.m. came down quite thick; at 8 p.m. too thick to run, laid the ship to for the night under middle stay-sail, head to the sea; fog and snow showers to midnight.

Friday, 18th June.—Weather clearing. At 1.30 a.m. started ahead; snow showers at intervals. At 4 a.m. came up to a barrier of light ice with open water beyond. Headed the ship out to the eastward, and got clear of the ice again at 9 a.m. The ice we passed through this morning consisted of large pans of bright blue ice having very little snow on it. This ice was extremely hard, and as the ship had to be put at it at full speed to force her way through, the pounding was very severe; snow and rain all morning. At 3 p.m. too thick to run, as we found the ice heavy all about us. The ice yesterday and to-day seems to be in lanes parallel with the shore, with open water between. On keeping off to the eastward and getting through or around one lane of the ice, we found that after following it for some time we were again headed by another. Passed to-day several unusually large bergs; those are coming down through the field ice, leaving long lanes of open water behind them. The field ice which we have been passing or skirting to-day is old and heavy, many of the pans floating four and five feet above the water, showing that they must be from twenty to thirty feet in thickness; this ice is blue and hard, and from most of it the surface coating of snow is gone. At 4 p.m. wind freshened from the eastward; set stay-sail and let the ship drive towards the north-east in the ice.

Saturday, 19th June.—Heavy roll all night. At 2.45 a.m. got under way and stood out to the eastward through the ice; made the eastern edge of the ice at 7 a.m. Had a rough time, and got a good many severe knocks coming out of the ice in a heavy sea. The ice was heavy, showing signs of much grinding and washing, all snow being gone from it. As soon as we were well clear of the ice, stood away along its outer edge, at first to the north-east and later to the north. Heavy roll all day. Got fore and aft canvas on the ship to steady her. The glass had risen from 29.7° at 6 a.m. to 30° at 3 p.m. Wind freshened again from the north-east. Came on thick, no ice in sight outside of us before the fog closed down. Stood on to the north, stopping or slowing down at intervals as the weather got thicker. Passed several large bergs. At 11.45 p.m. fog being too dense to see anything ahead, stopped the ship.

Sunday, 20th June.—Weather clearing at 3.45 a.m., went ahead slow, continued thick at intervals all morning. At 6 a.m. going half speed. Wind which was from the north-east yesterday is now hauling to the north north-west. At 1.30 p.m. weather clearing; sighted high land inside which we took to be Cape Mugford. Headed in for the land intending to call at Okkak for an interpreter, as it is reported that the ice seldom hangs very close about this place, and there is always a better chance of getting in here than elsewhere on the coast. We are now, at about 1.30 p.m., forty miles off the land. Stood right in for Table Head, but when within twenty-five miles of the land, met closely packed field ice which seems to extend to the shore though the base of the land was obscured by fog. To the northward the ice extends much further out. Seeing no chance of getting the ship in here, put about and stood out to the eastward keeping along the edge of the ice. Inside of us, north of Cape Mugford, we can see many bergs, some of enormous size. The afternoon had been bright and clear, but at 7 a.m. fog came down again. Clearing again at 8 p.m. Had a fine, clear night, as light as day; could easily read on deck at midnight, there being a rosy margin of light along the northern horizon.

Monday, 21st June.—Stood along the outer margin of the ice at 3 a.m.; ice heading us off, stood more off shore. At 6 a.m., being about forty miles off shore, high land quite visible. Ice still heading us to the eastward, had to stand to the south south-east to get round a large field of ice which quite barred our passage. Finally got round at 11 a.m. and came back to a north-east course. This ice was heavy and solidly packed; numerous bergs and growlers in it. Weather fine and clear. Kept along the edge of the ice all day. At noon to-day were a little north of Nachvak and about eighty miles off shore. Found the ice heavy when we got near the main body of the field. Off the points, round which we have to steam, the ice seems lighter and more worn. We have had two very fine days—the 20th and 21st; the weather warm and pleasant; it seems to be telling on the ice. Sounded at noon—120; no bottom. Temperature at 120 fathoms 30°, at 60 fathoms 29·8°, and at the surface 31°. We have seen more signs of life about us to-day than at any time since we left Halifax, in the shape of birds, porpoises and a few finner whales.

Tuesday, 22nd June.—The night was fine and clear as day. Stood along the edge of the ice field until 5 a.m., when, being slightly to the north of the 61st parallel, we decided to take the first fair looking lead that offered and head in for the mouth of Hudson Strait. Did so; found the ice running abroad a good deal as we got into it. Ship running full speed through it save, when to turn quickly, we had to slow or stop, but always to go ahead again at once. The ship showed herself to be wonderfully handy, turning and twisting her way round the floes at full speed in a manner that was surprising for a vessel steaming at the rate of 8½ knots. The bulk of the ice we are passing through this morning does not seem to be more than one season old; it is from five to six feet in thickness, and scattered through it we have a few bergs, numerous growlers, and a good deal of heavier or old floe ice. Weather clear and pleasant. Being Jubilee Day we hoisted all our flags and made as great a display as possible. We noticed a good many small, flat, smooth pans of ice among the floes which seemed to be of quite recent growth. These pans are not more than ten inches or a foot in thickness, and this ice can only have been made in April or May. I should say that the open pools among the heavier ice have frozen over quite recently. This thin ice is more porous and not as solidly frozen as the older ice. Kept steadily at it all day; ice which looked solid ahead running abroad as we came near it and giving us famous leads; now and then a slight bar might be in our way, but we had seldom to charge it twice. The behaviour of the ship charmed us all, especially her wonderful handiness in sweeping round the pans at full speed and insinuating herself between the narrow leads or cracks and forcing easily and gracefully a passage ahead. At 5 p.m. we emerged into a large lake of open water, showing to the south and west no ice as far as we can see, though this was not far, as beyond was a bank of fog. It was under this bank that we expected to make the Buttons or Cape Chudleigh. Slowing down and stopping we took a cast of the lead—120, no bottom; pushed on and at 6 p.m. we made the Buttons through the fog. Away to the north there was also a heavy bank of fog but from the nest the top of Resolution Island could be made out. We were now quite sure of our position. The tide was just beginning to ebb and we soon had a current of five or six knots against us. When well abeam of the Buttons we sighted a considerable field of ice about five miles to the north, which seemed to fill up the channel, extending to the north shore. We shaped our course along the southern edge of this up for the centre of the strait and set the log at 8.17 p.m. The ice in this pack to the north is heavier than anything we have come through to-day, and it shows no open water. A few small bergs and growlers are scattered through it. It is coming down with the tide and a light northerly wind, and is setting toward the Buttons. Judging by the rate at which it is coming down, it will soon have blocked the entrance to the strait; at all events from any passage near the Buttons. As far as we can see there seems to be very little ice inside these islands. Since we hauled in, at 5 a.m. to-day, we have steamed to make the land about eighty miles in a direct line; all this through more or less open ice, through which any modern steam vessel could have safely passed, though not as directly or as rapidly as we have. 9 p.m. clear water ahead. We are now abreast of the western end of the ice which we have seen north of us, and are

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making a mid-channel course. At 9.40 p.m. cleared the north-west end of the ice field, and have open water up the strait. At 10.30 p.m. ice ahead and to the south of us; fresh easterly breeze and a thick fog. Forced the ship through a narrow belt of heavy, hard ice, six to eight feet in thickness, in large angular pans; the corners are jagged and have not been rounded or smoothed by any rubbing. This belt was not over a mile in width. Weather coming too thick to run, with heavy ice about and every appearance of a dirty night, slowed down at 10.45 p.m. Clearing again at 11.45 p.m., went ahead full speed. Killed our first bear to-day, just before we made the open water off the Button Islands.

Wednesday, 23rd June.—After midnight we were gradually headed off towards the north by a heavy field of ice to the southward; getting too close to the north shore we had to enter a lead which offered and stood out more towards the centre of the channel. This lead did not go far, and from 2 a.m. to 8 a.m. we were ramming and boring through the ice in a westerly direction. At 8 a.m. we emerged into open water, which permitted us to follow our course. At 9.15 a.m. ice ahead and all about us again, but there is open water beyond, which we reach after forcing our way through a couple of miles of more or less open ice. The ice which we have so far seen in the strait to-day is not much rafted, and with very few growlers and no bergs; it appears to be from four to six feet thick. This includes a foot of frozen snow. In most places it is closely packed, and does not seem much worn by grinding together; the angles and corners are jagged, and not rounded off. This ice I take to have been driven into the strait from Baffin's Bay. We passed to the north of a considerable field of closely-packed ice during the morning; at noon came up with the end of it. From here, as far as we can see from the nest, there is no ice ahead. We are, at noon, about 20 miles off the north shore, and the Grinnell Glacier is distinctly visible.

At 3.15 we came up to a wall of closely-packed, heavy ice, much rafted; this extended from the north shore in a south-westerly direction across the strait, as far as we can see. Stood to the southward, along the edge of it until 6 p.m.; it presents the same appearance all along; there is no sign of open water anywhere in it, nor can we see beyond it. At 6 p.m. the line of this immense and compact field began to trend in a direction to the S.S.E. When we came up with this barrier of ice we were nearly abreast of Saddle Back Island. At 6 p.m. made fast to the outer edge of the ice, and began to take in fresh water. We will hang on here till the early morning, and see if the ice opens and any lead presents itself. The high land of the north shore is quite visible about 45 miles off; we see quite clearly the upper part or top of the Grinnell Glacier, which fills the height of land between Frobisher Sound and this part of Hudson Strait. This glacier discharges into Frobisher Sound. The day has been fine and warm; towards evening the weather got hazy and looked a little like rain.

The meeting with this—so far as we can judge at present—impassable barrier has been a great disappointment, for hitherto we had met with no serious impediment to our passage through the strait. For hours to-day we were steaming nearly nine knots over a summer sea, with very little ice in sight, when suddenly this barrier loomed ahead. This is the most closely-packed ice we have seen. We propose to be careful and not get fast in it, but to keep along its outskirts until it loosens and begins to run abroad.

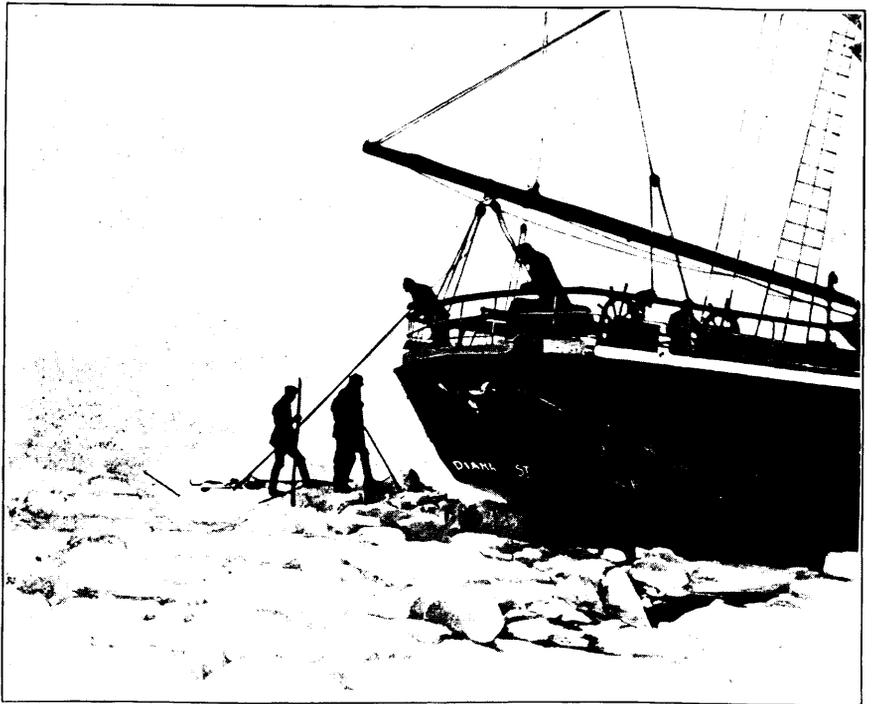
Thursday, 24th June.—At 4 a.m. no sign of open water ahead; we got under way and stood to the southward along the edge of the ice. As we go to the south the trend of the ice increases to the eastward. At one time we saw a lead which seemed to offer some chance of a passage through, but after steaming a short distance into it, we found it merely a pocket, and we steamed back and continued to the south. From the appearance of things now, it would seem that this ice barrier extends right across from north to south, and that on the south shore it extends into the mouth of Ungava Bay, and thence across in the direction of Cape Chudleigh. We altered our position but little at all while fast by the edge of the ice last night. At 9 a.m. put about and headed the ship back along the edge of the ice toward the point where we first came up with it yesterday. About 18 miles south-west from Icy Cove, a bank of fog which had shown

all morning to the south-east, came up with a light south-east breeze, and we had it thick. We, however, continued along the edge of the ice in a north-westerly direction. the crew at work shifting coal from the hold into the bunkers, as the ship was getting very much by the head. We have been burning coal rapidly since the 19th, as we have been steaming hard. Stood on along the edge of the ice until 2 p.m., when we stopped the ship and sounded in 95 fathoms, about ten miles off the north shore. The ice is solid to the shore and no open water or leads can be made out, it appears to be moving in a solid body towards the N.W. I see nothing to be gained by entering this ice, it is more or less heavy, and closely packed, and is drifting in the direction in which we wish to go. I prefer to remain on the outer edge of it, and to wait and watch for eventualities. The fog has lifted along this shore though it still holds to the southward. At 8 p.m. we steamed further off shore and put the ship a little distance into the ice for the night, passing a line about the nearest hummock. We are drifting steadily with the ice in a north-westerly direction, having gone by the land about six miles since 11 a.m. yesterday. Light easterly breeze, fine and clear.

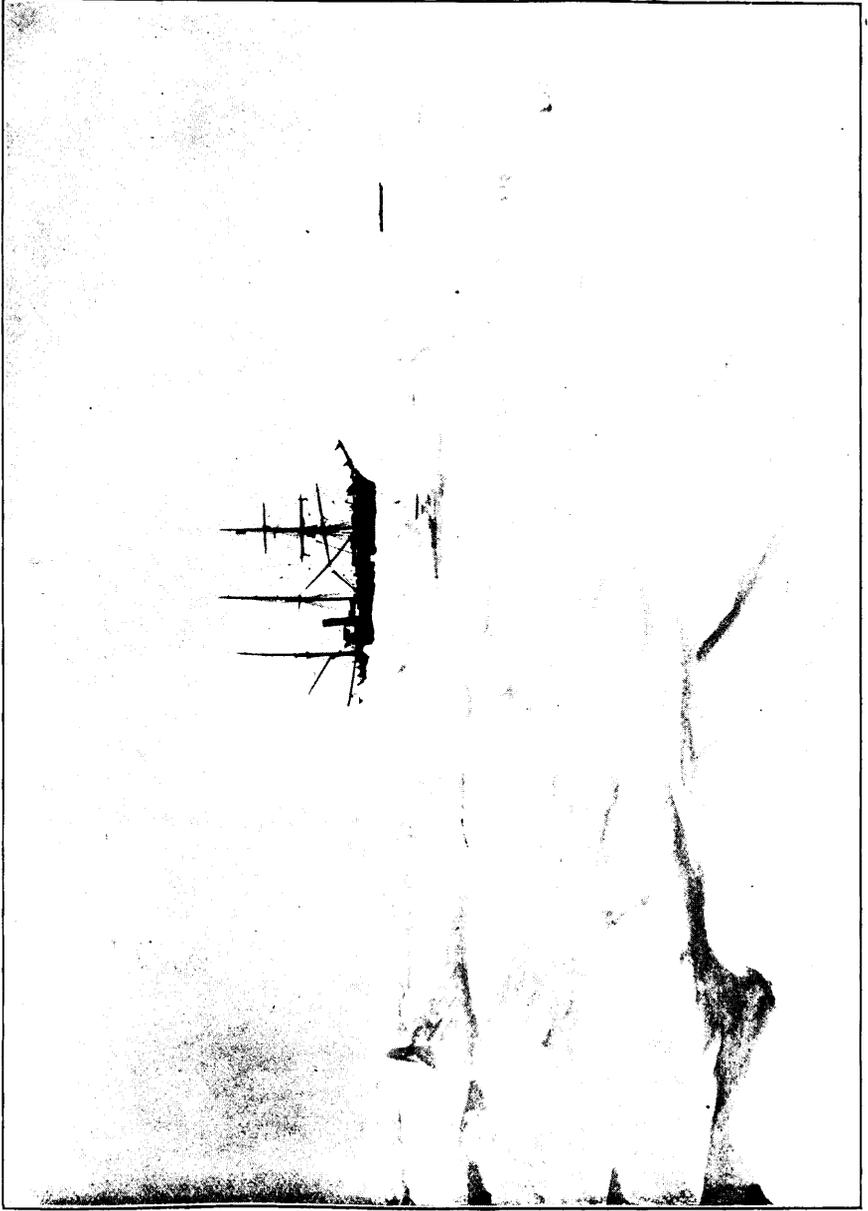
Friday, 25th June.—At 3.45 a.m. decided to try and force our way ahead. Ice seems to be pretty solid, but here and there are patches of lighter ice; worked through the pack until 7.35 a.m., when finding it heavier and more solidly packed, we were forced to stop the ship, as there is no give to it. It shows no disposition to open in lanes or to run abroad as it would if it were not bound from shore to shore, therefore, I consider that any vessel, no matter how powerful, must eventually be jammed in it. Our drift last night was small, but it was somewhat to the southward. I am of the opinion that the ice we are now in is the ice from Hudson Bay and Fox Channel. It varies in thickness from three to twelve feet. There is not much rafting, and few or no growlers, and there are no bergs inside in the ice. The day is hazy and damp, with a light N.E. wind. Ice close about the ship all day; we have drifted a little up the strait to the westward. From the crow's nest we see the high land at Big Island, which we make to be about 50 miles away. At 6.30 p.m., ice seeming a little slacker, went ahead at once, and made fair progress. Some of this ice was comparatively thin and rotten and we got through it at a fair speed, but mixed with it were large heavy pans against which we brought up solid. These we had either to slew around, or back off and ram at. There is also a good deal or what I would call *batture*, or rafted ice. The ice we have passed through to-day has never seen any hardship. There does not seem to have been any swell or sea through it, and I am certainly of the opinion that this is ice from the inside to the westward, and not from Baffin's Bay. It is quite different from the ice we have met along the Labrador, or which we have steamed through in entering Hudson Strait. Had a little rain this evening. A good heavy warm rain would tell on this ice more than anything else. Made fair progress until 10.45 p.m., when brought up solid, the pans are large and heavy, did a good deal of backing, and ramming but made no perceptible headway, stopped the ship till the ice again slacks.

Saturday, 26th June.—No change in the condition. Blew fresh at intervals, from the east north-east, the ice is driving slowly up the strait. As the narrowest part of the strait is just ahead, from Big Island over to Prince of Wales Island, it is to be expected that the ice will tighten as it drives up. All my officers who are old hands accustomed to ice, say that this jam is too tight to work through. There is certainly no give to it as it is at present. Eight p.m. strong east south-east to-day. The ice behind us has shoved and packed up and we are fast fore and aft. We had to-day to set off a number of blasts to protect our rudder, it was relieved for the time, but the pressure continues. The ice we blasted was from 10 to 15 feet thick. We can see open water behind us but none towards either shore or ahead. The appearance indicates that there is an immense field of ice ahead of us up the strait. We have had no westerly wind of any moment since we left Halifax.

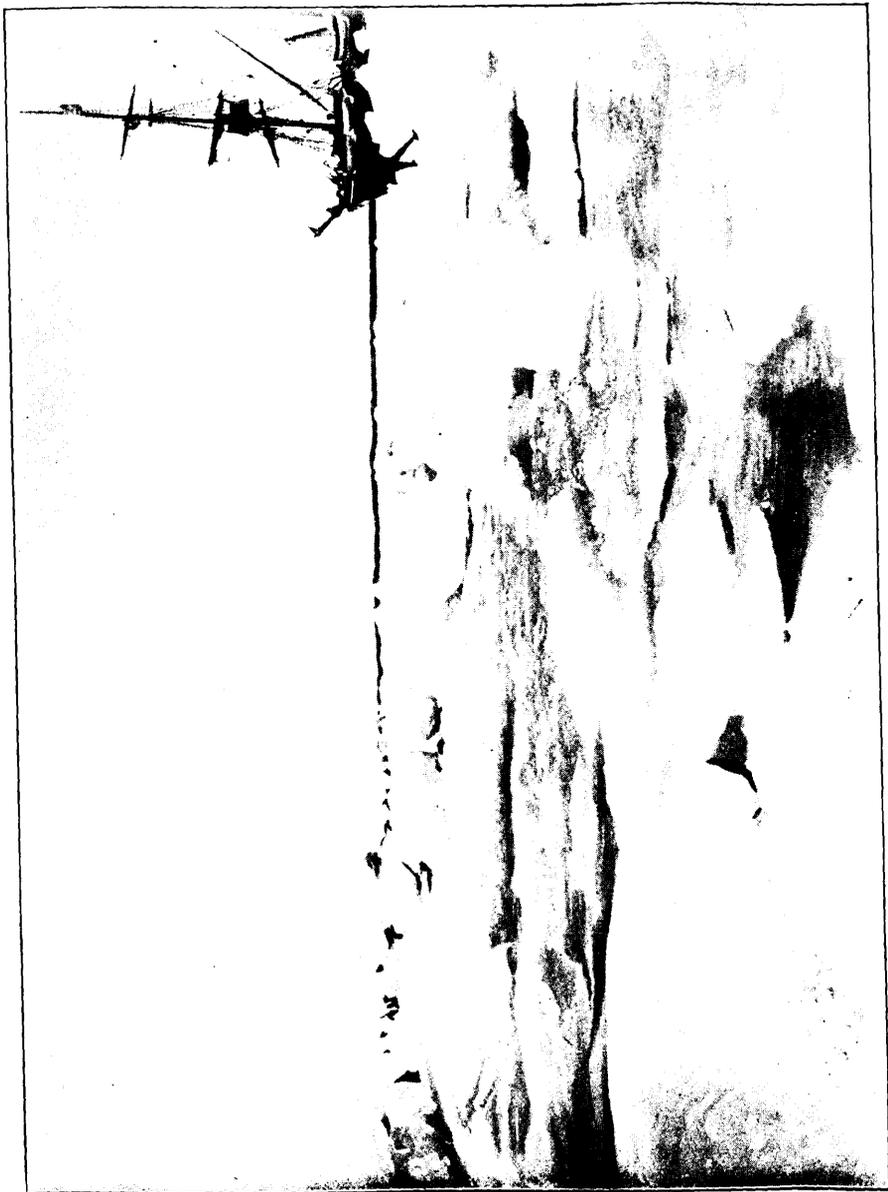
Sunday, 27th June.—No change. Still fast and drifting a little to the north-west. Saw Big Island at 6 a.m. likewise the loom of the land on the south shore, no sign of open water except that east of us. Day warm and bright; ice melting considerably. The ice seems to slack off with the ebb and tightens up again with the flood.



DRILLING HOLES IN THE ICE TO PLACE BLASTS TO RELIEVE PRESSURE ON
RUDDER AND STERN (JUNE 30).



SS. "DIANA" IN ICE - LOOKING SOUTH (JUNE 30).



LOOKING NORTH (JULY 2).



LOOKING EAST—SHOWING PRESSURE RIDGE BETWEEN TWO PANS (JULY 2).

Hudson Bay Expedition, 1897.

Monday, 28th June.—It froze quite hard last night. Pools were all covered over this morning with a coating of ice a quarter of an inch thick. This ice has melted again by 10 a.m. Men who went over the ice some distance from the ship, reported it very heavy and a good deal rafted. Crew engaged filling tanks and casks with fresh water.

Tuesday, 29th June.—The day begins warm and mild. Ice shows some sign of going abroad. The fine weather of the last few days has told considerably on it. Sounded to-day, 135 fathoms, bottom 29 degrees; at 55, 29 degrees 3 minutes, and at the surface, 33 degrees, bottom hard. At 3.15 p.m. a light swell began to heave in from the southward, got under way at once and forced ahead; found the ice had softened and broken up considerably, there were large pans of solid ice which we had either to work around or ram at. At 5.45 p.m. came up with a barrier of heavier ice which we could not penetrate. There seems to be a jam just at this place, of heavier ice which is much rafted, the pans are large many of them being over a mile in circumference, the ice is also coming together again. Tried for some time to free the ship as the ice we were in was rather heavy to lie in from choice, but we failed to get her cleared, as it came together too quickly. This evening sent out hands to measure the thickness of the pans about us. They run from five to nineteen feet, that is, measured from the bottom of the pan to the surface of the water. This ice floats from one to five feet above the water, the greater height being due to the rafting. The ice all about us, especially that ahead is greatly rafted; being piled up in every conceivable form and shape it is exceedingly difficult to get about, over or among it. Through this ice in its present state, no vessel could possibly penetrate. We can see land clearly to-day on both shores. Big Island and the bay behind it to the northward, and the land on the south shore from Stupart's Bay to the westward, but no open water is visible nor is there any water sky. I should consider that the heavy ice now ahead of us has been formed by the forcing of ordinary field ice on shore or by the meeting of fields of ice set together by opposing winds or currents; this has caused rafting. From the soiled condition of this ice I should say that much of it was more than one season old.

Wednesday, 30th June.—Fresh E.S.E. breeze since midnight. Ice closely packed all about. At noon sounded, 137 fathoms, 29° at bottom; 29° at 57 fathoms and 33·5° at surface. At 1.15 p.m., ice is apparently slacking a little; got up steam and forced our way ahead, ice opening up more as we get on. The pans are of great extent and thickness and it takes a long time to swing or work around them. Continued working through them until 6.15 p.m., when ice closed together and ship could make no further progress. We are now well up to and about 15 miles off Big Island the eastern end of which is abeam. The day has been raw and cold with strong wind from the E.S.E. At 9.30 p.m. ice began to raft and shove about the ship, we got pretty severely nipped. One large pan was forced under our port quarter, and the vessel was lifted by the stern about 4 feet. She strained and groaned a good deal. The pressure continued and caused a good deal of anxiety as the ice was so heavy that we could do nothing.

Thursday, 1st July.—The pressure continued until 1.30 a.m. When the shoving ended the ship settled down and became again water-borne. The ice has rafted up considerably during the night with the strong S.E. wind. At 10 a.m. the shoving began again. We now have our boats prepared and crews told off in case we have to leave the ship in a hurry. 7 p.m., have not had any more shoving since noon, the ice seems packed on all sides as tightly as it can be, it is rafted all around us. We have been carried with the ice much nearer Big Island than we were last evening when we first got jammed. It was thick all day until about 4 p.m., when it cleared up and got much colder. Wind still fresh by spells from the S.E.; ice tight and rafting all about. Ship hove over to starboard by passing of a pan under her from port quarter. She is lifted bodily about 4 feet out of the water.

Friday, 2nd July.—Not much shoving during the night, but at 9.45 a.m., a heavy pan which was astern of us came up suddenly with the tide and wind and, driving all the smaller ice either to one side or asunder, took us fairly in the stern, our rudder was twisted to one side and broken off a little below the water line: the ship was driven

forward as far as she would go into a heavy pan ahead of her. The ice rafted up on both sides of us; it was doing this all about. For a while we stood helplessly by, expecting that the next shove would take the stern off her, but fortunately the force of the shove was spent and we took no further harm. All hands had previously been told off to the boats, supplies were on deck ready to be thrown over on the ice, and waiting in this way we spent the morning until the turn of the tide. It was blowing a fresh breeze from the S.S.E., puffy and with a tendency to haul more to the south. We are about 8 miles south from the eastern end of Big Island. At 6.15 p.m. two Esquimaux men and three women came on board from Big Island; we had seen them winding among and climbing over the hummocks for several hours before their arrival. Two of the women carried naked children in their hoods, they did not seem to feel the cold, though we were all muffled up and shivering, as the weather was raw and chilly. They could not give us any information about the ice; they had very little with them and seemed poorly off; they told us that they had left others of their party ashore on the island; we gave them food and tobacco. The ice set tight about us again this evening and we were again hove over and raised by the pressure of the ice under us; still there was no more shoving, and at midnight all but the watch retired, feeling more secure than we had been.

Saturday, 3rd July.—At 4 a.m. ice again showed signs of going abroad; immense lumps began coming up from under the ship and she was soon afloat; the pan which did us all the damage yesterday was about three-quarters of a mile in circumference, and by actual measurements at several points, from seven to twelve feet in thickness. We measured the ice with a pole to which a foot piece had been put on at right angles. This was a level pan and it had not been rafted to any great extent before it shoved up on us. At 4 a.m. five more Esquimaux came on board; a man, woman and three partly grown children; we had to feed them on their arrival as they were tired and pretty well exhausted after their journey from the shore over the ice. They told us that one of their number was killed a few days ago by the bursting of a gun; they cannot give us any information about Capt. Spicer and his whaling station a few miles west of here. As the ice slacked about us we overhauled our damages; the ship is tight and not hurt in the hull; the rudder is broken and twisted off at the water line, the two upper pintails being broken off; the stock of the rudder which was twisted through is a piece of oak fourteen inches square. We forced the lower part of the rudder back into position, and secured it temporarily with an iron strap; we will not ship a new rudder until we get out of the ice. The ice slacking a little, got up steam and changed our position, working about a mile ahead into what seemed to be a softer spot. We can distinctly see the high land of Prince of Wales Sound from the nest, but no open water can be seen anywhere. The ice is still setting up the strait and at 10 a.m. we can make out the beacon on the bluff of Ashe Inlet; the inlet itself being broad off our starboard bow. For the first time since we have been in the strait we are having a light air from the westward. The glass which had fallen $\frac{5}{10}$ ths yesterday has risen to-day. We have invited our Esquimaux guests to leave us and go ashore but they made no attempt to do so. Our Esquimaux left us at noon, they had with them some very good specimens of mica which they brought from somewhere round the shores of Baffin's Land behind Big Island. They managed to explain to us before leaving that there was no one at Capt. Spicer's old station, and that he had left there a long time ago. The ice slacked away again about 4 p.m. and we steamed on a short distance to avoid some heavy pans which were unpleasantly near. We made fast to a small pan among what seemed to be lighter and softer ice, but these extensive and heavy pans are all about, and when the tide changes they sail over or through everything else, so that it is difficult to avoid them. The glass which fell yesterday is now rising, and there is appearance of a westerly wind. This is what we want to open out the jam ahead. Sounded in 160 fathoms; temperature at bottom and midway down 29°, at the surface, 33°, in the air 40°; hard bottom.

Sunday, 4th July.—About 12 a.m. the wind sprang up from the south-east with rain and fog and the ice packed tightly about the ship. Barometer falling. At 7 p.m. the ice set very tight all about the ship, but she is well placed with a soft pan on her starboard side and is not nipped. Wind blowing in puffs with heavy rain, can see no distance



ESQUIMAUX FROM BIG ISLAND—SEVERAL NATIVES CAME TO THE SHIP OVER ABOUT 10 MILES OF ICE (JULY 3). [14]



EAST END OF BIG ISLAND, HUDSON STRAIT (JULY 3).



LOOKING EAST (July 8).

Hudson Bay Expedition, 1897.

from the ship. At 8 p.m. had a very severe nip; squeeze came heaviest about the fore chains. The between deck and the main deck were hove up and began to leak; the fore rigging hung quite slack and the ship strained and creaked terribly. The pressure kept up until 10 p.m. The ice banked up on the port side level with the rail, while on the starboard side it broke off and passed under the ship, she was finally lifted about five feet out of the water and the pressure was relieved. For a time we were very anxious and stood ready to leave the ship.

Monday, 5th July.—Ice began at 8 a.m. to slack away from the ship. Easterly to south-west winds with rain and fog at intervals; towards evening the fog lifted enough to let us see Big Island. We found we had drifted about ten miles to the north-west, and that we were now about five miles off the land, a little to the west of the beacon. In the evening the ice began to come up from under the ship in large quantities and she again became water-borne. The glass which had been falling since yesterday is beginning to rise. No sign of open water anywhere; as far as we can see the ice is closely packed and greatly rafted, though there has been no rafting to-day. The ice is evidently spreading out to the eastward, and the pressure against the shore of Big Island is being relieved.

Tuesday, 6th July.—With the rising glass we had hoped for west to north-west wind and clear weather, but this has not come. About 3 p.m. it began to blow half a gale from the north to the north-west, with snow and sleet. The ice is closely packed about us, but there is no rafting or shoving. We are now on the windward side of the ice, so that there being no great body of it between the ship and Big Island we are not in much danger of a nip. If the wind continues we would hope for a lane of open water, or for slack ice along the shore to the northward. The ice about us is heavy, most of it being by measurement from six to twenty feet thick; there are no bergs or growlers visible. At 2.20 p.m. ice ran aboard a little and we at once began working our way ahead through the pack until 4.30 p.m. when it closed down with no sign of an opening ahead, we stopped the ship in what seemed to be a soft spot. The ship is coming to herself again to-day, the rigging is tightening up of its own accord, a close examination shows the deck seams started in many places, the deck about the galley, just abaft the foremast, has been started up from the beams; the rain now pours through many places all of which were quite tight before the nip. We repaired the rudder by respiking the iron plates on either sides, this has stiffened it somewhat. At 6.30 p.m. moved the ship into a better berth by backing and filling through the ice, as two heavy pans had ranged themselves along our port side. We are now drifting in a south-easterly direction with the pack.

Wednesday, 7th July.—Day begins with fog; about 10 a.m. cleared a little, and we saw the land. We are about twelve miles off Big Island and ten miles south-east of our position of yesterday. Outside of us the pack is heavier than about us, and the pans are larger. Wind during the day was all around the compass. The glass at 7.45 p.m. has fallen $\frac{2}{10}$ ths, and it is now raining hard. The ice is closely packed about us but there is no rafting. One unusually heavy pan has ranged along our port side, and we have been obliged to get rid of it by working the ship ahead and astern so as to have some smaller and softer ice about her.

Thursday, 8th July.—Wind hauled more to the north-west at 6 a.m. During the night we have been driven close in towards the shore near the easternmost end of Savage Islands. There is evidently a strong set of the tide through the channels among these islands, as we have been twice carried in this direction. Much heavy ice and large pans packed close about us. At 5 a.m., from the crow's nest, made out open water to the south, and at once began to bore our way in that direction. We found it very heavy work at first, as the pans were too heavy to swing. However, by dint of pegging away, we gradually got through, and at 9 a.m. began to find the ice looser and the pans smaller, so that we were making better headway. We remarked that all the heavy ice is rafted; in most places the rafting is clear and distinct, but in many cases where the ice is evidently old and has been rafted for some time, most likely for more than one season, it is difficult to detect the lines of separation, but a close scrutiny will show

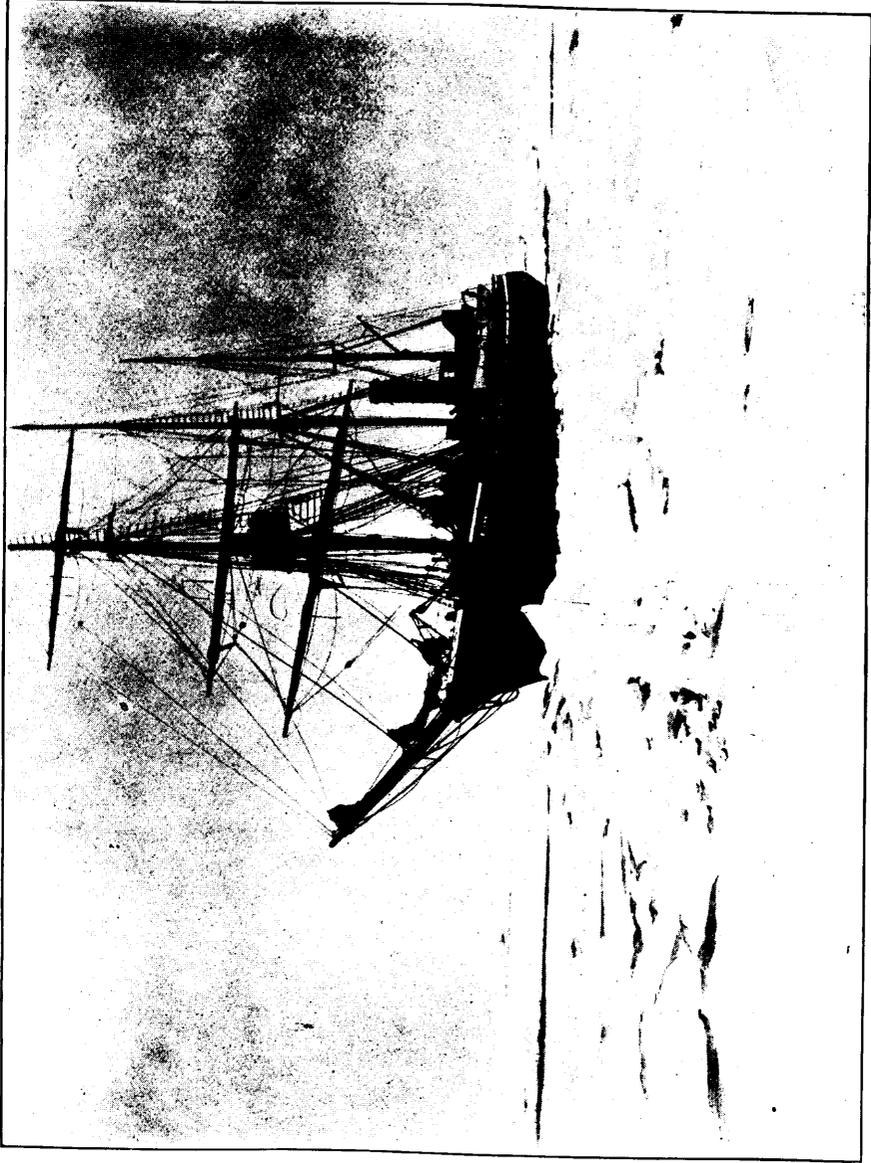
them. We have seen pans of ice that were from 30 to 40 feet thick, but this thickness is always made up of many layers, say from six to seven of rafted ice. I have not seen in the strait any ice more than six feet in thickness of a clear freeze, and most of it will run between three and six feet. On striking one of these thick pans a sharp, fair blow, it will often go to pieces and be separated into its various layers, which come boiling up on either side of the vessel. Towards noon found the ice going abroad more, in a south-westerly direction; steamed steadily through. The wind freshened from the north-west, with fog at intervals. The "Diana" received blows to-day that no ordinary freight-carrier could have stood for a moment. At 3.15 p.m. the ice closed in and we could make no further headway. It also came down thick fog, with a fresh north-wester. We are now, at 5 p.m., about 26 miles south-west from the upper Savage Islands. The ice is closely run together, and the whole is drifting *en bloc* out of the strait.

Friday, 9th July.—Ice remained close packed all night; ship lay easily in it; there was no crushing or swinging about; the whole mass is driving steadily to the eastward, tides, currents and eddies not seeming to affect it. At 7.30 a.m. it began to show signs of going abroad. At 8 a.m. steamed ahead. The ice was tighter than yesterday, and did not go abroad to the same extent. The wind, which had been blowing fresh from the north-west during the morning, in the afternoon backed to the north-east. At noon came down quite thick, and the ice closed in, so that we could make no further headway. Burnt down the fires and stopped the ship at 12.10 p.m.

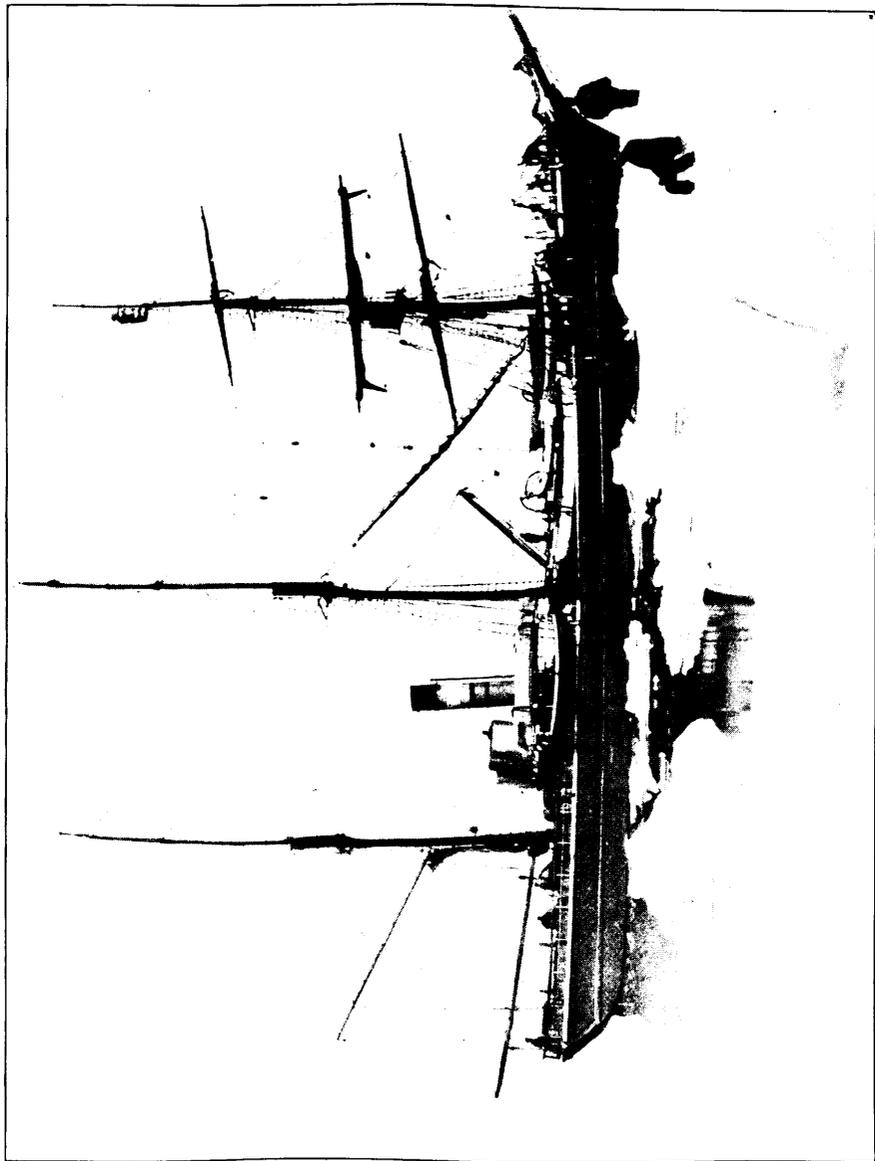
Saturday, 10th July.—Had no change in the ice last night. It was closely packed about the ship; the pans were too heavy and large to bore through. At 8 a.m. began to slack, and at 8.15 we were steaming ahead. The ice went more abroad towards noon, and we had some fine leads. Kept working along the centre of the strait, heading slightly towards the south-western shore. Ship gave and took some pretty hard knocks, severe enough at times to knock people who were not on their guard off their feet. At 6.30 p.m. sighted open water ahead. At 9.15 p.m. were clear of the ice, and steaming full speed ahead in open water. Set a course north by east to bring us 20 miles north of the eastern end of Charles Island. At 11 p.m. began to meet pieces of scattered ice, and saw ice ahead. Weather getting thick.

Sunday, 11th July.—At 12.20 a.m. thick fog and heavy ice all about ship, made fast to a pan and held on for clearer weather. At 4 a.m. fog lifted: went ahead at once. Very little broken ice, all large pans; the ice is heavier than that we worked through yesterday. At 6.30 a.m., ice is slacking again; pushed ahead at once. The ice is all made up of large pans which are heavily rafted; most of the ice being from 20 to 40 feet thick, made up of superimposed layers, each being from 4 to 6 feet in thickness. We now see the western shore distinctly, and we have dropped Big Island which we saw plainly yesterday. Towards noon the ice got much lighter and was much more gone abroad; especially towards the south shore. At 4 p.m. saw open water ahead in the direction of Wegg's Island. At 7 p.m. got out of the ice into open water, which extends all along the eastern shore of Charles Island, now clearly visible ahead. We emerged from the ice about 20 miles off the west shore land opposite Wegg's Island. The open water seems to extend away towards the N. and W. Shaped our course to pass about 10 miles off the eastern shore of Charles Island. Fine evening with a great deal of mirage, calm. East end of Charles abeam at 9 p.m., steamed along the north-eastern shore of the island about 5 miles off, the ice field being immediately outside of us to the N.E. Had the western end of the island abeam at 11.30 p.m. Shaped our course for Cape Digges.

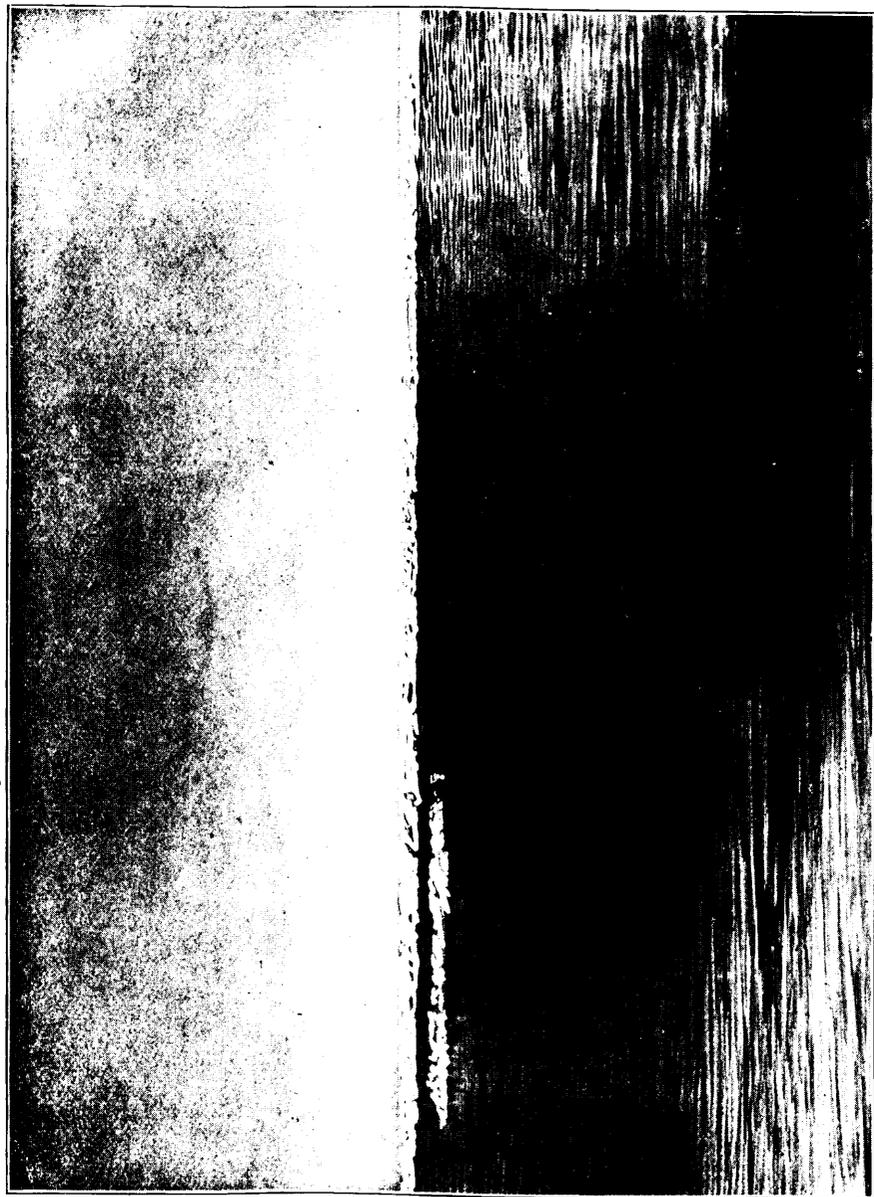
Monday, 12th July.—After midnight met at times a little scattered ice but nothing to prevent us from going ahead at full speed; fog hanging over the high lands of Cape Westenholme. The cape is abeam at noon, ship being about four miles off the land, ice ahead, and close outside of us to the N.W.; the ice ahead is not very compact. At 2 p.m. being then abreast of Cape Digges the weather came down thick; stopped ship, made fast to a large pan, and began taking in fresh water. At 5.15 p.m. fog lifted; knocked off water and went ahead to pass down channel between Cape Digges and Mansfield



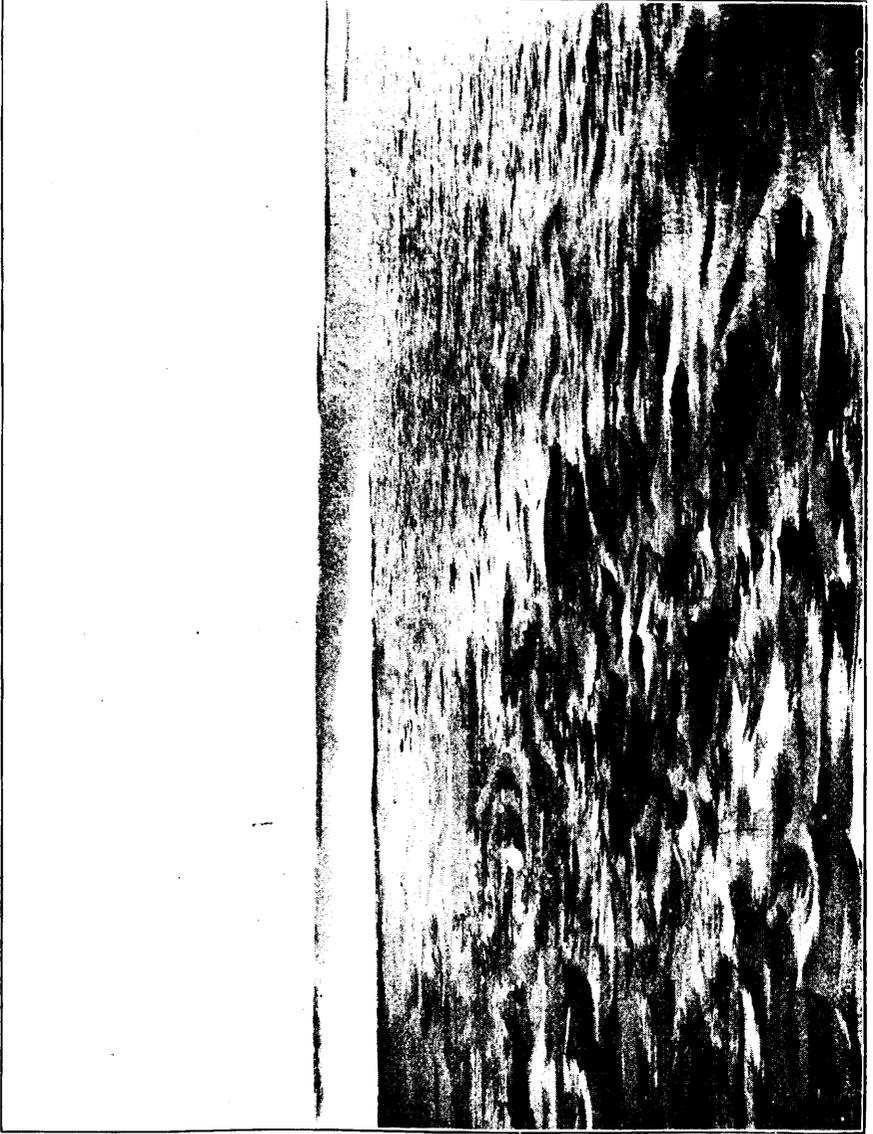
SS. "DIANA" IN ICE OFF SANDWICH_BAY WORKING NORTH (JUNE 10).



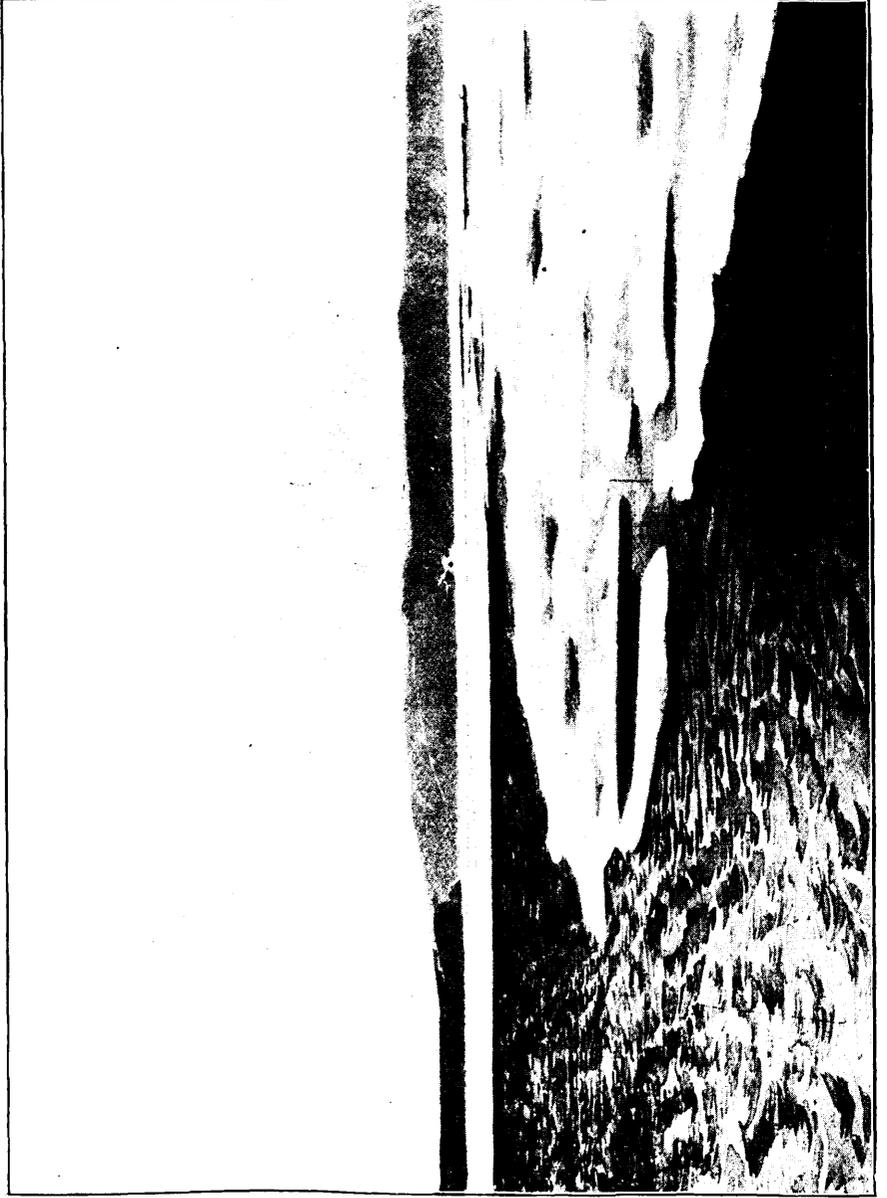
SS. "DIANA" IN THE ICE (JUNE 24).



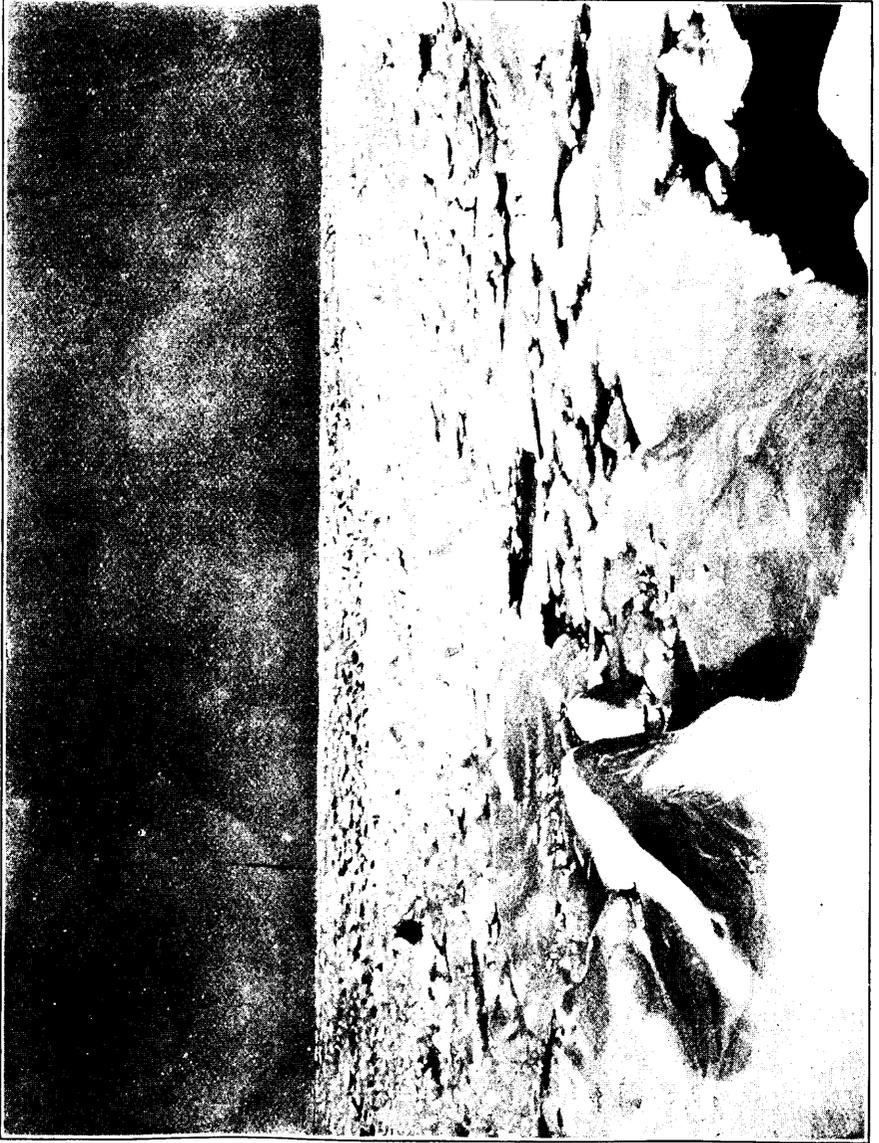
BARRIER OF ICE ACROSS THE STRAIT (JUNE 23)
Extending from Saddle Back Island on the north to Hope's Advance on the south coast.



LOOKING NORTH OFF CAPE_WOLSTENHOLME (JULY 12).



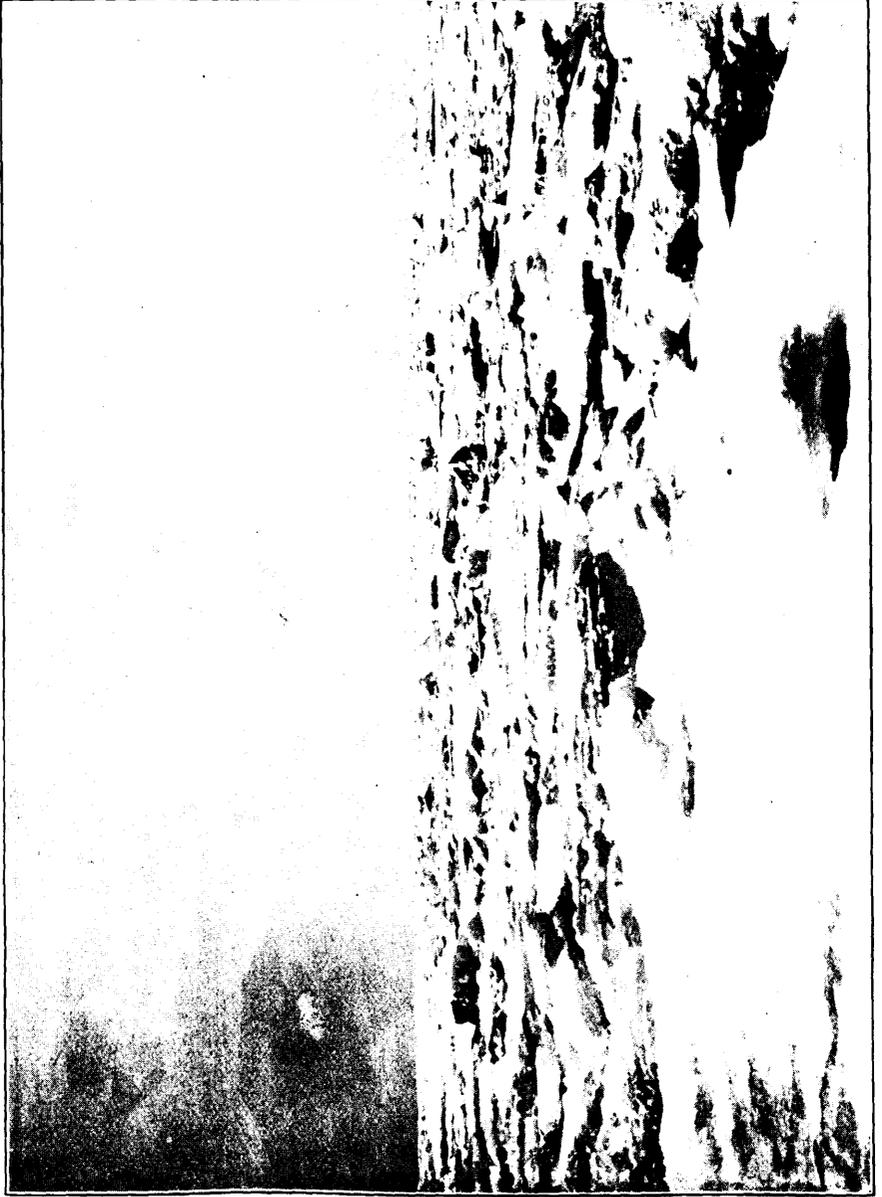
OFF CAPE WOLSTENHOLME (JULY 12)



LOOKING SOUTH-EAST (JULY 9).



LOOKING EAST (JULY 9).



LOOKING SOUTH (JULY 15).



LOOKING NORTH-WEST TOWARDS SALISBURY ISLAND (JULY 15).



FIELD ICE LOOKING NORTH-EAST TWENTY MILES OFF SOUTH SHORE (JULY 18).

Hudson Bay Expedition, 1897.

Island into the open water of the Hudson Bay; some heavy ice about, but this is scattered and we can steam our course full speed. At 8.10 p.m. fog settled down very thick and, as there was some scattered heavy ice about, stopped ship to wait for clearer weather.

Tuesday, 13th July.—Thick all night. Fog lifted at 4 a.m.; went ahead at once. We had made little or no drift during the night. Cape Digges bore about as it did last night when the fog shut down. Light southerly wind and hazy weather; we are taking a round down into the bay, between Mansfield Island and the Labrador shore, to see what the ice is like; we find light open ice much scattered through which we make full speed with no difficulty. The ice is very open and any vessel could safely steam through it with clear weather; here and there there is a heavy pan which has to be avoided. At 10 a.m. changed our course to bear up for the north of Mansfield Island with a view of looking into the straits between Mansfield and Southampton Island. We have so far seen no ice such as that described by Captain Gordon, on page 193 of his report for 1884, as being met with between Salisbury and Nottingham Island and the Digges and further described on page 197 the same year, as having been seen from the top of a hill on Nottingham Island, etc. Found the strait between Mansfield Island and Southampton Island, as far as we went, to contain a good deal of loose much water-soaked ice all driving to the north with a strong southerly wind which is blowing. This ice is mostly thin, very little rafted, and would present no great obstacle to navigation. An ordinary steamer could safely go through most of it and it is so much scattered that a course can be kept through it quite easily. At 2 p.m. put about to pass outwards between Digges and Nottingham Islands and go on to the north coast at King George Cape to land Dr. Bell. Met no ice of any consequence; steamed full speed on our course, having only to swerve occasionally to avoid what looked like too heavy a lump. Wind freshened steadily during the afternoon; weather hazy; could not see very far. Sighted the Digges Island at 8.30 p.m. At this time was blowing half a gale; decided to stand in under the high land of Digges for shelter. At 10 p.m. made fast under the lee of a pan close inshore and kept our engine going slow ahead to hold our position under the island. Light open ice is going past us outside to the north-east at a great rate. Surface water in the bay to-day was 34.5°; thermometer in shelter on the deck was 45°.

Wednesday, 14th July.—Blew hard until 5 a.m. Cast off from our pan and shaped a course to pass south and east of Nottingham and Salisbury Islands, our intention being to cross to the north shore to land Dr. Bell at or about King Charles Cape; weather getting thicker all morning. At 1 p.m. too thick to run any longer; could see nothing of Nottingham or Salisbury Islands. We steered, since leaving Digges this morning, a regular course, having only now and then to yaw to avoid the larger pans. The ice we did meet was in belts, quite narrow, with good wide lanes of open water. It was thin, water-soaked and wasted, and was undoubtedly from the bay, and any vessel could have steamed as safely through it as we did; it has wasted greatly during the last four days. A great deal of the ice we have seen to-day is discoloured and soiled; on some of it we noticed sand and gravel; the most of it, however, is covered with an alga, similar to that we have already seen on the ice through the strait. Crew are engaged to-day, as yesterday, moving coals from the hold into the bunkers. 8 p.m.—Still thick fog; made the ship fast to a large pan. Our drift seems to be in a south-easterly direction. Had fine rain, with a light air from the north-east. At 8.30 p.m. sounded in 115 fathoms; rock, 29° at bottom. At 9 p.m. fog lifted a little; we can make out Salisbury Island. Cast off from the pan, and began steaming in the direction of the island to make the shore, but the fog closed down again almost at once. Stopped the ship and made fast to another pan. The current is now, at 9.30 p.m., setting to the east at the rate of about five knots and the ice is closing in all directions and grinding together; the heavier pans are driving through or over the lighter ones. We are keeping on the southern edge of the ice.

Thursday, 15th July.—At 1 a.m. the ice packed heavily about us. Had to steam to the south-west a short distance to avoid a nip. The ice now passing out from the channel between Salisbury and the north shore is heavy old ice. At 4 a.m. fog

lifted, and the weather became clear. Saw Salisbury Island about 10 miles off on the port bow. There is ice to the northward ahead as far as can be seen, a compact mass of heavy old ice with some enormous pans. This is by far the heaviest ice we have seen in the strait; it is streaming to the south-east, passing at the rate of fully five knots. Steamed along the southern edge of this pack close up to the eastern end of Salisbury Island. At 7 a.m. called Dr. Bell and explained the conditions to him; it is useless to think of our attempting to force a way through this ice across Fox Channel to King Charles Cape, if we enter it we may be jammed in it for days. Ice is also setting through the pass between Nottingham and Salisbury Islands. At 7.30 a.m. gave up all idea of entering the pack and put about for Charles Island to land Mr. Low. We had not made more than a mile after we had put the ship about before the ice surrounded us on all sides and we were beset. We could see a lane of open water to the southward and we decided to make for it by boring our way through. From 7.45 to 11 a.m. we were battering away at the pans, trying to force a way through. For the last three hours, in spite of backing and ramming we did not make 100 yards and at 11 a.m. without any warning the ice began to spin and circle in all directions and in five minutes we were jammed fast and pretty well nipped again. One large pan passed under the after part of the ship, jammed the rudder and screw and lifted our stern three or four feet out of the water; remained in this condition until 1 p.m., when without warning and just as quickly as it had come together the ice ran abroad again and began to come up from under the ship and she was again waterborne; at 1.30 p.m. we were steaming ahead full speed in comparatively open water following the south-west edge of the ice in the direction of Charles Island. The ice we met with to-day was undoubtedly Fox Bay ice coming down; it was old and heavy and much soiled, mostly in large pans, there was no small or thin ice among it, no bergs and no growlers, it was rafted and the pans were covered with pinnacles of ice, it must have been of several years' growth. We had no opportunity of measuring its thickness, but, as far as we could judge, much of it must have been fully forty feet in depth. In working out of the ice to-day the "Diana" behaved admirably, whether by splitting pans by ramming at them, or in dodging in or out among them; we all remarked her extreme handiness which enabled her to twist her way among the pans in a manner which a longer or less handy ship could not have done. An ordinary ship would have been in grave danger in this pack, as it was extremely heavy, grinding, shoving and swinging in all directions; we gradually got into more open water. To the north the ice is packed as far as we can see, and from Cape Digges along the south shore towards Charles Island there is a narrow belt of ice; had the eastern end of Charles Island abeam at midnight.

Friday, 16th July.—At 4 a.m. we are abreast of the entrance to King George's Sound seeing no ice inside; decided to put Mr. Low off here. Going slow by the lead with a boat ahead also sounding; when well into the sound met three Esquimaux in kyacks coming out to us. These men indicated the best anchorage. We anchored under the western land at 8 a.m., in fifteen fathoms and began at once to get ready to hoist Mr. Low's yacht out; did this safely by 4 p.m. Some ice had been running, and we found our anchorage unsafe, in fact, we had to shift it twice to avoid ice, sent a boat with second officer to examine further up the sound for a harbour, he returned at 4 p.m., and reported good safe shelter a few miles further in; he found a good passage in, least water five fathoms at low tide. Got under way and steamed round to the harbour which I called *Douglas Harbour*. Found here a splendid safe harbour with ample water close inshore, a smooth beach on one side with high rocks on the other, mud bottom. Anchored close inshore in ten fathoms at 5 p.m. We found here three families of natives hunting white whales, seals and walrus; they have ample food and are rolling in fat and grease. The engineer reports the condenser leaking; decided to allow him to make the necessary repairs at once.

Saturday, 17th July.—Engaged hoisting out Mr. Low's supplies, and stowing our own in the lower hold to stiffen the ship so as to avoid taking in rock ballast. Engineer will have steam again to-night. Went up to the head of the N.W. arm during the afternoon; found a small river emptying into the head of the arm, the Esquimaux told us

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that large trout could be found in it; saw a large number of trout, but they would neither take a fly nor the bait; they appear to be ordinary sea-trout.

Sunday, 18th July.—Mr. Low left us at 9.40 a.m., and we sailed at once for Ashe Inlet to land Dr. Bell. We found open water for about ten miles off the southern shore. We entered the ice at 1.30 p.m., shaping our course for Big Island, found the ice light, much worn and open. We steamed through about 25 miles of it, most of the time going full speed, avoiding the heavier pans and rafted lumps by swinging round them and going straight through the lighter ice. Made Big Island about 7 p.m., but, as it was hazy over the land, we made fast to a large pan to wait for daylight or rather morning. Any suitably protected steamer that could manœuvre easily could have gone through the ice we met to-day as easily as we did; a more powerful ship could have made better time in the light brashy ice, but among the larger pans the "Diana" could do better, owing to her ability to turn quickly. There was a belt of light open ice up and down the strait with open water for about ten miles to the shore on each side. We saw one small berg to the northward as we were crossing; we believe it to be the same, in a somewhat reduced condition, that we had left behind off Saddle Island on the 23rd of June.

Monday, 19th July.—At 2.30 a.m. stood in for the land; made the beacon at 3 a.m., and at 4 a.m. we were off the entrance to Ashe Inlet; we had gone through about ten miles of open water. Found the inlet full of ice, which has evidently just broken up with the recent high tides and is now coming out before the northerly wind. The shore ice (collar ice) is still attached to the rocks all around; no hope of putting over Dr. Bell's yacht now. Backed off and decided to wait and see what the falling tide and the wind would do. Stood off shore a couple of miles. At 9 a.m. ran back to the inlet and found the ice mostly gone; stood in and anchored off the house. At 9.45 a.m. still some loose ice floating about. At once prepared to hoist out Dr. Bell's yacht. At 6 p.m. this was done, the ballast on board, and the yacht rigged. Weather looking bad, barometer falling. At 7.30 p.m., blowing half a gale from S.S.E. and the ice coming rapidly back into the inlet which is open to this wind. Cast off the yacht and instructed her captain to run up into a cove at the head of the inlet; stood by with steam up ready to help the ship if the entering ice forced us too much; raining heavily at intervals; tide will be high a little before midnight when the ice should slack. We have yet to get the supplies on board the yacht. The house here seems to be very much as it was left, the flagstaff is standing and the pipe projecting through the roof; odds and ends such as paper, etc., are lying about just as they were left; by a notice on the wall it appears that Lieut. Peary and a party of five had called here in the "Hope" last season.

Tuesday, 20th July.—Strong breeze of south south-east brought in the ice with the rising tide; had to keep the engine going to steer the ship and relieve the anchor until 3 a.m. when with the falling tide and the wind which had come round to the north north-west the ice went out. At 7.45 a.m. the yacht returned and, her stores being on board, at 11.15 a.m. Dr. Bell cast off. We left the harbour at 1.30 p.m. for the eastern entrance of the strait; when clear of the inlet and the ice which had been driven out of it since the wind changed we found ourselves in open water; set all square sails and the log and stood out of the strait in the direction of the Button Islands. Fresh north-west wind, ship making ten knots under sails and steam. Passed during the afternoon and evening six small bergs or pieces of bergs; no field ice visible on either hand.

Wednesday, 21st July.—Had a fine night and good run; saw no ice. At 9.15 a.m. made the Button Islands ahead; there is ice in Ungava Bay, and a narrow belt of ice extends along the Cape Chudleigh shore and for about ten miles to the eastward of the Button Islands; it is much worn and broken up and is swinging before the wind round the Buttons. The wind is hauling more to the west and is driving the ice out of Ungava Bay round the Cape Chudleigh shore. To the north and east and in the direction of Resolution Island and out of the strait to sea we can see no ice. There is a haze over the land which prevents us seeing more than the loom of Resolution Island. At 11 a.m. the Buttons being abeam about ten miles off and seeing no ice whatever

ahead, put the ship about, and stood back up the strait. As far as we can see there is nothing to prevent any vessel from steaming into the strait and, save the ice in Ungava Bay, there is no ice between us and Big Island, and when we left Big Island we could see no ice to the south or west.

I think it now of importance for us to find out what has become of the Fox Channel ice at the north-western end of the strait, that which we were in on Thursday last. Since we got clear of this on the 15th we have seen no ice to impede any ship; in fact, we have been in open water all the time, save on Sunday the 18th, when we were crossing from King George's Sound to Ashe Inlet when we steamed through about twenty-five miles of light open ice. We had a strong breeze from the west north-west against us and a heavy log while we were steaming back up the strait this afternoon.

Thursday, 22nd July.—Had strong head wind all night with considerable sea, no field ice; saw a few bergs, the same most likely that we have seen on our way east; wind moderated to a light breeze during the morning, and the water got smoother. At 7 a.m. sighted field ice to the south and coasted along the north-eastern margin of it. All morning our course has been north by west. At 1.30 p.m. sighted ice ahead, that which we have had on our port hand all morning is light broken ice with much open water through it and it connects with the ice ahead, extending away towards the north in the direction of the western end of Big Island, the high land of which we see to the north north-east. Our course is up mid-channel; entered the ice at 2.15 p.m. This is unquestionably the Fox Channel ice coming down, it has greatly changed since we lost sight of it a week ago, it has run abroad greatly, and shows the effects of the week's fine weather and the rise in temperature. At 3 p.m. tied up to a large pan to take in fresh water; at 5 p.m., all tanks, boilers, etc., being full, we proceeded full speed; we saw some large heavy pans. Proceeded steadily ahead until 10.30 p.m. when we met heavy close packed ice and decided to lay by for daylight; it was light but we could not see far enough ahead to know exactly in which direction to work. We were well off shore and abreast of the Maiden's Paps.

Friday, 23rd July.—Proceeded at 1.30 a.m.; found the ice more open. Off the entrance to Douglas Harbour at 2.10 a.m., ice slightly heavier and in some places more closely packed. Sighted Charles Island at 6 a.m. Had some good leads from 6 to 8 a.m. At 9.30 a.m. bored our way through a heavy bar of close packed ice and emerged into clear open water; ice to the northward of Charles Island appears to be much scattered. It would not have been possible for an ordinary freight steamer to have pounded her way through the ice, which we have met since yesterday evening as quickly as we have; we have driven the "Diana" straight through, that which would have brought an ordinary vessel to grief at once. There was no disposition to run together or nip, and any vessel could have laid by safely in it while through most of it the way was fairly open. At 11.45 a.m. found a lane of open water along the north shore of Charles Island from which the ice extended to the northward outside of us, this was all Fox Channel ice. Some of the pans were of great extent, being several miles in circumference, and, standing as high out of water as they did, from five to ten feet, they must have been of great thickness. This ice was continuous with that we have had between us and the north shore all the way from Prince of Wales Sound. Got round the western end of Charles Island at 2 p.m. and shaped our course for Cape Digges in open water. Had Cape Digges abeam at midnight. The ice to the north extends away in the direction of Salisbury Island.

Saturday, 24th July.—Rounded Cape Digges shortly after midnight and slowed down; found a strong current setting round Cape Digges and down the strait. At 4 a.m. proceeded slowly round to the south of Digges Island; at 4.30 a.m. ran into Port Laperrière and anchored. Began at once to shift coal from the forehold to the bunkers; at 5 p.m. having moved about forty tons, washed down. Eight Esquimaux in kyacks came off from the mainland to join us here. These people are over on the mainland hunting deer; they brought no meat with them but they had a number of fresh skins; they appear to be more like Mountaineer Indians than genuine Esquimaux, and they

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are dressed like Indians in clothing supplied by the Hudson's Bay stores; felt hats, blankets, shirts, jerseys and moleskin pants, these garments they wear either over or under their ordinary sealskin clothing. Had a fine warm day; mosquitoes very troublesome.

Sunday, 25th July.—Left Port Laperrière at 9 a.m., which was as soon as we got rid of our Esquimaux guests; stood out round the Digges Island, and by the eastern end of Nottingham up towards the east end of Salisbury Island. A stream of heavy old ice is still passing out north of Salisbury and on down the strait, from Cape Digges to the eastern end of Salisbury Island we had open water. The passage between Nottingham and Salisbury Island is full of ice; steamed up to the edge of the ice but did not enter it. It seems to have wasted a good deal since we were off here on the 14th and 15th instant, just ten days ago. Stood to the south south-east along the edge of the ice, a wing of which extends westward to the mainland east of Cape Westenholme, passed through it in the bight, where it was narrowest and most open. This ice was greatly worn and much discoloured with the same kind of algæ which we have before noticed. We were in open water again at 6.50 p.m., and proceeded south south-east at full speed. The main body of ice is still to the north and east of us, but it seems more scattered and open. The day has been fine and warm; in going out of the strait this time I will try and keep in mid-channel; followed along the edge of the ice, heading more to the east; at 10 p.m. slowed down and proceeded easy.

Monday, 26th July.—At 1 a.m. still following the southern margin of the ice, which is now close packed and solid. At 1.30 found the ice heading slightly to the west of south. Followed it along, passing at 5 a.m. between the east end of Charles Island and the main body of the ice. The ice here extends to the south shore, where we had open water going west on Friday last. Followed along the mainland shore for about an hour when at 7 a.m., the ice seeming in that direction to be slack, stood away for the north shore in the direction of Emma Island. Found the ice fairly open in crossing and we were generally able to go half speed through it. Passed many large, heavy pans, but most of the ice was much worn. Towards the north shore at 1 p.m. found the ice more gone abroad than on the south shore; edged off in the direction of Big Island. At 4.30 p.m., being about fifteen miles off Big Island and a little to the west of Ashe Inlet, ran out of the ice into open water. At 5 p.m. we were abreast of the Beacon; set log and shaped course for the Buttons; set canvas; no ice in sight ahead, either to the east or the south.

Tuesday, 27th July.—At 8 a.m. had steamed 125 miles by log on a southerly course; then headed the ship south-west to look for Green Island. At 11 a.m. made land ahead where Green Island should be, but at 1 p.m., in lat 50°67', we were stopped by the ice in Ungava Bay, about ten miles from the island. Captain Gordon passed twice where this island was supposed to be, in clear weather, and saw nothing of it, and had authorized its removal from the chart. The ice has prevented us from getting in nearer this time, but at present we are all inclined to the opinion that the island exists. There was so much loom that we could not distinctly distinguish the shape of the island we saw and it may be that this is only the northern end of Akpatok Island, which is supposed to be twenty-five miles further up the bay than Green Island. When we go later in the season to Ungava to pick up Mr. Low we will finally decide this matter. At 1.30 p.m. shaped our course for Port Burwell. We had gradually to haul more to the north-east to keep clear of the ice, a belt of which extends all along the eastern shore of Ungava Bay and out past the Buttons. Kept along the edge of this ice all afternoon and evening until 8.45 p.m. when tied up to a pan to wait for morning; we are about 12 miles off Port Burwell and separated from it by a heavy belt of ice which is packed along that shore and setting out of Ungava Bay round the Buttons and Cape Chudleigh. We saw several good sized bergs in the bay and some growlers among the ice; we have seen nothing of the kind among the ice up the strait; this makes us conclude that some of the ice in Ungava Bay is undoubtedly Baffin's Bay ice, which has been set across the mouth of the strait and into the bay with the easterly and north-east winds, this ice is now going out before the westerly winds and will be carried round the Buttons past Cape Chudleigh and down the Labrador.

Wednesday, 28th July.—Cast off from the pan at 2 a.m. ; we have now about twelve miles of compact ice between the ship and Port Burwell ; did not attempt to force our way in, we made but little drift during the night ; stood out round the Buttons, keeping about ten miles off the islands, at this distance there was little or no ice but beyond to the north-east and south, there was considerable field ice, scattered and open round the edges, but more closely packed in the interior. We stood on out through this to the eastward, finding lanes of open water here and there, at right angles to our course ; the ice in these belts is heavy and the pans large ; all the ice, however, is worn and rounded at the corners, it is in motion, whirling and circling with the current ; at 9.45 a.m. reached open water with no ice to the north-east and east, as far as can be seen ; the ocean swell can be felt, though the day is calm ; to the south-east and south between us and Cape Chudleigh there is open ice, with a few bergs ; towards the shore of Labrador the ice appears to be more open than it is fifteen or twenty miles off ; at 10 a.m. put the ship about and stood west to make the land near Cape Chudleigh with the idea of going into Sir Terence O'Brien's Harbour. This harbour is used by fishermen and is said to be safe and good in all weather ; worked through belts of heavy close ice with lanes of open water or looser ice between. From the appearance of the ice in the entrance to the strait and outside of it, I should say that it is from Baffin's Bay ; from the Labrador shore the ice extends seawards as far as can be seen ; we find the coast line entirely wrong as laid down in the last chart ; the older charts being more nearly correct ; the recent chart shows no islands near Cape Chudleigh, while there are two large islands with a deep passage between them and the mainland through which we passed to reach Sir Terence O'Brien's harbour, where we anchored in nine fathoms at 5 p.m. ; sent at once a crew to fish for cod, found none ; fishermen never expect to find cod here much before the 10th of August, all we got in our seine was a sculpin and two young cod fish. The harbour of Sir Terence O'Brien is simply a round hole in the hills behind the island of Cape Chudleigh, it is land-locked, has twelve and thirteen fathoms all the way in through a narrow pass, with 9 fathoms in the anchorage, the only trouble is that the place is very squally, the cliffs rising abruptly all round from 1,000 to 1,500 feet, the squalls come down from them with terrible force, the holding ground is however good.

Thursday, 29th July.—Crew engaged re-stowing stores preparatory to taking on board coal at Nachvak ; took on board some rocks for ballast so as to trim the ship more by the stern, found our screw too high in the water yesterday to be safe in ice ; strong south-west wind, overcast and cloudy.

Friday, 30th July.—Left at 2 a.m. and proceeded out of the eastern pass behind Cape Chudleigh, light scattered ice outside and several bergs ; stood off shore about fifteen miles and shaped our course down the coast to bring us off Nachvak ; where we hope to meet our coal vessel on the 1st August ; at 6 a.m. open water, no ice in sight ; at 9.30 a.m. came down thick, had to slow down ; 9.50 fog lifted, again proceeded full speed, smooth water with a light air from the east ; we saw no ice, but there is a distinct ice blink to the eastward, and we know from what we saw on Wednesday that there is a considerable body of ice in that direction. This ice has been blown off shore by the strong breeze of yesterday ; 10.10 a.m. fog came on again ; slowed down at 4.30 p.m., stopped the engines ; sounded in eighty-two fathoms, hard bottom, light south-east wind ; at 8 p.m. still thick, wind hauling to south south-west ; sea calm ; tried for cod several times to-day with no success.

Saturday, 31st July.—Had it thick all night. Stood in towards the shore slowly, sounding at intervals in 90, 95 and 85 fathoms ; at 3 p.m. made out the tops of the peaks over the fog, but could not make out the marks for entering Nachvak, and after steaming along the land for some time had to stand off shore for the night, which we did at 9 p.m. ; allowed the ship to drift.

Sunday, 1st August.—At 2.30 a.m. the weather cleared ; stood in for the land ; made the White Handkerchief and Mount Razor Back and ran into the mouth of Nachvak Bay ; saw no vessel at any of the anchorages at the mouth of the lower bay ; continued on up to the Hudson's Bay post and anchored at 8 a.m. Mr. Ford, the agent,

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came on board. The "Eric" had left here last Sunday for Churchill; no fish here yet. The spring had been an early one, the westerly winds keeping the field ice off shore; the bay ice only went out in the beginning of July. We could not possibly have got in when we first went up the coast, as the bay was still frozen over. Nets are being set out for trout which are now coming back from sea. These fish come down the rivers in June, before the ice breaks up. Cod usually reach here about the 6th of August and remain until the end of October. At 4.30 p.m., weather being squally, changed our anchorage to further out in 21 fathoms and let go both anchors.

Monday, 2nd August.—Crew engaged trimming ship by the head during the morning, and in the afternoon unshipped our broken rudder and shipped the spare one; tried for fish with seine, took a few small trout and some sculpin.

Tuesday, 3rd August.—Engineer blew off his boiler and is engaged refitting and cleaning generally; tried again for fish but with no success; sent steam launch down the bay to see if the coal ship had arrived below, but they returned having seen nothing of her; the day was showery with squalls.

Wednesday, 4th August.—Refilled boilers with fresh water; sent steam launch down to the mouth of the bay to look again for coal ship; it is 15 miles from the mouth of the bay to our anchorage; they tried for fish at the mouth of the bay but found none.

Thursday, 5th August.—Engineer began raising steam in the boiler; crew engaged painting the hull of the vessel.

Friday, 6th August.—At 8.30 a.m. sighted a sail coming up the bay; she proved to be the "Maggie" with our coal; got her alongside at 2 p.m. and at once began taking coal; she had left Sydney, Sunday, 15th July, and has been off the bay since Monday last; but could not get in owing to calm and fog; we received our mail by the "Maggie."

Saturday, 7th August.—Crew at work all day taking in coal, had 120 tons in by night. Fog and rain with strong east wind. First cod fish taken to-day a few miles below our anchorage.

Sunday, 8th August.—Rain, fog and changeable winds.

Monday, 9th August.—Rain and snow, the tops of the hills being everywhere covered; wind changed to the north north-west; all hands engaged at the coal.

Tuesday, 10th August.—Fog and strong south-east wind. Crew engaged helping the "Maggie" to take in ballast.

Wednesday, 11th August.—Taking out the balance of the coal. Fog in the morning and strong east wind.

Thursday, 12th August.—Finished coaling. Crew engaged taking in fresh water and cleaning up generally.

Friday, 13th August.—Began getting in the anchors at 3 a.m. Left Nachvak at 7.10 a.m. Set log off the mouth of the bay 10.40 a.m., and shaped a course for Cape Mercy on the north side of Cumberland Bay. Southerly wind with considerable swell, no ice.

Saturday, 14th August.—Wind changed to the north at 3.45 a.m., and came down thick, slowed down, variable weather all day with fog at intervals. Weather clear at 6 p.m., when made the North Foreland, Monumental and Lady Franklin Islands, a few bergs in sight, but no field ice.

Sunday, 15th August.—7 a.m. made Cape Mercy and stood in for Cumberland Sound and up along the north-eastern shore; had fog at intervals all morning, saw a good many icebergs and a little drift ice, Milikdjuak Island abeam at 3 p.m., stood on, past it and the Middle Islands, to Kekerton Harbour which we entered with boat ahead sounding, anchored off the whaling station at 7.45 p.m. Mr. Milne the resident officer in charge came on board, Mr. Mutch, the regular agent had gone home to Aberdeen last fall and had not yet returned. The brig "Alert" which serves this station is hourly expected from Peterhead.

Monday, 16th August.—Landed and inspected the station and obtained all the information we could as to the history of whaling, its methods and customs, from Mr. Milne. Fog and rain all day. About 140 Esquimaux, men, women and children, are here employed and maintained by Mr. Noble, who at present controls the whaling stations in Cumberland Sound.

Tuesday, 17th August.—Landed and hoisted the Union Jack in presence of the agent, a number of our own officers and crew, and the Esquimaux, formally declaring in their presence that the flag was hoisted as an evidence that Baffin's Land with all the territories, islands and dependencies adjacent to it were now, as they always had been since their first discovery and occupation, under the exclusive sovereignty of Great Britain. Fog all day.

Wednesday, 18th August.—Thick all morning and up to 2 p.m., clearing at that hour; got in anchor and left at 2.30 for Black Lead whaling station on the west side of the sound; met no ice in crossing. Anchored under Black Lead Island at 8 p.m., landed and found here Mr. Sheridan, agent of the Messrs. Noble of Aberdeen, in charge of the station, and the Rev. Mr. Sampson, an English missionary sent out to the Esquimaux of Cumberland Sound. There are here about 140 natives, men, women and children, in the employ of Mr. Noble. To this population there has within the last few days been added 120 men, women and children who have arrived here from New Gummiute, where a whaling station owned by the Williams Company, of New London, Connecticut, had formerly existed; this station having been abandoned, the natives have come up here to seek for employment.

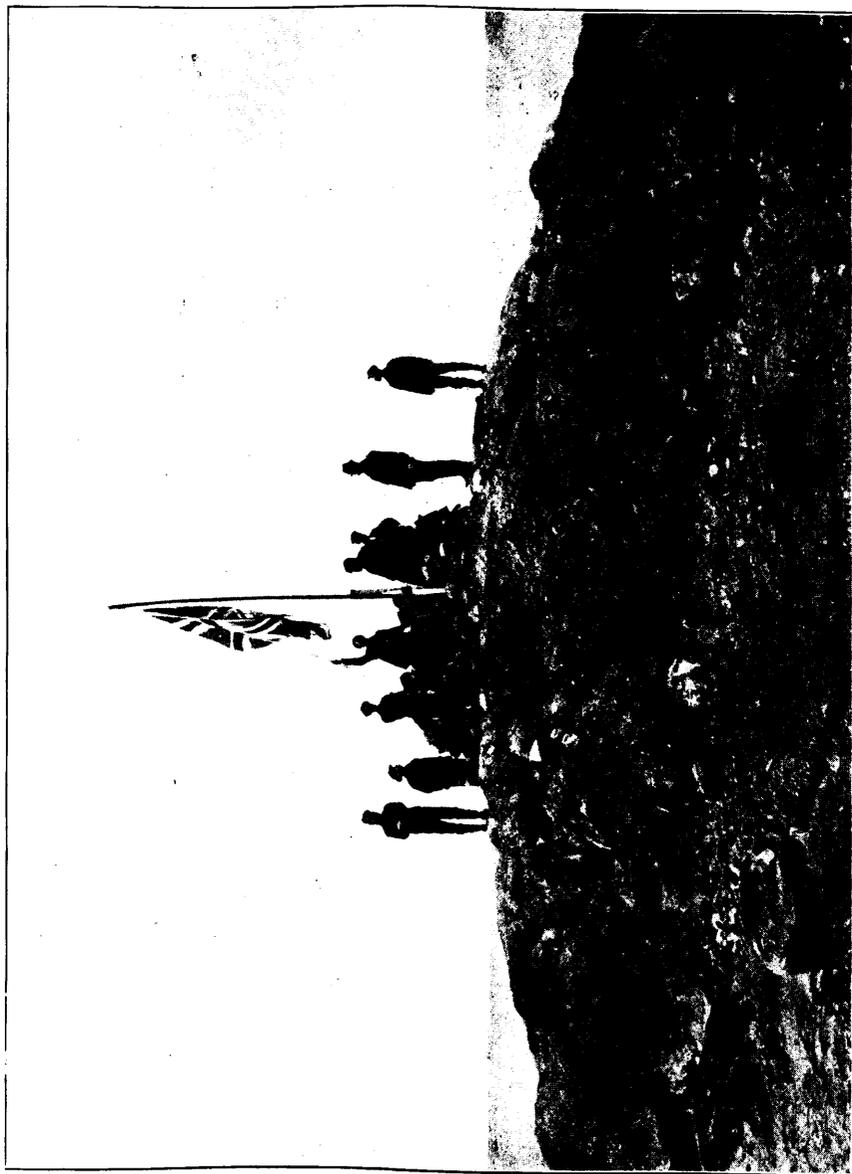
Thursday, 19th August.—Strong south-west wind and rain; landed and spent the morning on shore. The natives, here, as at Kekerton, are well off and live in larger and more comfortable teepees than those seen anywhere else, they are engaged to Mr. Noble and are supplied with rations by him, they are engaged under the same conditions as those at Kekerton. A large part of the population is absent just now in the interior of Baffin's Land, deer-hunting, the object of the hunters is to obtain deer skins for winter clothing. Tried off here to-day for fish, the natives tell us that both cod and halibut are occasionally found, but we got none, they tell us that small halibut are frequently found frozen in the ice. Salmon and trout are found in all the streams and in all the lakes at the head of the streams. Weather clearing at 5 p.m. left Black Lead for Hudson Strait, rounded Point Imukanakajuing at 9 p.m., and shaped a course to pass outside of Lady Franklin Island, saw a good many bergs off the south of the sound.

Friday, 20th August.—Sighted Lady Franklin Island at 10 a.m. and stood on for Resolution Island, rain and fog at intervals all day; passed a few bergs, none of them of any great size.

Saturday, 21st August.—Getting too thick to run, stopped the ship at 12.15 a.m. clearing again at 3 a.m., started ahead full speed, but it shortly afterwards came down as thick as ever, and we had to stop the ship; at 5.30 a.m., fog lifted, proceeded ahead, made Resolution Island at 7.30 a.m. and hauled ship up to pass westward of the Buttons. Buttons abeam at noon; ran into Port Burwell and anchored at 2.30 p.m. Found the steamship "Nimrod" in Munroe Harbour fishing, she had been here for a week; took her first fish yesterday, to-day they are taking cod abundantly; she has come here from Blanc Sablon and reports good fishing in that neighbourhood. Crew engaged taking in water. Blowing hard from the north-east. Left Port Burwell at 7.15 p.m. for Hudson Bay, found outside a heavy cross sea. Wind freshened to a gale and at 11.30 p.m. had to put the ship's head to the wind, and slow down, as our decks were being washed.

Sunday, 22nd August.—Wind moderating at 3.30 a.m., came back to our course, still considerable sea on, the tide rips were very heavy the water simply boiling on all sides. By noon the weather had moderated and the sea fallen; wind towards evening came round to the north-west with considerable swell.

Monday, 23rd August.—Fine clear day with moderate north-west wind and smooth water. Big Island abeam at 5 a.m. Shaped a course for Salisbury Island. At 3 p.m.



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came down thick. Proceeded slow, sounding at intervals, getting 90 and 85 fathoms showing that we were on the bank north of Charles Island; 10 p.m. weather cleared up, proceeded ahead full speed.

Tuesday, 24th August.—At 6 a.m. sighted the eastern end of Salisbury Island. Hauled to the north to make King Charles Cape and if possible have a look into Fox Channel. At 9.15 a.m. came up with a wall of ice reaching from the end of Salisbury Island in a north-easterly direction as far as we can see, the outer border of this ice is loose and worn, but further in it looks compact and solid. Make no attempt to enter the ice but shaped our course to pass round Nottingham Island and down between Coates' and Mansfield Islands. Fresh north-west breeze and cold weather; towards sunset the weather became overcast and cloudy, passed about ten miles off the north-east end of Mansfield Island, but it was too dark and cloudy to make the land.

Wednesday, 25th August.—Sighted the land, Coates' Island, at 2 p.m. in the neighbourhood of Carey Swan's Nest. Shaped our course for Churchill. Wind freshened during the evening to half a gale from the north-west, with a short breaking sea. Crew had been engaged all day passing coal from the forehold to the bunkers.

Thursday, 26th August.—Had a dirty night, towards noon the weather moderated and the wind hauled more to the south. Fore and aft canvas on the ship at 2 p.m.; we have only averaged $4\frac{1}{2}$ knots since the same hour yesterday.

Friday, 27th August.—Wind round to the north-west, with haze and fog at intervals. Sounded in 28, 35, 40 and 42 fathoms. Our distance being fully run at 7 p.m., stopped the ship and laid to for the night.

Saturday, 28th August.—Lead going every hour in from forty to thirty-eight fathoms during the night. Stood in at 5 a.m., shoaling our water gradually to nine fathoms, when at 9.10 a.m. let go the anchor until the fog lifted, so that we could make out the land and distinguish the beacons. Both yesterday and to-day we have tried for fish, but took nothing. Light north north-west wind, with rain and fog.

Sunday, 29th August.—Fog and rain; glass falling and appearance of bad weather; at 4 p.m. clearing a little. Got under way, and proceeded slowly by the lead to feel for the channel of the river, gradually deepening our water to twenty fathoms. We bore up to the south along the edge of the twenty-fathom line, at 5.30 p.m. made the beacon on Esquimaux Point and ran into the harbour and anchored.

Monday, 30th August.—At 12.30 a.m. a very strong current running out, causing the ship to swing about. She took the ground by the stern with the falling water, and remained fast until 4.30 a.m., when with the first of the flood she floated off. Shifted our anchorage a little further from the bank. At 7 a.m. towed up to the post about three miles from the anchorage. Found Captain Hawse, the agent in charge, at home. The "Eric" had left ten days ago for Ungava. Returned on board again at 1.10 p.m. It is blowing half a gale from the eastward, with rain and fog. Crew engaged moving coal from forehold to bunkers.

Tuesday, 31st August.—Gale continues, with rain. Went up to the post at 7.15 a.m., and returned on board at noon. Crew engaged bringing on board fresh water; as the tide runs here about six knots the boats can only be worked during the slack. At 3.30 p.m. let go the second anchor; heavy sea outside breaking all around the entrance to the harbour.

Wednesday, 1st September.—Weather moderating; crew engaged taking in fresh water. Captain Hawse, who came on board to-day, informs me he has sent his crew up the river for fresh fish and that they will be back early to-morrow so I decided to wait and secure specimens of the fish.

Thursday, 2nd September.—Rowed up to the post this morning and secured specimens of fish from Captain Hawse. His men had just returned from up the river with a quantity of fish, pike, suckers, whitefish and grayling; earlier in the season—in July and the beginning of August—they also get trout and salmon. The salmon are small,

only running about six pounds. Whitefish here are frequently taken in the salt water ; we ourselves took some yesterday along the beach outside of the harbour. Captain Hawse informs me that he has often tried for fish in Hudson Bay when becalmed in his vessel, but that he had never yet caught anything. Returned on board at 11.30 a.m., got in anchors, and at noon left Churchill to cruise in the bay and try for fish. At 3.30 p.m. came to and set a trawl baited with clams and fresh fish. Got over the dredge on a bottom of clay small stones and gravel in thirty fathoms ; had out also a surface tow net, but it yielded nothing. At 6 p.m. took in our trawl, with nothing on it. Temperature at the surface, 43° ; at the bottom, 33°. Continued in the direction of Mansfield Island.

Friday, 3rd September.—Came to at 6 a.m., set trawls in eighty-three fathoms. Surface temperature 43°, bottom, 30°; mud, with a few small stones ; specific gravity of the water at the surface 1023.4, at the bottom, 1025.8 ; coming on to blow hard and the sea making, had to take in our trawl at 10 a.m.; nothing on it, continued our course. By 2 p.m. it is blowing half a gale, with a short angry sea. Everything awash on deck, raining hard.

Saturday, 4th September.—At 4 a.m. same weather, laid the ship to, intending to wait for more favourable weather. Ninety fathoms ; too rough at present to set a trawl or to dredge. Held on until 10 a.m. when the weather getting worse and wind hauling more to the eastward put the ship on her course, taking a good deal of water.

Sunday, 5th September.—Since 8.30 a.m. yesterday to the same hour to-day, we have only made sixty miles. The wind is back to the north and north north-east. No chance of doing any fishing. Rain all day yesterday and to-day.

Monday, 6th September.—Weather moderating a little. As I have to meet Dr. Bell at Ashe Inlet on the morning of the 10th, and I am afraid that the north to east wind which we have constantly had since the 28th August may have driven the Fox Channel ice down on Cape Digges and blocked the passage between Salisbury Island and Cape Digges, I am forced to keep on and give up any further trawling for fish. Made the south end of Mansfield Island at 1 p.m. At 4.30 p.m. we were fairly round the shoal off the south point and shaped a mid channel course for Cape Digges. Short breaking sea with rain and squalls. Sounded in sixty fathoms off the south shoal. Found bottom temperature of 40°, with surface temperature at 43° and a strong current setting to the north.

Tuesday, 7th September.—Snow squalls and strong north-west winds. At 12.10 a.m. made Cape Digges ; at 2.30 a.m. stood round the cape and shaped a course to pass north of Charles Island. Saw no ice off Cape Digges, though there was a decided ice glint to the northward. We were up with the western end of Charles Island by 3 p.m. Had frequent snow squalls during the day. The hills are everywhere covered with new snow. Off the eastern end of Charles Island at 6 p.m., fresh north wind with snow squalls. At 7.30 p.m. laid the ship to under canvas to wait for daylight.

Wednesday, 8th September.—Had a good deal of snow during the night. No ice in sight anywhere. At 4.15 a.m. stood in and followed along the land to King George's Sound. Entered the Sound at 10 a.m. Set trawls in forty fathoms in centre of the sound. 35 degrees at the bottom, 35.8° at the surface ; continued into Douglas Harbour and anchored at noon ; crew at once began to move coal from the forehold to the bunkers ; light snow flurries at intervals all day.

Thursday, 9th September.—Crew engaged taking in fresh water and shifting coal. Saw no Esquimaux here now ; light north-east wind ; large numbers of wild geese about the bay and feeding on the hills and fresh deer tracks on the beach. Left the anchorage at 4 p.m. for Ashe Inlet ; outside in the sound overhauled and took up our trawls ; found no fish. Proceeded for Ashe Inlet.

Friday, 10th September.—After midnight the weather began to get bad, the wind freshening from the south-east, made Big Island at 2 a.m. and laid by for daylight ; sea making rapidly ; at 4 a.m. stood in for the land to make the beacon on the north bluff.

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At 5 a.m. we are off the entrance to the inlet at Rabbit Island; it is now blowing a gale and the sea is running directly into the inlet, we therefore could not risk going in to anchor, so stood off shore to wait for finer weather. The glass is falling steadily, and heavy snow squalls are constantly passing; at 10 a.m. gale still freshening and heavy sea running with a regular snow storm; put the ship about and ran before the wind for Douglas Harbour. At noon, too thick to make the land, took in top-sails and laid the ship to head to the sea under lower stay-sails and easy steam, heavy sea running. At 2.30 p.m. weather brightened, made out the land, stood in and made the islands off King George's Sound, ran into Douglas Harbour and anchored at 4 p.m. at 7.45 p.m.; still heavy gale, let go the second anchor.

Saturday, 11th September.—Wind veering more to the north, still blowing hard with frequent snow squalls, at 5 p.m. wind back to the north north-west, glass has risen an inch since midnight, sun came out and the weather cleared. Got anchors in at 5.10 p.m. and left to return to Ashe Inlet for Dr. Bell. The hills about King George's Sound are now all covered with snow, ice made on deck to-day.

Sunday, 12th September.—Ran into Ashe Inlet at 5 a.m. and anchored. Found Dr. Bell and his party with the yacht here all well. They came alongside at once and began to unload into the ship. Dr. Bell desiring to have the yacht taken to Ungava Bay I agree to tow her there. Left Ashe Inlet at 11.30 a.m. We found a number of Esquimaux families here; they report deer plenty on the island; on leaving Ashe Inlet we shaped a course to look for Green Island, in Ungava Bay.

Monday, 13th September.—Had a fine night. At 2 a.m. sighted land in the direction where Green Island was laid down. Slowed, to wait for daylight. At 4.30 a.m. steamed in for the land which appeared large and high, we were close under it at 6.30 a.m. Steamed along the north-east and east sides of the island and at 10 a.m. saw five kyacks with Esquimaux hunters close in by the land. Stood in to hail them. Two of them came on board. They told us that the island is Akpatok, and that Green Island does not exist. Akpatok Island is therefore wrongly placed in the chart. Stood in to the land, sounding at intervals, and anchored close inshore in 15 fathoms. Sent Dr. Bell on shore as he wished to examine the rocks and collect specimens. 11 a.m. heavy squalls coming off the land; held on here all day.

Tuesday, 14th September.—Thick fog during the night. At 11.15 a.m. clearing, got up anchor and shaped a course across for the head of Ungava Bay, intending to find an anchorage to pass the night under Saiglorsoak Island.

Wednesday, 15th September.—Saiglorsoak Island was not where we hoped to find it; it does not exist as laid down in the chart. At 4 a.m. sighted several small islands ahead. Sounded in 140 fathoms; later in 120, no bottom, and next in 13 fathoms. Stood on in by the lead for what we took to be the mouth of the river, going slow in from thirteen to seven fathoms until 1 p.m., when decided that we were near Whale River and not in Ungava; stood back and round the islands further to the westward; water shoal all the way. At 5 p.m. coming on to rain, and weather getting thick and dark, too much so to make out the land, anchored in ten fathoms. Saw numerous reefs and shoals inside of us.

Thursday, 16th September.—At 6 a.m. the tide having begun to rise, got under way stood along to the westward; at 7 a.m. made out the cairn of rocks on the point of the south side of the mouth of Ungava River and the beacons on the high land beyond; stood in by the lead as close as was safe and came to anchor at 8 a.m.; at 9 a.m. sent a boat into the mouth of the river to Nod's fishing place to look for a pilot, as the boat was going in they met the pilot coming out, he had been sent by Mr. Low, got the pilot on board at noon, as there was still enough water for us to cross the bar to the anchorage; we did so, and anchored under Anchor Island, at 2.10 p.m. in $8\frac{1}{2}$ fathoms, to wait for to-morrow morning's tide to go up to the Hudson's Bay Post, at Fort Chimo, where Mr. Low and his party are waiting for us.

Friday, 17th September.—At 9.10 a.m. tide being high enough to cross the upper bar proceeded up the river to the post, had a thick snow storm all the way up, anchored

off the post at 12.10 a.m. under both anchors; Mr. Low came on board, he and his party are all well; landed and called at the post, where we met Mr. Matheson, the agent in charge. Salmon fishery had been a failure both here and at Whale and George's Rivers. The "Eric" had left here on the 8th September, bound south. The white whale fishery had been good, sixty had been caught. Put Dr. Bell's yacht on shore at high water and placed her in security.

Saturday, 18th September.—Took on board Mr. Low and party with all his stores and baggage, refilled water-tanks and casks with fresh water; we had intended leaving to return by the afternoon tide, but the heavy snowstorm continuing decided us to hold on for clearer weather; behind the post along the fringe of woods, there is now a couple of feet of snow.

Sunday, 19th September.—Clearing at 6 a.m. we left for Port Burwell at 1 p.m. and had barely got under way when it came on to snow again, and we had snow squalls all evening; landed pilot at the mouth of the river at 5 p.m. and stood out into Ungava Bay, shaping our course for Port Burwell.

Monday, 20th September.—Snow at intervals during the night; at 11.30 a.m. ran into Port Burwell for the purpose of seeing whether the "Nimrod" was still there or not; on opening Munroe Harbour found that she had gone, stood out again at once, and ran round between the Buttons and the mainland and out through Grey Straits; had heavy snow squalls all day. We had intended going into O'Brien Harbour to shift coal, and take in ballast, but when off Cape Chudleigh, I decided that as we had a fresh westerly breeze and a rising glass, we had better go right on and make the most of a fair wind; set crew at work to shift coal; ship running her course to clear Cape Mugford under steam and canvas with fairly smooth water; had snow at intervals all evening.

Tuesday, 21st September.—Passed Cape Mugford at 9 a.m.; stood on with fine weather and fair wind; same weather continues, wind hauling a little more to the south-west.

Thursday, 23rd September.—Weather overcast with snow showers. Considerable sea from the south south-west, only making six knots to-day. We are well off shore and have seen no land since we dropped Cape Mugford.

Friday, 24th September.—Weather moderating. During the afternoon hauled in to make the land, made the land at 7 p.m. Cape Bonavista, and shaped our course for St. John's.

Saturday, 25th September.—Anchored in St. John's Harbour at 2.30 a.m., at 9 a.m. landed, met Mr. Job, and got our mails.

Sunday, 26th September.—At anchor in St. John's Harbour. From the 27th September to the 6th October we were at anchor in St. John's Harbour making necessary repairs to engines and screw, the fittings of which had got slack; taking on a supply of fresh provisions; filling the ship with coal, etc. At St. John's we landed Dr. Bell and Mr. Low with their men together with their supplies, stores and specimens.

Wednesday, 6th October.—Left St. John's at 6.45 a.m. for the north, intending to call at Chateau Bay to land our steam launch, which I am afraid to risk on deck during this trip. Had fine warm day with light off shore wind and smooth water; stood up well off shore to pass about ten miles east of the Funks.

Thursday, 7th October.—Morning opened dull and overcast. At 10 a.m. rain and fog. Slowed down at 2.15 p.m., passed close by a large berg, stopped at intervals and went ahead slow. 6.10 p.m. too dark and thick to go ahead, stopped the engines, light south to west winds and calm.

Friday, 8th October.—Weather cleared at 1 a.m. Went ahead full speed but coming down thick again at 2.30 a.m., stopped the engines, clearing again at 5 a.m., went ahead, wind changed to the north-east, and began to blow hard, sea making rapidly, hauled in for Belle Isle. Passed south of the island. Keeper signalled that he wished to speak to us, stood in under the land, he then signalled that he wanted us to

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take a passenger, we answered that we were bound north and could not stop. Saw one berg south of Belle Isle and three to the north; at 4 p.m. ran in to Pitts Harbour and anchored. Landed our gig and steam launch, both boats were hauled well up on shore and placed in security for our return. Weather moderated at dark, held on here for the night. Inhabitants report considerable distress to the north as most of the residents have little or nothing for the winter owing to the failure in the fishery; agents have been sent to St. John's to procure supplies from the Government.

Saturday, 9th October.—Blowing a gale from the east all day with rain and fog, held on in Pitts Harbour.

Sunday, 10th October.—Weather clearing up, wind from the north-west. Left Pitts Harbour for the north at 6 a.m., stood round Cape Charles; at 10 a.m. came on to blow a whole gale from the north-west with a heavy snow storm. At 11 a.m. port bulwarks stove in by the sea, hauled up to get more under the land for smoother water, wind squally, at times with hurricane force. At 5 p.m. less snow, made the land at Cape Bluff and at 7.15 p.m. ran into Snug Harbour and anchored under both anchors. Fishermen came off and informed us that several schooners had been wrecked last week a little to the north of here and that the mail steamship "Leopard" was three days overdue from the north. Cod fishery has everywhere been a failure and the people of the coast are badly off, the salmon fishing was good.

Monday, 11th October.—Gale continues with snow squalls at intervals, held on here, crew engaged shifting coal into the bunkers to lighten the ship by the head, ground everywhere thickly covered with snow.

Tuesday, 12th October.—Weather moderated during the night. At 5 a.m., got in the port anchor and began heaving in on the other when it came on to snow heavily; at 9 a.m. clearing again got up anchor and left Snug Harbour passing up through Venison Tickle Run and out to sea by Boulders Rock. South-east wind and rain, passed Round Hill Island at 2 p.m., at 4 p.m. wind veered to the south-west with rain and snow.

Wednesday, 13th October.—South-west wind all night with rain and snow at intervals, considerable sea. At 4 p.m. wind got round to the north-west. At 9 p.m. wind and sea went down, ship making good progress under steam, and fore and aft canvas.

Thursday, 14th October.—Had a fine clear night, at 6 a.m. made Cape Mugford, fresh west north-west breeze with comparatively smooth water, fine all day, Saglek Bay abeam at 9 p.m., headed a little off shore for the night.

Friday, 15th October.—After midnight, weather became dull and overcast and the breeze fell away, at 4 a.m. began to snow, long heavy swell from the eastward. At 12.45 p.m. weather clearing, sighted land inside of us headed in for it, and made out the Buttons Islands right ahead. Heavy snow squalls at intervals. Shaped a course to pass up through Grey Straits; at 4 p.m. weather getting thick and snow increasing decided to run into Sir Terence O'Brien's Harbour for the night; stood round Cape Chudleigh and ran into the harbour and anchored. Hills and rocks are everywhere covered with thick coating of snow.

Saturday, 16th October.—Considerable snow fell during the night; at 7 a.m. got up anchor and steamed out intending to stand up the strait, but once outside we met a strong north north-east breeze, with thick snow, and decided not to put out into it, so ran back at 8 a.m. At 9.30 a.m. weather appeared to be clearing, sky getting brighter overhead; decided to try again; got in anchor a second time and left; stood up Grey Straits between the Buttons and the mainland, considerable sea and heavy tide rips, with snow squalls at intervals. Abreast of the Western Buttons at 12.30 p.m., shaped a mid-channel course up the straits; by 4 p.m. breeze moderating and sea falling, bright, clear weather. Two small bergs in sight ahead. 11 p.m. came on to snow heavily, had to slow down.

Sunday, 17th October.—12 a.m., weather clearing, went ahead full speed. Wind coming round from north north-east to north-west; saw no ice of any kind since 5 p.m. yesterday, when we passed south of two bergs. At 9 a.m. ship was a good deal iced up

about the bow and top gallant fore-castle, and up the fore rigging. 5 p.m., high land of Big Island abeam. We can also see the land on the south shore. At 6 p.m. slowed down as our object is to go into Douglas Harbour in the morning and shift coal; weather cloudy and overcast.

Monday, 18th October.—Our distance for Douglas Harbour being run, at 3.30 a.m. stopped the engines. 4 a.m.—Wind came round to the south south-east, blowing fresh with thick snow storm; kept the ship head to the wind to wait for clear weather to make the land. At 9 a.m. clearing a little, made the land and stood in; found we were too far to the westward. Stood about and steamed along the coast to the south south-west; snow squalls at intervals. The hills are all thickly covered with snow, and it is difficult to distinguish the islands from the mainland. At 10.45 a.m. made out Wegg's Island; ran between Joys and Westmount Islands into Douglas Harbour, where we anchored at 3 p.m. Weather got finer towards evening, with light west north-west breeze. Sent boats after water where we had got it before, but they returned without any, reporting the stream frozen solid. We saw several large schools of walrus and seals on our way in here to-day. We were also visited by five Esquimaux in their kyacks; they report deer and foxes plenty, but they brought us no meat.

Tuesday, 19th October.—Heavy squalls, with snow during the night. All hands engaged to-day shifting coal to bunkers. At 9 a.m. began to snow heavily and blow from the north-east; had to let go a second anchor at 11 a.m., then blowing a heavy gale. The lakes on shore are frozen over strong enough to cross on, the ice being four and five inches thick. There are six families of Esquimaux camped here; they moved over from their camp intending to come on board the ship, but were not able to get on board owing to the gale; they immediately put up a snow house in which to pass the night.

Wednesday, 20th October.—Gale moderated during the night, wind shifted to the west north-west, and it got much colder. Outside the harbour in the strait it looks quite thick and dark, and snow squalls are passing continually, Thermometer during the night fell to 18°. Boats that had been out searching for fresh water returned at 7 p.m.; they found no place to get water, all the watercourses being frozen solid. Ice to-day is everywhere making along shore.

Thursday, 21st October.—Had a cold night; considerable ice made in the coves and bays; heavy vapour arising from the open water in the strait. Crew engaged carrying water in buckets from a lake half a mile inland to the boats on the beach; got on board 500 gallons of water during the day. The water froze in the boats, in the buckets and about the men. Got in port anchor this evening so as to be ready for an early start in the morning if the weather is fit. Winter has undoubtedly set in here.

Friday, 22nd October.—The wind is falling and the weather looks better, though a dark vapour is either rising from or settling on the water out in the strait. At 7 a.m. left our anchorage and stood out into the strait; shaped a course to pass a fair distance north of Charles Island. At 9.30 a.m. came on to snow; we have had more or less snow every day since we entered the strait on the 15th October. Thermometer last night went down to 18°, and it was 21° on deck when we got under way, but, owing to the absence of wind, it does not feel cold. Up to 1 p.m. had fine light snow with northerly wind; away to the north of us it appears to be snowing heavily and we can see no distance. We are now standing up for Charles Island, about ten miles off the south shore. At 1.30 p.m. wind came round to the west, and it stopped snowing. We can now see a considerable distance to the north; see neither field ice nor bergs. The surface temperature to-day is 34°; it has so far been 32° and 33°. We are evidently feeling the effect of the warmer water coming out of the bay round Cape Digges. 3 p.m.—Abreast of Cape Moses Oates; continued our course along the north side of Charles Island. 8 p.m.—South south-west wind, weather dark and cloudy; going half speed. 11 p.m.—Our log and our reckoning put us about ten miles off the eastern end of Salisbury Island; put the ship about on her track, as it was too dark to make the land. Have met no ice, but cannot see any distance.

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Saturday, 23rd October.—Strong south-west wind ; at 5 a.m. put the ship back to her course north one-half west and proceeded full speed ; no ice in sight. Found a very strong current setting to the south-east with heavy tide rips. Daylight at 7.45 a.m., weather overcast and cloudy, cannot see any distance, at 9 a.m. came on to snow. We should be close to Salisbury Island, but the strong current may have swept us further off than we have allowed for. Where we are now we have always found ice on each of our passages in and out. At 10 a.m. snow continuing, and not being able to see any distance, decided to haul up and make Cape Digges. We must be close up to Salisbury judging by our run and, by the heavy tide rips through which we have been steaming for the last few hours, we should be in about the position where we were suddenly surrounded by the ice on the morning of the 15th July. At 2 p.m. weather clearing a little at intervals, we made the high land east of Cape Wolstenholme and stood up along the land for Cape Digges with thick snow showers at intervals. 4.30 p.m. Cape Wolstenholme abeam, as we cannot make Port Laperrière before dark, laid ship to head to the wind for the night ; blowing fresh from south-east with considerable swell and snow.

Sunday, 24th October.—12 p.m. snowing steadily, wind hauling more to the eastward. At 2.30 a.m. fresh easterly wind and snow, put the ship ahead easy and steamed into the wind off shore. At 6.20 a.m. stood about and steamed back to make the land at Cape Digges. Wind north-east at 8.30 a.m. we are now close in under the high land of Cape Wolstenholme; followed the land around Cape Digges in the hope of being able to get in to Port Laperrière, but at 10 a.m. gave it up as it was snowing too steadily to risk trying to make the harbour ; stood off shore head to the wind. The weather is getting colder and we are having a light dry snow which is like fog, we can see but a very short distance, kept the lead going at intervals, but had no bottom at 120 fathoms. At 2 p.m. heavy sea, the heaviest we have seen in the strait, with little or no wind ; snowing steadily, sea is heaving in from the south-east, decided to steam back to Douglas Harbour, shaped our course to give Charles Island a good berth. At 4 p.m. fresh east north-east breeze, snowing heavily. 6 p.m.—as we must now be up to the western end of Charles Island slowed down for night. 8.30 p.m., wind north-east, getting clearer, sky looking bright away to the north.

Monday, 25th October.—12 a.m. clear and cold, wind hauling to the north-west with occasional snow flurries ; at 5.45 a.m. we went ahead full speed for the south shore. At 8 a.m. made the land at Wegg's Island, and stood in for Douglas Harbour, snow squalls are passing almost continually. At 9 a.m. came down to snow heavily, anchored in Douglas Harbour. At 12.20 p.m. as we got into the harbour we ran into clear weather with the sun shining brightly, while out in the strait and in the outer bay it is snowing steadily. We have noticed that each time we got into harbour both here and in O'Brien's, the same condition existed ; inside, moderate fine weather, outside, drift, vapour and snow. The ground is much more thickly covered with snow to-day than it was when we went out on Friday morning last.

Tuesday, 26th October.—Dull and overcast. Wind round to the south-east ; snowing thickly outside ; we cannot even see the islands at the mouth of the harbour. Crew engaged all day shifting coals. At 11 p.m. wind freshening to a gale from the south-east ; considerable swell running in ; let go the port anchor.

Wednesday, 27th October.—Gale moderated at 4 a.m. ; considerable snow had fallen during the night. We notice that much of the snow has been blown away from the tops of the hills exposed to the south-east wind. At 8 a.m. wind came suddenly round to the westward, and it began to get colder. Out in the strait it continues to be dark and thick, though in here the sun is shining brightly overhead. Crew engaged all day carrying water from the pond to the boats. At 6 p.m. wind veered to the south-west ; snow drifting in clouds from the tops and sides of the hills.

Thursday, 28th October.—Wind still from the south-west and blowing hard. It looks dark and heavy outside, with considerable sea. We had intended leaving to-day for the westward, but in the face of the weather conditions and the low glass did not

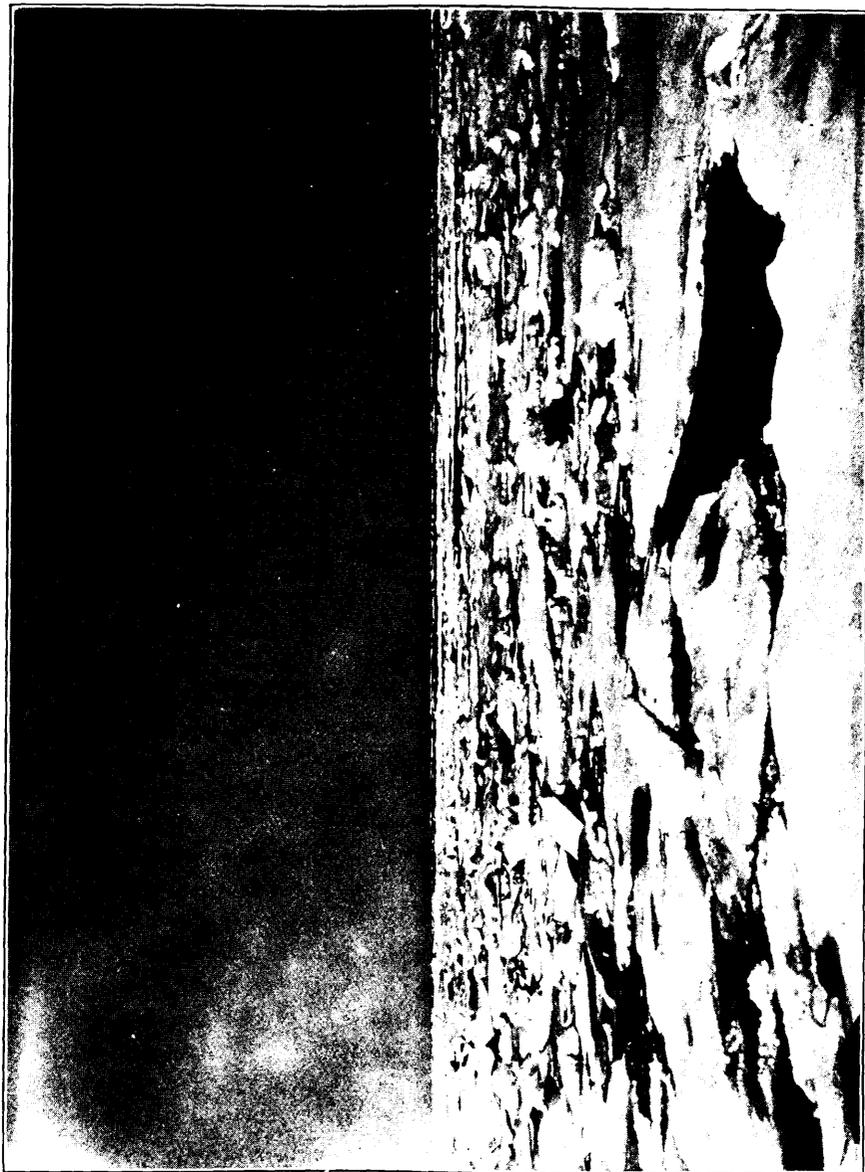
consider it wise to do so. Snow is falling steadily. With the wind, as we have had it since we left Cape Digges, we know that there can be no ice south of Salisbury or Southampton Islands. 6 p.m., blowing a gale from the south-west.

Friday, 29th October.—5 a.m., calm and clear overhead. Out in the strait the same dark vapour over the water as we have noticed every day. 6 a.m., decided to get under way and leave as soon as daylight. Got in the port anchor. Daylight at 8 a.m. At 9 a.m. got in the starboard anchor and stood out. Weather fine and clear in the harbour. As soon as we got outside the mouth of the harbour we ran into snow. We can hardly call it a snow storm but there is constantly a light dry snow falling, thick enough to obscure the view and prevent us from seeing any distance. We have a fresh breeze from the north-west. Rounded the north-west end of Joys' Island at 10.15 a.m. and stood up the strait to the north-westward with the intention of going back into Hudson Bay. It is neither ice nor cold that is bothering us, but constant strong winds from various directions, never long in one quarter, and the snow. We have the greatest difficulty in picking up our points, and with the strong tides, uncertain currents, no soundings, a knowledge that the hydrography of the coast is entirely out, we believe we are running greater risks than are warrantable. At 11 a.m. the wind is now blowing forty miles an hour by the anemometer and we are making little or no progress. We can see the land on the south shore which we are following closely along, but out-side of us and ahead we can see no distance at all. At 2 p.m. ship making only about three knots and icing up a good deal with the spray; one or two degrees more frost would ice us up very seriously. Heavy snow squalls at intervals. At 2 p.m. decided, after consultation with my officers, to give it up and run out of the strait; put about immediately and stood to the south-east. When we put about we were close off Wegg's Island and about twenty miles to the eastward of Cape Moses Oates. Followed along the Labrador land. At 5 p.m. came on to snow thickly, wind hauling to the north north-east. The west end of Prince of Wales Island is abeam at 5.30 p.m. At 7 p.m. weather clearing, stars showing in the southern sky, but overcast and cloudy to the north and north-east. At 9 p.m. northern lights in the southern sky; fresh north-east breeze; weather cold.

Saturday, 30th October.—Night fine up to 4 a.m., when it came on light snow. At 6 a.m. snowing too thickly to run; slowed down and took in canvas. 7 a.m., went ahead full speed again. At 8 a.m. stopped snowing; made Hope's Advance abeam. Had snow squalls at intervals all day. The wind shifted with the squalls from north-east to west and back again several times. One large berg visible to the south of us in the mouth of Ungava Bay. The spray is freezing as it falls everywhere about the ship to-day. At 4 p.m., between the snow squalls, sighted the high land of Cape Chudleigh. Kept to the north of the Button Islands; had them abeam at 6 p.m. Stood well out past them, and at 7.30 p.m. shaped our course south along the Labrador; fresh west north-west breeze; smooth water, with considerable auroral display; all sails set. At 8.30 p.m. wind veered suddenly to the south-west and began to blow a gale, with thick snow; took in canvas and slowed down, as we could not see beyond the bow of the ship.

Sunday, 31st October.—Had a dirty night up to 4 a.m. when the weather moderated and it stopped snowing; ship iced up a good deal. At 2.45 a.m. the engineer detected a crack in the flange of the main feed pipe at the pump end; had to go slow under reduced steam until 7.15 a.m., when we stopped the ship. The faulty pipe was replaced by a duplicate, and at 9.10 a.m. we went ahead full speed. Light westerly breeze; glass rising. At 10 a.m. wind came out to the north-west, with a fresh breeze; set canvas. 9 p.m. Cape Mugford abeam. Wind hauling more to the northward; ship making nine knots.

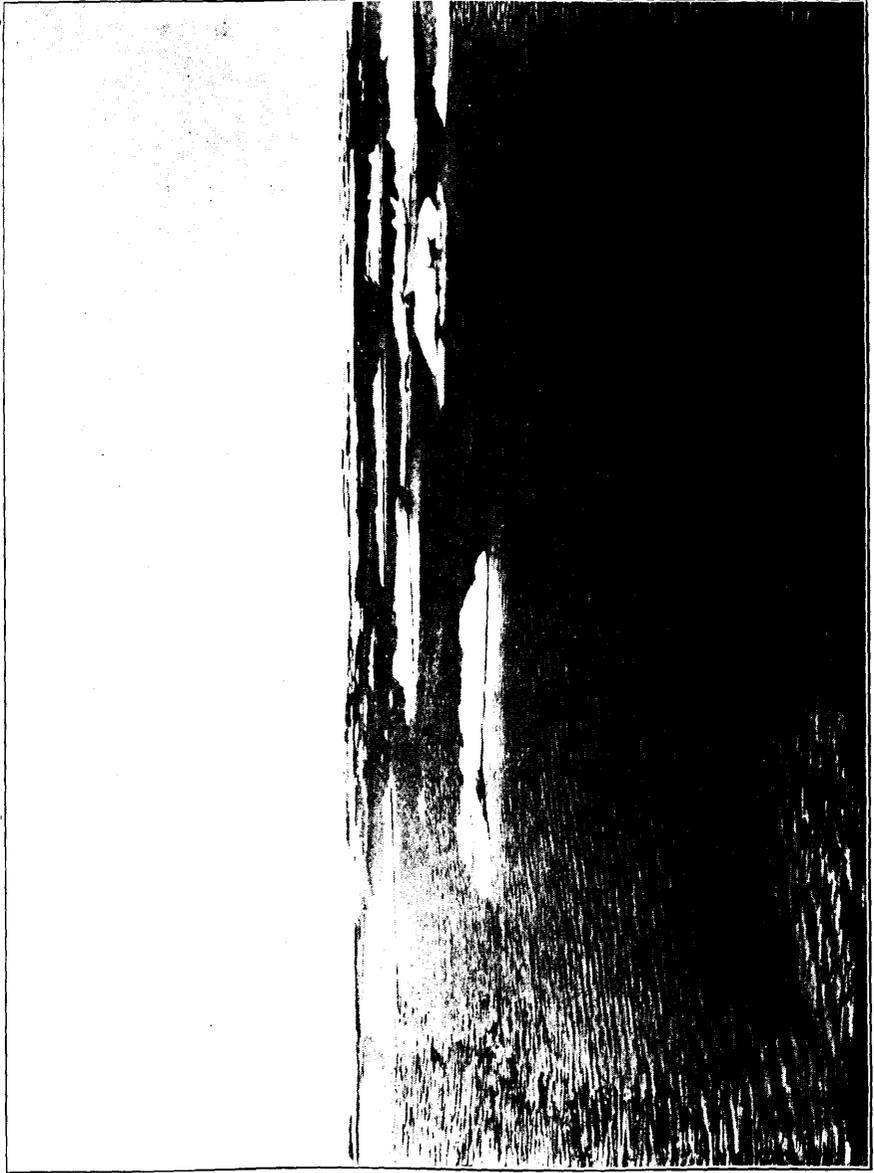
Monday, 1st November.—Had a fine clear night with strong north-west wind; ship making $9\frac{1}{2}$ knots. The same breeze lasted all through the day. At 3 p.m. sighted high land inshore of us. We are keeping well off shore to clear the Bull Dog Island; considerable sea; crew engaged breaking the ice off the hull and rigging. We are only able to get about the ship on deck with the assistance of life lines on account of the



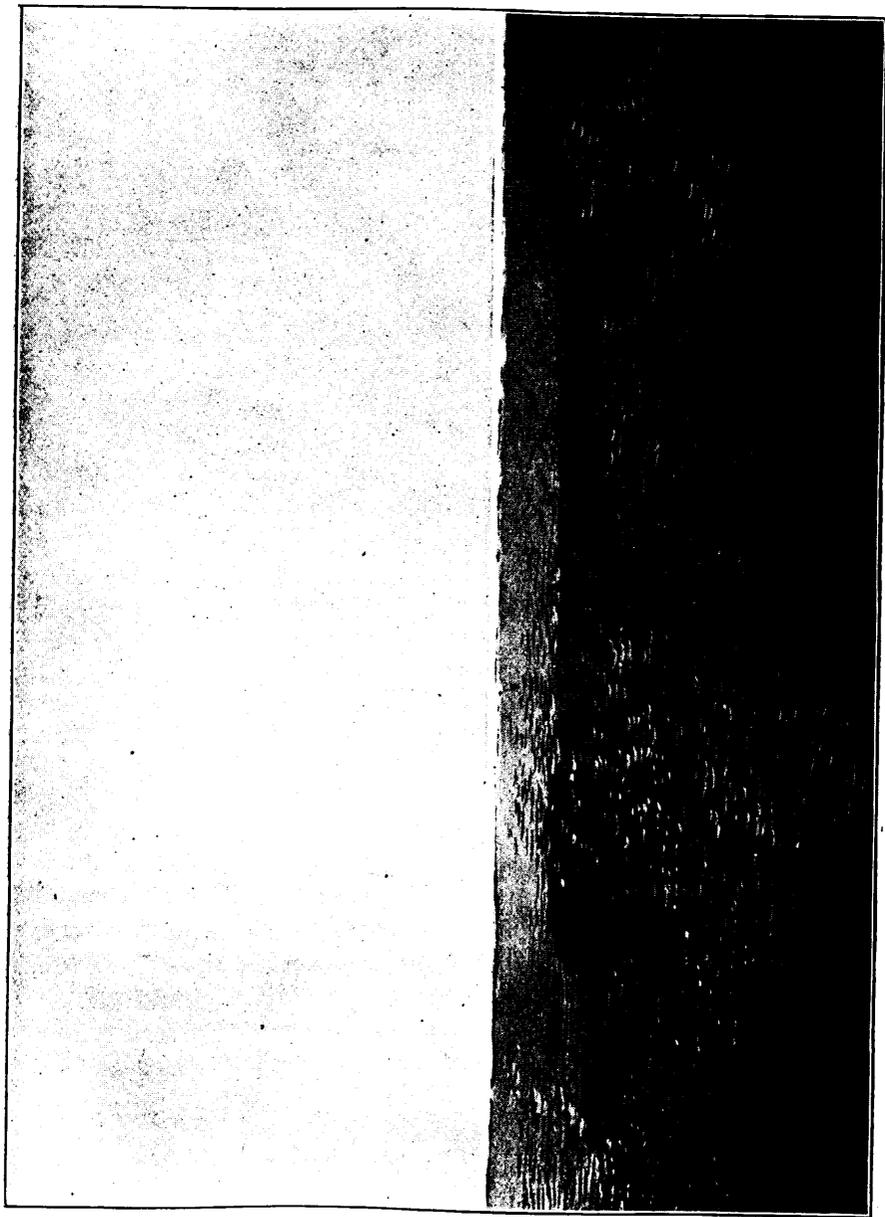
LOOKING SOUTH NEAR CHARLES ISLAND (10 a. m. JULY 23).



LOOKING NORTH OFF CHARLES ISLAND (12.30 p.m. JULY 23).



LOOKING NORTH (9 a.m., July 26).



LOOKING NORTH-EAST—SHOWING ICE-PACK OFF SALISBURY ISLAND (3 p.m. JULY 25).



LOOKING SOUTH (6.30 p.m. JULY 25).

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iced up condition. Weather got milder towards evening. At 7 p.m. north-west breeze died away, the wind backed to the south-west, and it again began to snow heavily. Hauled more off shore to give the Bull Dog Island an extra berth.

Tuesday, 2nd November.—At 12 a.m. had to slow down as it was snowing too thickly to run. At 5.45 a.m. weather clearing went ahead full speed. The wind is now back to the north-east and it is beginning to snow hard; at 10 a.m. blowing half a gale from the north; 3 p.m. made Round Hill Island. Hauled close in under the land to get less sea. Wind during the evening came round to the north-west and gradually died away. 8 p.m. fine clear night, cold and bright; sea gone down; wind west.

Wednesday, 3rd November.—At 3 a.m. passed in between Belle Isle and the north shore, and at 5 a.m. laid the ship to to wait for daylight to get in to Chateau Bay. 6.45 a.m. ran in to Pitt's Harbour and anchored. At 7.50 a.m. blowing a strong breeze from the south-west. Crew at once set to shifting coal from the hold to the bunkers. At 11 a.m. blowing a gale from the south-east, with heavy snow; let go a second anchor.

Thursday, 4th November.—At 4 a.m. wind came round to the north-west; got our steam launch and gig on board and made all snug. 11.10 a.m. got in anchors and stood out and up the strait. Strong north-west with a heavy sea; passed Forteau light at 6.30 p.m. Greenly Island light abeam at 8.25 p.m.; with this north-westerly gale we will stand well up to the westward before keeping away to cross the gulf.

Friday, 5th November.—Stood up towards Meccatina and then kept away before the north-west breeze to pass to the eastward of the Bird Rocks. Had strong breeze off north-west with considerable sea all day.

Saturday, 6th November.—North-west breeze has died out. At 4 a.m. wind came round to the south-east. 9.30 a.m. Cape St. Lawrence abeam; wind freshening from the south-east; stood along under Cape Breton land; heavy squalls with rain; kept along close inshore. At 8 p.m. made Cape George light, and it being too thick to run into the gut, laid the ship to for the night under Cape George light.

Sunday, 7th November.—Clearing up at 5.45 a.m., stood down for the Gut of Canso; at 10.10 a.m. anchored and landed at Port Hawkesbury; sent off our telegrams. Returned on board at noon and left at 1 p.m. for Halifax. As soon as we got round the automatic buoy we met a heavy sea with strong south-west breeze; as the wind was freshening and the glass falling we decided to run back to the gut and anchor till the blow was over; put the ship about at 4.30 p.m. and ran back; anchored at Hawkesbury, 9.30 p.m.

Monday, 8th November.—Strong east wind with rain. I decided to leave the ship here and go on to Halifax by the morning train, which I did, leaving the ship with Captain Whitley to come round to Halifax as soon as the weather moderated; I arrived at Halifax at 6 p.m.

The "Diana" reached Halifax on Thursday, the 11th of November, having had very heavy weather between Canso and Halifax. As soon as the ship was made fast we began landing our surplus gear and stores.

On Wednesday, the 17th November, the ship having been coaled and all stores and supplies having been landed and stored, she left to return to St. John's, Nfld., to be there handed back to her owners.

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PART II.

DETAILED ACCOUNT OF THE MORE IMPORTANT EVENTS OF THE VOYAGE, WITH OBSERVATIONS ON THE ICE MET WITH.

Leaving Halifax on the 3rd of June we proceeded directly to sea. The ship was extremely deep in the water, as besides our 400 tons of coal, stores, and supplies for practically one year and a half, steam launch and spare boats, we had on deck two large decked yachts of 35 feet over all, together with their iron ballast and boats, they were fitted internally with cabins, bunks, etc., for an extended cruise. These craft were taken north for the use of the parties sent out by the Geological Survey, the intention being to use one on the southern coast of the strait, and the other on the north for the purpose of surveying the shores. However, in spite of our deeply loaded condition, the ship made good weather and proceeded around Scatari and up along the western shore of Newfoundland. We entered the Straits of Belle Isle on the afternoon of Sunday, the 6th of June, standing on down we met our first ice off Forteau Light; the ice increased as we stood to the eastward, and shortly before midnight as it was getting heavier and closer, and the ship was taking some heavy knocks, we stopped the engines to wait for daylight. We were then in sight of Belle Isle, and it at once became a question whether we should force the ship on to the eastward and thus get through the pack which we knew to be outside of us, or stand up along the Labrador coast inside of the ice. Before leaving Halifax I had been furnished with a statement of the ice conditions, and a report showing the position of the ice from January to shortly before the time of sailing, together with a synopsis of the reports of the masters of such of the north Atlantic steamers as had met the ice on their western voyages. This had been prepared and kindly forwarded by Mr. James Elliot, of Montreal. It showed, as I myself knew, having followed the reports carefully all winter and spring, that besides being packed on the eastern shore of Newfoundland, the ice extended much further to the south and eastward than usual. The quantity of ice coming down from Davis Straits had been abnormal, it had been coming down steadily since December, 1896. The sealing steamers had found unusual difficulty in working through the ice in March and April. Many of them in fact only got clear in May. They had with one or two exceptions missed the seals, as these had passed far to the south of the usual sealing grounds. The wind we had been having since leaving Halifax had been from the north-east; it was my opinion, and that of my officers, that our best course lay in working out between Belle Isle and the Labrador shore in a north-easterly direction, in the hope of finding a lead, which would take us to the open water on the outside of the ice. We were under way again at 2.30 next morning, and soon got out of the ice into comparatively open water off Battle Harbour. It was then blowing a fresh north-east breeze, was very cold, and the ice extended eastward as far as we could see from the lookout with no appearance of water sky beyond, the ice was setting rapidly up the straits to the westward.

On our return to Halifax in November, we found that from the day of our passage up to the end of June, the Straits of Belle Isle had been more or less full of ice, this came in from the Atlantic and extended as far west as Meccatina, greatly interfering with the cod fishery.

The report of the lightkeeper at Belle Isle for June, 1897, states "that this month commenced with fresh and strong gales from east to north-east. On the 7th the ice commenced to come into the straits, and remained scattered until the 29th. The weather had been cold, foggy and wet. The first steamer passed through inwards on the 29th. Schooners bound north have been greatly delayed by the ice." Cape Bauld and Cape Norman made practically the same report as Belle Isle.

When off Battle Harbour a boat was seen coming out to us; we stopped the ship and the occupants came on board. They told us that the "Diana" was the first vessel

they had seen. They further said that we would not meet much ice, as westerly winds had prevailed in the spring, and they had had more open water than usual.

We continued at once in a north-easterly direction, heading the ship towards the most open water. It was blowing fresh from the north-east; we worked through more or less open ice all day and from the fact that there was no swell we judged that there must be a heavy body of ice outside; towards night the weather came down thick, and as the ice was coming together we were forced to stop the ship. We were at it again early in the morning as soon as it was clear; inside of us the ice seemed solid to the shore. Some of us now had our first experience of what it meant to drive a ship full speed at heavy ice, and certainly no vessel not constructed specially for the purpose could ever have stood the blows the "Diana" gave and took. Most of the ice we were in was floating 6 and 8 feet out of water, and much of it was on a level with or even above our rail; scattered through this were many growlers and a few bergs. The ice was not in large pans, but heavy lumps, and though we were often jammed fast in it there was no nipping and the ship lay easy.

From the 8th to the 19th of June we were either fast in the ice or working through it in an off shore direction. At times it would go abroad enough to let us make fair speed, at other times it would close tight about the ship, and progress in any direction was impossible. During the morning of the 19th we began to feel a heavy swell setting in from the eastward, and the ice at once began to go abroad; at 2.45 a.m. we put the ship about head to the sea, and going ahead full speed by 7 a.m. we got out of the ice into the open water of the Atlantic. We had a very rough and critical time getting out of the ice, there was a heavy sea on and the ice was rolling and boiling in all directions; in spite of the wonderful handiness of the ship and the skill of the officer in the top we got some very severe glancing blows. Any one at all conversant with ice navigation will know what it means to steam out of or into an ice pack in a heavy seaway. We had, however, to accept the risk as we had been so long fast in this ice that we dare not miss the first chance of getting out.

As soon as we were well clear of the ice we stood away along the edge of the field under both steam and canvas; during the forenoon our course was a north-easterly one but towards evening the edge of the pack falling away in the direction of the land, which though high was not visible, we were able to head to the north. On Sunday the 20th, we stood in to try and make the land at Cape Mugford, hoping to get into the Moravian Mission at Okkak and pick up an interpreter, but we found a solid pack of ice against the land which it was quite out of the question to think of entering. We kept away along the margin of the ice to the north-east, with fine clear weather; by Monday the 21st we were in the latitude of Nachvak, and about 85 miles off shore, with the ice solid inside of us. We sounded at noon 120 fathoms, no bottom, showing that we were outside the bank described by Captain Gordon in his report for 1886, when he had to steam 70 miles off shore to get 100 fathoms. We were now nearing the 61st parallel, at which line I had determined to haul square in for the mouth of Hudson Bay. The morning of Monday the 22nd of June, Jubilee day, broke fine and clear; at 5 a.m. being then, as I believed, on the 61st parallel, I decided to take the first fair looking lead and head in. We did so and found the ice in larger pans, but much lighter and more worn than that we had been so long delayed in further south. As the day advanced, the ice ran abroad more and with only a few interruptions, when we had to slow down to swing round a pan, or back off and ram at an opposing barrier, which it would have given us more delay to have worked around. We were able to hold our course all day, with very little deviation, as the lanes of open water were running east and west (true). At 5 p.m., as we were momentarily hoping to make the land, we emerged into a lake of open water, showing no ice ahead; at 6 p.m. we made the Buttons under a bank of fog which lifted as we neared the islands. While away to the north we could, from the crow's nest, make out the top of Resolution Island; being sure of our position, we shaped a course up the centre of the strait, keeping along the southern edge of a heavy field of ice which extended in a north-westerly direction from Resolution Island along the shore of Baffin's Land.

The ice we had passed through was much of it new, of only one season's growth, being about five feet in thickness; scattered through it were a few large bergs, a good

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many growlers, and a considerable quantity of thick old floe ice. It was very much gone abroad, as can be judged from the fact that we had, between 5 a.m., when we first headed into it, and 6 p.m., when we made the Buttons, steamed some 80 miles in a straight line; our actual course amounted to a great deal more, though as the lanes of open water were generally parallel to our course, we never had to deviate very far from it. Needless to say we were greatly rejoiced at our good fortune in entering the strait under such favourable conditions, and pointed the ship up the comparatively open water of the strait in the hope of making an early and rapid passage into the bay. So open did we find the water that at 8 p.m. we set the patent log; we were then standing along the southern edge of a field of heavy ice which extended westward from Resolution Island along the Baffin shore; though we were compelled to take our log in again at 10.30 p.m., yet we met with no serious obstruction until next day, the 23rd of June, at 3.15 p.m., when we came up with a solid barrier of ice which extended as far as we could see right across the strait at right angles to our course.

There was a very general feeling of disappointment as we knew at once that the chances were that the whole strait was blocked as far as beyond the Narrows above Big Island. We came up to this barrier just beyond Saddle Back Island so that we had since 6 p.m. the evening before, steamed about 120 miles into the strait, we had driven the ship through some heavy belts of ice, and had given and taken blows that could not have been risked with an ordinary iron steamer. Yet since first heading in we had met no ice that would have entirely stopped such a vessel as was described by Captain Gordon as most suitable for the route, though even such a vessel could not have made as direct a course as we had done. When we stopped the ship abreast of this ice wall we were about 18 miles off the north shore land; the top of the Grinnell Glacier had been visible all day. After scanning the ice carefully from the crow's nest and finding no sign of open water in or beyond the pack, we at once decided to steam along the border of the ice to the southward with the hope of finding a lead; by 6 p.m. we judged ourselves to be about forty-five miles away from the north shore, and as the evening was hazy and a heavy bank of fog was hanging not far off to the south-east, we tied up to the edge of the pack for the night. We were under way again early next morning and continued standing to the south until we made out the south shore land in the direction of Hope's Advance. We found the ice trending away in an easterly direction (true), and seeing no sign of open water between us and the Labrador land, at 9 a.m. we put about and ran back to the north shore, intending to hang on to the edge of the ice until it ran abroad, or offered some chance of a lead through. All the authorities had advised the north side of the strait as offering the best and earliest chance of open water, as the set of the current along the north shore is steadily to the westward. At 3 p.m. next morning the weather being fine and clear, we thought we noticed a disposition to slack in the ice right ahead of us, and in one or two places a little open water began to show among the pans. We were very much in doubt whether it was wise to force the ship into the pack; my own feeling, as is shown by my log at the time, was that we could gain nothing by forcing into such a jam, but that our wisest plan would be to cruise off the edge of it, and wait until the ice went abroad; at the same time we were all anxious to go on, and if at all possible be in the bay for Dominion Day. Our orders were "to press through the strait." We had been led to expect that the ice we would encounter as we went west, though "heavier" than that passed at the eastern entrance, would be "composed of small pieces" packed loosely, appearing as if the floes had been broken up, and then drifted together; that these "innumerable small pieces" would in a great measure deprive the pack of the force necessary for the "serious injury of any vessel beset in it." When there is a nip the small pieces, being composed of "soft brashy ice" would act as a "cushion" between the ship and the larger floes, thus protecting her from "violent pressure," &c., &c. So we decided to press in, and at 3.45 a.m. on the 25th of June the "Diana" entered the pack which was slowly setting to the westward. We worked steadily ahead until 7.35 a.m. when the ice packed together solidly and we could neither go ahead or astern, and just here let me say that the first intimation we usually had that the ice was running together was an inability to go astern, the ice would close in quickly behind the ship and prevent us from using the screw astern, thus preventing us from backing off to ram ahead; invariably when this happened we were

set solid at once. We were set fast until the evening; about dinner time the ice slacked off enough to let us surge the ship ahead and astern and get some way on her, when at 6.30 p.m. we went ahead and made fair progress until 10.45 p.m. when we were jammed up solid again; as we got to the west we found the pans getting larger and heavier. When forced to stop the ship, we invariably tried to do so in what our first officer, who was an old and experienced ice master, called a soft spot, that is in small ice, or in a bay or cove in a larger pan with projecting points ahead and astern, which would shelter or protect the ship from direct pressure. Our experience, however, during all the time we were in the ice in the strait was that whenever shoving began, the heavier pans sailed through or over all this small ice, so that it was little or no protection to us. The shoving always began with the flood tide, it occurred sometimes during slack water, due to the action of the wind on the heavily rafted pans, and it would come with a rush during a squall; it was at its worst when the wind and tide co-operated. From the evening of the 26th until the afternoon of the 29th of June, we were set fast, and driving slowly up the strait in the direction of Big Island. At times the nipping was severe, and we were forced to resort to powder and dynamite to relieve the strain on the rudder and the after part of the ship. The blasts were set off on the ends of poles, which were placed under the ice at the points of greatest pressure. The pans which surrounded us were many of them fully a mile in circumference, and where holes were made to get the blasts under the ice we found the thickness to be from ten to fifteen feet. During the afternoon of Tuesday the 29th we began to feel considerable swell in the ice; we immediately went ahead but did not get far, as shortly before 6 p.m. the ice came together quickly, and we were hard and fast again. On Wednesday the 30th of June, during the afternoon, the ice slacked away, and we at once went ahead and made considerable progress for about five hours, when again the ice came together quickly and we were jammed fast. We were by this time well up with the eastern end of Big Island, and about 15 miles off shore; the ice about us we found, from actual measurement, to be from five to nineteen feet in thickness. The ship was very severely nipped this evening. The ice was rafting and forming in pressure ridges all about us; for the first time things looked serious. We got our provisions on deck, and had them divided into convenient packages; the boats were swung out, and got ready for lowering quickly; all hands were told off to their different boats; the ship strained and groaned, as we all stood helplessly by. However, as we were momentarily expecting the ice to go through her, she was suddenly lifted out of the water, the ice passed anunder her, she ceased to be waterborne, and for the time the danger was over. The wind was now blowing half a gale from the south-east, and the whole pack was driving up against the shore of Big Island. In this condition we passed Dominion Day and the following night. About 10 next morning—2nd July—a large and heavy pan, which we had noticed some little distance astern of us, came on suddenly with the wind and tide, and, driving all the lighter ice anunder or to one side, brought up against our stern, driving the ship bow on into the ice ahead of her, and, the moment she brought up, forcing the rudder to one side and carrying away the stock (a piece of 14-inch oak) just about the water-line. The ship was straining greatly, and for a time we felt sure that the rudder-post and screw would go with the rudder; but again she lifted, and the pressure was at once relieved. Our officers and crew, men who had been accustomed to ice all their lives, were astonished at the weight and thickness of the ice about us, and at the manner in which it was surging and swirling about. It is needless to say that no ship, unless specially constructed for the purpose, could have withstood for an instant the pressure to which the "Diana" had been subjected during these days; and even the "Diana" could not have survived had she not allowed the ice to pass anunder her. Between the 1st and the 4th of July the ice continued shoving, and pressure ridges were formed in various directions about the ship. With the falling tide the pressure was always relieved, and we worked the ship in an off shore direction whenever the ice was slack enough; but it never ran abroad sufficiently to permit of our going far. The most we could gain at any time never being more than a few hundred yards; our main object in moving at all was simply to keep the ship from driving any nearer the land, and to work her into a softer berth and away from the heavier pans which kept forcing towards the shore through the lighter ice. All this time the wind was blowing steadily from the east, with fog and rain at intervals.

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We had our most severe nip of all on the evening of the 4th of July; the squeeze came heaviest abaft the fore chains, where the ice piled up on the port side level with the rail; the main and 'tween deck beams were hove up, they were regularly bowed up in the centre, the oilcloth on the cabin floor was gathered up in ridges, the deck fastenings were started, the seams and butts opened, and as it was raining at the time the water poured down into the cabins below, the fore rigging hung limp from the mast head like garlands from a May pole, and things generally looked blue; those who were below came tumbling on deck one over the other, prepared to take to the ice at once. However, just as we were expecting to see the ship's sides come together, she took a list to starboard; owing to the pressure of the ice having risen on the port side, in doing this she presented her starboard side at an angle to the ice on that side of her, and at once slid upon it, the ice passing anunder her, she ceased to be water borne and the danger was over, this could not have happened with a deeply laden or even a wall sided ship. This was the last nip we had, after this date the wind moderated, and began to blow from the north shore of the strait slacking the ice away from the shore of Big Island. The ice came up from anunder the ship and though it came together again with the rising tide yet there was no more rafting and shoving. On the 6th of July we got under way and began to work ahead through the ice, the ship made no water and it surprised some of us who had not had any previous experience of the work, to see how she came to herself again—after a few rams she seemed to open out, the deck seams and butts closed, the rigging began to be set up of its own accord, and generally she began to feel more solid under us than she did when we first moved her. On the morning of the 8th of July we got our first glimpse of open water to the south of us, just a few streaks where the pans had opened out a little, we at once began to work for it; at first the ice was very heavy and firm, and we had great difficulty in getting way enough on the ship to give her any chance, but as we got further off shore and the ice was softer and more open, her speed increased, she made better way and we drove her hard at it. On the 9th we had thick fog all day, the ice did not go abroad to any extent, and we made but little headway. On the 10th there was a great change, and we made a good day's work, getting by night into some comparatively open water. By the 11th we were close over to the Labrador shore and found the ice gone well abroad; by midnight we had passed Charles Island; all this time the heavy solid pack was close on our starboard hand, extending away to the Baffin's shore, and we were steaming along its southern shore in fairly open water. We had Cape Digges at the western end of the strait abeam at 2 p.m. on Monday, the 12th of July, with no ice in the direction of Hudson Bay to stop us, but were obliged to stop the ship owing to the fog. This however cleared up after a couple of hours when we at once went ahead again and stood across in the direction of Mansfield Island. We met no ice that would stop any ship, and on the evening of the 13th put about and steamed back with the intention of going out of the strait again. We had, however, on our way back, to land the two geological parties that we had on board, and as Dr. Bell, who was detailed for the survey of the north shore of the strait, wished to be landed at or near King's Cape at the south-eastern entrance to Fox Channel, we set our course on the morning of the 14th from Cape Digges to pass to the eastward of Salisbury Island and thence over to King's Cape. We had considerable fog during the day, which necessitated frequent stoppages, so that it was late in the evening before we made out the eastern end of Salisbury Island. We found our further progress barred by a stream of heavy ice which was pouring out of Fox Channel, filling the entire strait between Baffin's Land and Salisbury Island, and also the narrow pass between the latter island and Nottingham Island. This ice was setting to the eastward at the rate of five knots. There being a good deal of fog we could not fully make out the conditions, so we laid by for the night, holding the ship a short distance from the edge of the pack. The weather cleared up early on the morning of the 15th and we steamed along the margin of the ice close up to the end of Salisbury Island. The ice we had to the north of us, and into which it would have been folly to have put the ship, was heavier than anything we had yet seen in the strait. The pans were large and greatly discoloured, much of it was floating five and six feet out of the water, showing that it was of considerable depth. I informed Dr. Bell that it was impossible to attempt to get to King's Cape to land him, and that I would try and do so

further to the eastward. We, at once put about intending to stand to the eastward and look out for an opening by which we could get over to the north shore, or failing this, land the other party which was conducted by Mr. Low at the first available point on the Labrador or south coast; we put about at 7.30 a.m. and had not gone more than a mile from our turning point before we were suddenly surrounded on all sides by heavy pans of ice; we had been careful not to get into the stream which was passing to the north of us; all night we had noticed the remarkable way in which this ice was surging and jostling in all directions, the tide or current fairly boiling among the pans. Pans of many acres in extent were moving at the rate of five knots, some east others west, while the heavier and more extensive ones were moving with irresistible force through or even across the track of the lighter ones, the whole in the most amazing confusion. We were steaming along at fully eight knots, looking with wonder at this astonishing turmoil and exhibition of confused power when there suddenly shot out from the field ahead of us a wing of ice of many miles in extent, a similar wing came up from the ice astern and before we could extricate the ship we were beset closely in the whirling, grinding mass. The conditions were extremely serious and we used every exertion to extricate the ship; the open water was only a short distance to the south of us, but in spite of all we could do during some three hours, we did not make more than 100 yards, and finally our screw jammed fast so that we could neither move it ahead or astern. At 11 a.m. there was a sudden increase in the shoving and rafting, and one particularly heavy pan forcing down through the ice about us, took the ship fairly on the port side; she was suddenly lifted some three or four feet out of the water, and was carried spinning about on the pan which had passed anunder her, but relieved from all pressure. This rather astonishing condition of things lasted for a couple of hours, when at about 1 p.m. just as quickly as it had come together, the ice went abroad again, the grinding ceased, the pans separated, the ice began coming up with a loud noise from under the ship, she became waterborne, and in half an hour we were steaming on our course at full speed in fairly open water. This fortunately was the last occasion on which we got fast; though we were in ice several times again during the next two weeks, it was always loose and gone abroad, and we had no difficulty in holding our course through it. We trimmed along the edge of the ice until next morning, the 16th, without finding any lead which would allow us to make the north shore. I had now to think about getting Mr. Low afloat. We had been unable to land him anywhere to the west of Charles Island because of a belt of ice along shore through which he could not have penetrated in his yacht. At 4 a.m. on the 16th we found ourselves broad off the entrance to King George's Sound with no ice to prevent our entering. I at once decided that this was the best chance to put Mr. Low afloat on his own account, as he was very anxious to be off. The ship was therefore headed in for the sound. We went in slowly, as the place was unsurveyed, and took the precaution of sending a boat about half a mile ahead with a hand lead. As we got close in and were making for what appeared to be a pass between two islands we were met by four Esquimaux in kyacks. They made the most frantic cries and gestures with the object of explaining to us that the pass was bad and that we should find an anchorage in another direction, which we did. We had at this time no regular interpreter on board, as we had not been able to call anywhere on the Labrador to secure one, and though several of our men had previously been among the Esquimaux with Peary or on whaling vessels and knew a little of the language, yet none of them were expert enough to keep up any conversation. We anchored on the western side of the sound at 8 a.m., and at once prepared to hoist out Mr. Low's yacht. We had her afloat by 4 p.m. We had to shift our anchorage several times owing to the ice which was coming out of the inner bays, and as it would not have been safe to remain where we were during the night I had sent the second officer with a boat to look for a safer anchorage further in behind the islands. He returned during the afternoon and reported finding a safe and commodious harbour with nowhere less than seven fathoms in the entrance. We at once went in and anchored in it. We found it to be roomy, free from rocks or shoals, and sheltered from all winds. This place I called Douglas Harbour. We were glad on many occasions throughout the rest of the season, and more particularly during the stormy weather in September and October, to run into it for shelter. We were engaged during Saturday,

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the 17th of July, ballasting, rigging and putting the stores in the yacht. On Sunday morning, the 18th, we parted company with Mr. Low, who stood up the sound, while we left to land Dr. Bell on the north side of the strait.

We had now to face back to Big Island, having decided to put Dr. Bell afloat at Ashe Inlet. To do this we had to cross the strait pretty much over the track that we had taken when working out of the ice in which we had been fast from the 1st to the 9th of the month. We found a great change in the conditions. The ice had become greatly worn and thinned. It had gone abroad, and presented no serious obstacle to our passage. We made the beacon near Ashe Inlet at 7 p.m., but owing to fog along the land we had to lay off for the night. Early next morning, the 19th, we were off the mouth to the inlet, but found it full of ice, so much so that we could not get in. The ice in the inlet was undoubtedly that which had formed there during the winter, and which had just broken up. The shore ice was still fast to the rocks all round.

We backed off a few miles and held on, expecting that the ice would be carried out with the falling tide. At 9 a.m. we went in again and found that it was pretty well gone, so that we steamed up to the anchorage and let go our anchor off the observing station erected by Captain Gordon in 1884. We had Dr. Bell's yacht afloat and ballasted by 6 p.m., the wind had freshened to half a gale by 7.30 p.m., and as the ice was coming back into the inlet, which was quite open to the south south-east, we had to cast the yacht off and let her run further in, where she would be in shelter. We held the ship at her anchorage, but had to keep her under steam during part of the night so as to steer her clear of the ice. The wind went down during the night, and with the turn of the tide the ice went out. Early next morning the yacht got back alongside, and Dr. Bell's stores being on board by noon we parted company, the Dr. intending to cruise to the west along shore, while we left for the Button Islands.

Once clear of the inlet, the breeze being fair, we set our sails, got the patent log out, and for the rest of that day the "Diana" made her ten knots by the log; the only ice in sight being one or two small bergs. We had a fine run down to the Buttons, which we made about nine the next morning. We saw ice in Ungava Bay, and a light stream of it was coming out by the Buttons, and wheeling down along the outer Labrador shore. We had the islands abeam, about ten miles to the south, and seeing no ice outside of us to seaward, we put the ship about and started back to Hudson Bay at 11 a.m. on the 21st of July. We got back to Cape Digges at midnight on the 23rd, steaming the whole length of the strait in sixty-one hours, including a stoppage of four hours on the night of the 22nd, when it was too obscure to see our way through a heavy belt of ice which barred our passage off the Maiden's Paps; we had also a strong breeze against us. Our intention in making this direct run was to see how long it would take us to make the passage of the strait. In doing this we drove the ship as directly through everything as we could, and though we met no ice through which a strong iron ship could not have worked her way, yet she could not have risked driving through some of it as we did, and a less handy ship than the "Diana" would have had delay in working round or among the larger pans. On the 24th we steamed back from Port Laperrière to the eastern end of Salisbury Island, to have another look at the entrance to Fox Channel. Between Digges and Salisbury we found no ice in crossing, but between Salisbury Island and Baffin's Land the channel was filled with heavy old ice, which was passing in a stream to the eastward. We kept away along the southern edge of this, and were gradually headed away to the south, off the eastern end of Charles Island. We found the ice extending right in to the south shore, where we had passed along in open water on our way west only three days before. The ice was open and much worn, being water soaked and soft. We had been headed away from our proposed mid-channel course by this ice, so that we were now close up with the Labrador land. When nearly up with Wegg's Island, we changed our course and headed the ship across the strait in the direction of Emma Island; as we got near the north shore and found the ice more open, we kept the ship away for Big Island. At 5 p.m. on Monday, 26th July, we were quite clear of the ice, which was extending in a much scattered condition away in the direction of Hope's Advance. We at once set the log and shaped a course for the Buttons. By 8 a.m. next morning we had made 125 miles, and as we had a few days to spare before meeting our coal supply ship at Nachvak, I

decided to go and look for Green Island. The existence of this island in the mouth of the Ungava Bay had been constantly disputed; some asserting that it really existed, others having positively denied its existence. Captain Gordon had failed to find it, and had advised its removal from the chart. We hauled the ship up for the supposed position of the island, and at 11 a.m. on the 27th we made out high land where the island was placed on the chart. We were, however, prevented by the ice which filled Ungava Bay from getting near the land we saw, and the mirage was so great that we could form no estimate of the size of the island. At 1.30 p.m. we kept away along the edge of the ice in the direction of Port Burwell which we made that same evening; we could not, however, get in, as a belt of ice about ten or twelve miles wide separated us from the land. We held on for the night to a pan which was drifting in the direction of the Buttons, and at 2 a.m. on the 28th we cast off and steamed round the Buttons and out to sea. We passed through considerable much-worn and open ice, extending in long strings at right angles to our course, with lanes of open water between. We got outside of all this by 9.45 a.m., and saw no sign of any field ice beyond. A few bergs were scattered here and there, and there was a slight swell from the eastward; any vessel could have safely steamed through all the field ice we met this morning. Having satisfied ourselves that there was no more ice to the eastward, we put about and ran back through the ice to Sir Terence O'Brien Harbour, inside of Cape Chudleigh, and anchored. Leaving this harbour on the morning of the 30th, we steamed down along the Labrador to Nachvak. We did not get into the Bay of Nachvak until Sunday morning, the 1st of August, having been delayed by fog. We saw no field ice on our way down, and very few bergs. When we reached the anchorage of the Hudson's Bay post, we were at once boarded by Mr. Ford, the agent in charge. We had expected to meet the Hudson's Bay Company's ship "Eric" here, but found that she had left for Churchill a week before. She must have passed in along the north shore of the strait while we were looking for Green Island. We remained at Nachvak until the 13th of August, overhauling our engine and boiler, shipping a new rudder which we had on board, taking in 300 tons of coal, and cleaning up generally. We found from Mr. Ford that the ice had only gone out of Nachvak Bay in the beginning of July; so that we could not possibly have got in on the 21st of June when we had passed on our way north.

On leaving Nachvak we proceeded directly to Cape Mercy, at the easternmost point of the entrance to Cumberland Sound. Our course took us right across the mouth of Hudson Strait, about 45 miles outside the Buttons; we saw a few bergs, but no field ice whatever. We made Cape Mercy early on the morning of Sunday the 15th of August, and steamed along the north-east shore of Cumberland Sound up to the whaling station at Kekerton. We were here informed by Mr. Milne, the officer in charge, that the season was a remarkably open one; that it was quite unusual to find the sound free from field ice as it now was; that in 1896 it had been full of ice all season, and that we could hardly have got up to Kekerton. On the 18th of August we crossed the sound to the only other sedentary whaling station now in operation on Baffin's Land—at Black Lead. Here we met Mr. Sheridan, the agent in charge, and the Rev. Mr. Sampson, an English missionary to the Esquimaux. We left Cumberland Sound for Churchill, on the western shore of Hudson Bay, on the evening of the 19th of August. We only made Resolution Island on the morning of the 21st, having been delayed by fog; passed into the strait to the westward of the Buttons, and round to Port Burwell, where we anchored at 2.30 p.m. We saw no ice on our passage from Cumberland Sound. At Port Burwell we found the SS. "Nimrod," belonging to Messrs. Job Brothers of St. John's, Nfld.; cod had just struck, and her crew were doing well. We left again the same evening for the west; had a stormy passage up the strait to abreast of Big Island; were off the eastern end of Salisbury Island at 9 a.m. on the 24th of August, and found the channel across to King's Cape still blocked with ice. We made no attempt to enter the pack, but kept away for Churchill, passing south of Nottingham, and down between Coates' Island and Mansfield. We had strong winds and dirty weather crossing the bay, and only got into Churchill Harbour on the evening of Sunday the 29th of August. We saw no ice after leaving Salisbury Island.

We left Churchill on the 2nd September, and spent a couple of days trying for fish in the bay. I intended devoting a week to this work, but the weather was so rough

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that we could do nothing in the way of fishing, and as we were due at Ashe Inlet on the morning of the 10th of September to meet Dr. Bell, I had on Monday the 6th of September to give up my fishing and get under way for the strait. We might have held on a day or two longer, but there was always the chance, against which we had to provide, that the Fox Channel ice might with the strong north-easters which we had been having, wheel down against the Labrador shore and to some extent block our passage out. We rounded the long shoal off the south end of Mansfield on the evening of the 6th of September, steamed round Digges in a snowstorm. At 2 a.m. on the morning of the 7th were off Cape Wolstenholme in open water, saw no ice, but there was a distinct ice glint to the north-east. We found this morning the land of Labrador everywhere covered with new snow, we had snow at intervals all day on the 7th, and during the next night we were forced to lay the ship to off the eastern end of Charles Island for eight hours during a heavy snow storm. We steamed in and made the land as soon as it was light, and anchored in Douglas Harbour during the afternoon. Here we found everything having a wintry look, the ground was covered with snow, in some places drifted to a considerable depth.

We went out of the harbour on the evening of the 9th and steamed across the strait for Ashe Inlet off which we were at 5 a.m. on the 10th. It was then blowing a gale from the south-east with a heavy sea. We dare not venture in to anchor as the sea was running right in, and there was no shelter there for us. We held the ship off the mouth of the inlet for some time hoping that Dr. Bell or his men would make her out and know that all was well, and that we were on hand to pick them up. We then stood off shore and laid the ship to, to wait for fairer weather; at 10 a.m. the gale was increasing, and as it was snowing heavily, we decided that it would be more comfortable in harbour, so we kept the ship away and ran back for Douglas Harbour, we were lucky enough to pick up the islands outside and got to our anchorage at 4 p.m. The weather cleared up during the afternoon of the 11th and we left at once to return to Big Island, making the inlet at daylight next day; there was no ice whatever in the strait between Douglas Harbour and Big Island. We got Dr. Bell and his party with their stores and specimens on board, and as Dr. Bell wished to have his yacht taken to Fort Chimo we took her in tow and left about noon on the 12th for Ungava, where we were due to pick up Mr. Low and his party on the 15th. It was my intention on this passage to settle the question of the existence of Green Island, therefore on leaving Ashe Inlet we shaped our course for the spot where we had sighted land on the 27th of July. We had a fine clear night crossing and made out the land we were in search of at 2 a.m., we laid by for daylight and at 6.30 a.m. steamed in for the north-east point of the island, which we found to be very much larger than Green Island, as it was laid down, could possibly be. At 10 a.m. while steaming along the south-east shore of the island, looking for a landing place we sighted several natives in kyacks in under the land, on standing towards them and hailing, two of them came off to the ship, they told us that the island was Akpatok, and that there was no such place as Green Island. Akpatok Island is therefore wrongly placed on the chart, being shown some 25 miles too far south in Ungava Bay. The natives directed us to the best anchorage, and as soon as we were anchored I sent a boat on shore with Dr. Bell who was anxious to examine the rocks. Akpatok Island is of great extent being some 60 miles in length; it lies almost north and south (true) and is remarkable on account of its precipitous limestone walls.

The natives we found here had been the first to visit the island for a long period of years, they had made an extraordinary bear hunt, and reported walrus to be plenty also. They had been fitted out by the Hudson's Bay agent at Fort Chimo, and were honest enough to refuse to sell us their skins, as they said they belonged to the Hudson's Bay Company; on our telling them that we knew the agent, Mr. Mathewson, and would make it all right with him, they then offered to give us their skins, but with the proviso that we should take them to Mr. Mathewson and arrange with him for payment, so that he might credit them with their value; as we knew that the Hudson's Bay Company would not sell us any fur, this arrangement would not have suited us, so that we did not get the skins. These were Pagan Esquimaux and I merely mention this fact to show how strict were their ideas of honesty compared with the practices of the white christians living to the south of them.

In January, 1860, Akpatok was the scene of a terrible crime. The barque "Kitty" had left London on the 21st of June, 1859, for Hudson Bay, she was nipped and crushed in the ice on the 5th of September off the Middle Savages, the crew left the ship in two boats and made the land on Saddle Back Island, both these boats attempted to cross the strait, and work their way down the Labrador; sixty-one days after one of them reached the northernmost of the Moravian Mission stations. The other boat with the captain and ten men landed on Akpatok Island, they were at first hospitably received by the Esquimaux, but as food grew scarce, and the natives began to realize their helpless condition, they were all murdered one night while sleeping in their tents. It is said that the Esquimaux who perpetrated this outrage all died on the islands shortly afterwards; be that as it may, the island was soon after deserted, it was supposed to be haunted and until this present season the natives could never be persuaded to go near it. We left Akpatok at noon on the 14th intending to pass the night under Saiglorsoak Island, and next morning steam over to the mouth of the Koksoak River and meet the pilot that Mr. Low had promised to have out for us. Saiglorsoak Island, however, was not where we should have found it, and we only got to the mouth of the Koksoak on the morning of the 16th. We met our native pilot and steamed up the river in a thick snowstorm, anchoring off Fort Chimo at noon on the 17th. Here we found Mr. Low and his party in good health, and were very kindly received by Mr. Mathewson, the agent in charge. It was winter here, there being several feet of snow on the hill sides in the rear of the post. We left Fort Chimo at noon on the 19th going down the river in charge of our Esquimaux pilot, again in a snowstorm. We had snow at intervals all that night and next day. I had intended calling at O'Brien Harbour to shift coal, and take in a few tons of rocks for ballast before continuing to St. John's, Nfld., where I had to land the geological parties and re-coal, but on nearing Cape Chudleigh Islands, which form the seaward shelter of O'Brien Harbour, I decided that as we had a rising glass and the beginning of a fresh westerly breeze, it would be better to keep right on, shift my coals at sea, and dispense with the extra ballast, this we did. We rounded Cape Chudleigh on the evening of the 20th; made a fine run down to St. John's where we anchored at 2.30 on the morning of the 25th. The "Diana" had averaged nearly nine knots on the run back, we saw no field ice and very few bergs.

At St. John's we were treated with great kindness by His Excellency the Governor Sir Herbert Murray, Mr. Job the owner of the "Diana" and all others. We remained there making a general overhaul and taking in a further supply of coal until the morning of the 6th of October when, as soon as it was clear, we left to return to Hudson Bay. We had fine weather up to Belle Isle, but beyond that almost constant gales and snow; we ran into Pitt's Harbour on the 8th to land our steam launch and extra gig; were detained there until the morning of the 10th. We had barely got round Cape Charles when we met a heavy north-west gale and snowstorm; we hauled in under the land at Cape Bluff and got in to Snug Harbour for the night; the gale and snow continued until the 12th when as soon as it moderated and cleared we continued north. We made the Buttons at noon on Friday the 15th and shaped our course to pass south of the islands up through Grey's Straits, but just as we were passing Cape Chudleigh it came on to snow heavily; it had been snowing at intervals all day. The weather looked squally and bad and we decided to run into O'Brien Harbour and anchor for the night. Everything had a wintry look ashore and a good deal of snow fell during the night. The weather cleared shortly after breakfast next morning, the 16th, and we went out for the second time, we had gone out at 7 a.m. but finding it dark and snowing heavily outside in the strait we had returned to our anchorage. We passed the Western Buttons shortly after noon, and shaped a mid-channel course up the strait, had snow at intervals during the afternoon and night; there was some swell on, as the wind was pretty well ahead and the ship iced up considerably about the bows and fore-rigging, nevertheless we made fairly good way and by 5 p.m. on the 17th we had the high land of Big Island abeam, we slowed down during the night as we intended calling at Douglas Harbour to shift coal and take in fresh water. During our former passages through the strait in the summer we never had any difficulty in getting a supply of water, as it was only necessary to make fast to an ice pan and put the end of the suction hose over into one of the pools of fresh water which accumulate on the surface of the ice and

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pump away, there being no field ice about in October we had to seek our fresh water on shore. It snowed steadily during the early morning of the 18th and we had some difficulty in finding our harbour, owing to its being almost impossible to distinguish the islands from the mainland, when both are alike covered with snow, the former do not show in relief against the high land behind. We anchored in Douglas Harbour at 3 p.m., the same Esquimaux that we had met with here in July were now camped in a cove in the outer bay for the seal and walrus hunt; during our visits here in September they had been away inland for the deer hunt, they were greatly rejoiced to see us back. On the 19th they moved over to Douglas Harbour, men, women and children, intending to come on board, but by the time they reached the beach near the ship it was blowing a gale from the north-east with drifting snow and as we could not attempt to land a boat on the rocky beach to bring them off, owing to the heavy surf, they at once set to work and in half an hour had built an igloo or snow hut in which they passed the succeeding night in warmth and comfort, though they had no fire. The gale of the 19th prevented us from sending boats after water, but next day the 20th the wind having moderated and veered to the north-west they were despatched up the north-west arm where we had found several good streams of water in the summer, but late in the evening when we were getting anxious about them they returned without any water, as they had found all the streams frozen solid to the bottom. On the 21st we got our water tanks filled from a lake half a mile inland, the water had to be carried by hand to the boats on the beach; it froze in the buckets, about the boats and on the men. On the 22nd the morning was fine and we left at 7 a.m. for Hudson Bay. It was just light by 8 a.m. At 9.30 a.m. or as soon as we had got fairly out into the strait it began snowing again. We had had more or less snow every day since passing Cape Chudleigh on the 15th. During the afternoon of the 22nd the weather came bright and clear overhead, and we passed about ten miles to the north of Charles Island, shaping our course for the eastern end of Salisbury Island hoping to get a final look into the mouth of Fox Channel in the morning. We steamed slowly back and forth on our course during the night which was very dark. At 7.45 a.m. on the 23rd we supposed ourselves to be close up to the island and knew by the tide rips and the strong current that we were about the neighbourhood where we had heretofore found ice. At 9 a.m. it began to snow heavily, we held on for a while hoping that it was only a squall and would clear up, but by 10 a.m. it had settled into a heavy snowstorm and, as the currents were so strong and uncertain, we gave up attempting to make the island and steamed away to Cape Digges; during the afternoon we got close up against the land of Cape Wolstenholme. We made this land several hours before we should have, and too far to the eastward, showing that we had been swept to the south-east during the night. We followed close along the land which is bold to, until dark. About 4.30 p.m. we headed the ship off shore and kept her under easy steam, head to the wind for the night, it was blowing fresh and snowing. We made Cape Wolstenholme next morning, the 24th, at 8.30 a.m. and followed closely along the land, round Cape Digges, hoping to get into Port Laperrière and hold on there for clearer weather, but it was snowing too heavily to risk making the harbour. The shore was everywhere covered with snow and one point looked so exactly like another that we could not make out the entrance. We could only see a few feet above the water line on the beach, the hills were obscured in the drift so that we could distinguish nothing. It was freezing hard, and wherever the spray fell it froze. At 10 a.m. being then in Hudson Bay, off the south-western point of Digges Island, we put the ship off shore, head to the wind; it was blowing a strong breeze from the north-east with considerable sea. By 2 p.m. there was an unusually heavy sea running, and to get about at all on the slippery decks we had to stretch life lines to hang on by. It was snowing heavily all the time and showed no sign of clearing up. We then decided to steam back to the eastward, while we could get a good departure. During the early morning of the 25th the wind hauled to the north-west, and it cleared up a little; we got a glimpse of the high land of Cape Moses Oates and soon after made the Labrador shore which we followed along, anchoring in Douglas Harbour shortly after noon. It had been snowing all morning, but when we got under the shelter of the land we ran into clear weather. On the 26th the wind was back to the south-east, and it was snowing again so thickly that we could not see the

islands off the mouth of the harbour. During the afternoon it freshened to a gale and we had to let go a second anchor. During the 27th and 28th we remained at anchor. It was dark and stormy in the strait and we could not see any distance off shore; in harbour the weather was variable, snow flurries passing at intervals, the wind shifting constantly from one point to another. On the morning of the 29th the weather looked better, and I decided to get back into the bay. We got our anchors in and left at 9 a.m. It was then clear in the harbour, and for some little distance outside among the islands. At 10.15 a.m. we were fairly out into the strait, and shaping our course to pass close off the eastern end of Charles Island; it was then quite thick ahead and to the outside of us, the tops of the hills inshore were enveloped in drift, but we could distinctly make out the foot of the land; by 11 a.m. it was blowing a half a gale right ahead and freshening with a short breaking lop; we kept at it until 2 p.m.; the ship was now icing up rapidly about the bow and up the fore-rigging, as wherever the spray struck it froze fast. At 2 p.m. we decided to put about and run out of the strait. We rounded the Buttons at 7 p.m. on the 30th and stood down the Labrador. We had rough weather and snow all the way back, took our spare boats on board at Pitts Harbour on the 4th of November, and after securing them continued same day for Halifax, passed Cape St. Lawrence on the morning of the 6th, called at Canso and reported on Sunday the 7th, met a gale of south south-west with heavy sea off Canso same evening and had to run back for shelter, as the ship was too light to make good weather. Monday the 8th was spent at anchor in the Gut of Canso, the crew being engaged in filling the bunkers from the mainhold so as to trim the ship more by the stern. We left again for Halifax on the morning of the 9th, and had very heavy weather that night and next day, during the afternoon of the 10th a sea boarded the ship abaft the fore-rigging on the port side breaking up and washing away one of the boats. We arrived at Halifax and made fast to the Marine wharf at 1 p.m. on Thursday the 11th of November.

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PART III.

SHORT ACCOUNTS OF SOME OF THE EARLIER VOYAGES TO HUDSON BAY AND STRAIT.—STATEMENTS OF THE VIEWS OF WHALING CAPTAINS, AND MY OWN CONCLUSIONS ON THE SUBJECT OF THE NAVIGATION OF THE STRAIT.

I propose here to submit short accounts of some of the earlier voyages of exploration to Hudson Strait and Bay, together with statements obtained from some of the United States whaling captains who have made frequent voyages through the strait, and wintered either there or in the northern part of the bay. I do not propose to say anything about the voyages of the Hudson's Bay Company's vessels, which have been made regularly since the first establishment of the company on the shores of the bay; these vessels have generally gone in late in July or early in August and out again in September. There was no object in their making the passage any earlier in the season as the boat expeditions bringing the furs from the interior of the country could not arrive at the coast depots before the end of July, while, as soon as the imported supplies were landed, and the furs and the products of the season's fishery shipped, there was nothing more to wait for and the sooner the vessels then got back to market the better. The fishery was, then as now, made in July and August when the trout and salmon were running up the rivers from the sea, the white whale fishery being carried on in the rivers during practically the same season. When the company's vessels were detained later than the middle of September it was always due to their late arrival; owing to head winds, calms, or detention in the ice, they sometimes could not reach the ports of Churchill, York, or the head of James Bay before September; in such a case there was delay in getting away and, on a few occasions rather than risk the outward passage of the strait, the vessels were compelled to winter in the bay. The vessels here referred to were, of course, sailing ships, and most of the detentions from which they suffered were such as would not have delayed steamers to any great extent. The experience, therefore, of the Hudson's Bay Company's ships, covering, as I have explained, only the season between the latter part of July and the end of September, is of no use in deciding the conditions of navigation in June, the beginning of July and October.

The original charter of the Hudson's Bay Company was granted in 1668, in which year Prince Rupert sent an expedition into the bay under Captain Zachariah Gillam in the "Nonsuch." They wintered at Rupert's River and established a fort called Fort Charles, the first English settlement on Hudson Bay. The charter granted the company and their successors the sole trade and commerce to Hudson's Bay and Strait, with territorial rights and jurisdiction over all the lands and countries on the coasts and confines of the same which were not actually possessed by the subjects of any other Christian Prince or State, to be reckoned and reputed as one of the British plantations or colonies in America, under the name of Rupert's Land.

Frobisher—1576, 1577, 1578.

One of the first voyages to the neighbourhood of Hudson Strait was that of Frobisher in 1576. He left the Thames on the 8th January with the "Gabriel," of thirty-five, the "Michael," of thirty, and a pinnace of ten tons, to find a road to Cathay. The pinnace was lost; the "Michael" got separated in a gale, and, thinking the "Gabriel" was lost also, returned home. Frobisher in the "Gabriel" sighted Greenland on the 11th of July, the North Foreland on the 21st of July, and got into Frobisher Strait during August. He arrived back in England on the 2nd of October

in the same year. Next year he came out in charge of three vessels—one the “Aid,” lent by Queen Bess, of 180 tons. He left England the 29th of May, Orkneys 8th of June, got to Hall’s Island in Frobisher Straits on the 17th of July, and on the 23rd took formal possession of the new land. He marched through the country with the ensign displayed, &c., piled stones on high mountains and other places in token of possession, offering thanks to God and imploring the Divine Majesty that the barbarous natives, trained up in paganism and infidelity, might be led to the knowledge of true religion and to the hope of salvation in Christ, &c. He returned to England the same fall. He went out again next year with a larger expedition, intending to found a colony. The colonists, however, refused to settle, as they found the climate too rigid. Captain Hall in 1861 and 1862 found traces of this expedition on the shores of Frobisher Inlet.

John Davis—1586.

John Davis sailed from England on the 7th of May, 1586, on his second voyage in the “Moonshine.” He sailed past “Meta Incognita,” which land had been so named by Frobisher. He entered Hudson Strait, and coming out again continued on down to Davis Inlet, Labrador. He again visited Cumberland Sound in 1587, thinking it the route to Cathay.

Captain Weymouth—1602.

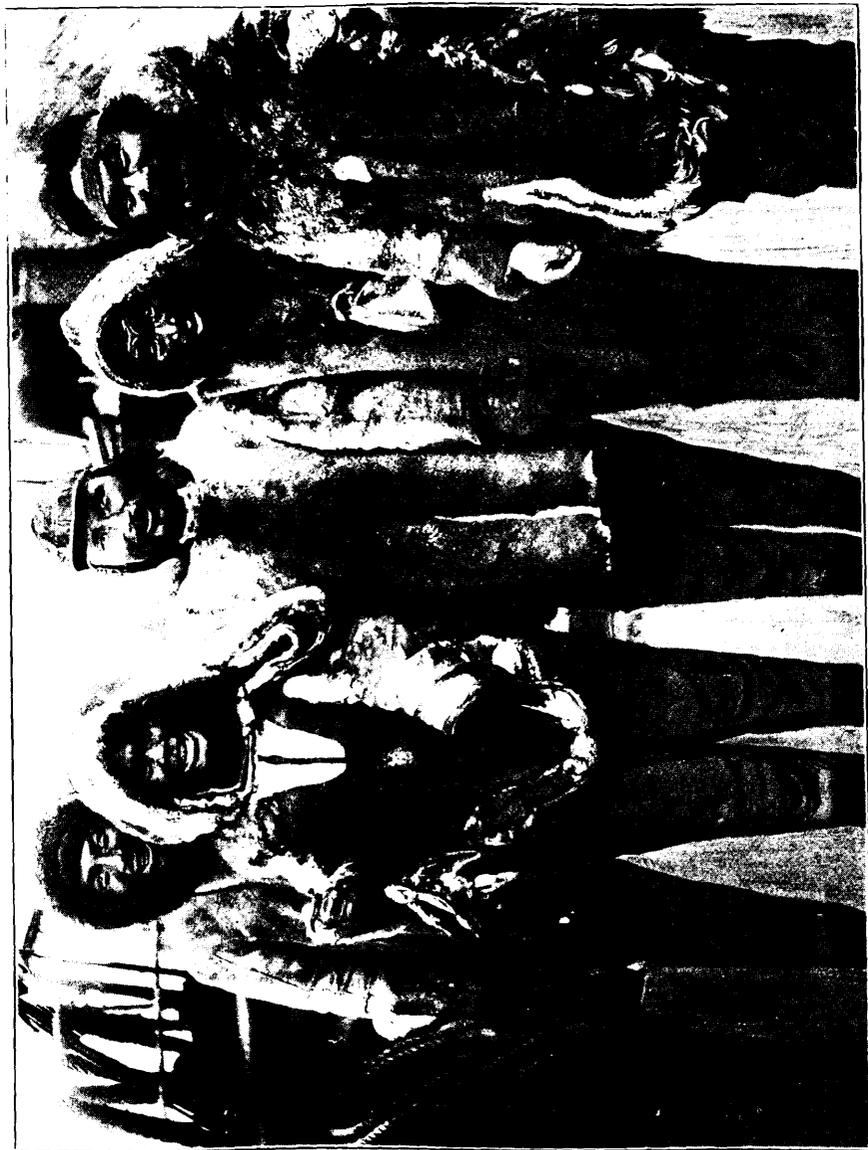
Captain Weymouth in 1602 in the “Discovery,” seventy tons, in company with the “Godspeed,” fifty tons, left Orkneys on the 4th of June. On the 28th of June, in the latitude of 62° 20′, he descried Warwick’s Foreland, and standing along the coast saw great reason to believe it was an island, and supposing it to be so he concluded that Lumley’s Inlet and the next southern inlet must of necessity be one sea, and as there is a great current there setting to the west he thence inferred there might be a reasonable hope of a passage. He got to latitude 68° 53′, but his men refused to proceed. This was the 19th day of July. They were willing to try for a western passage in between 60° and 57°. On the 26th of July, being in 60° 40′, he found an inlet into which he sailed one hundred leagues west by south; that it was forty leagues broad, very little incommoded with ice. As his men were many of them sick he returned to England, believing he had found the north-west passage. Captain Luke Fox is of the opinion that it was this voyage which induced Hudson to make his discovery.

Hudson—1610.

Hudson in 1610 on his fourth voyage discovered Hudson Strait and Bay. Leaving England on the 17th of April he reached Iceland by the end of May. He left again on the 1st of June, saw all the mouth of Frobisher Strait on the 9th of June, entered Hudson Strait on the 24th of June; on the 11th of July he was off the Isles of Gods Mercie, passed through the strait and into the bay on the 3rd of August. He entered the bay by the strait between Cape Wolstenholme and Cape Digges, both of which capes he named. He seems to have had a hard struggle in the strait against ice and contrary winds. Sailing south along the eastern shore of the bay without reaching any comfortable haven, he was frozen in by the 1st of November. In the spring of 1611, his crew mutinied and Hudson with his son and seven men were cast adrift in an open boat, nothing was afterwards heard of them.

Sir Thomas Button—1612.

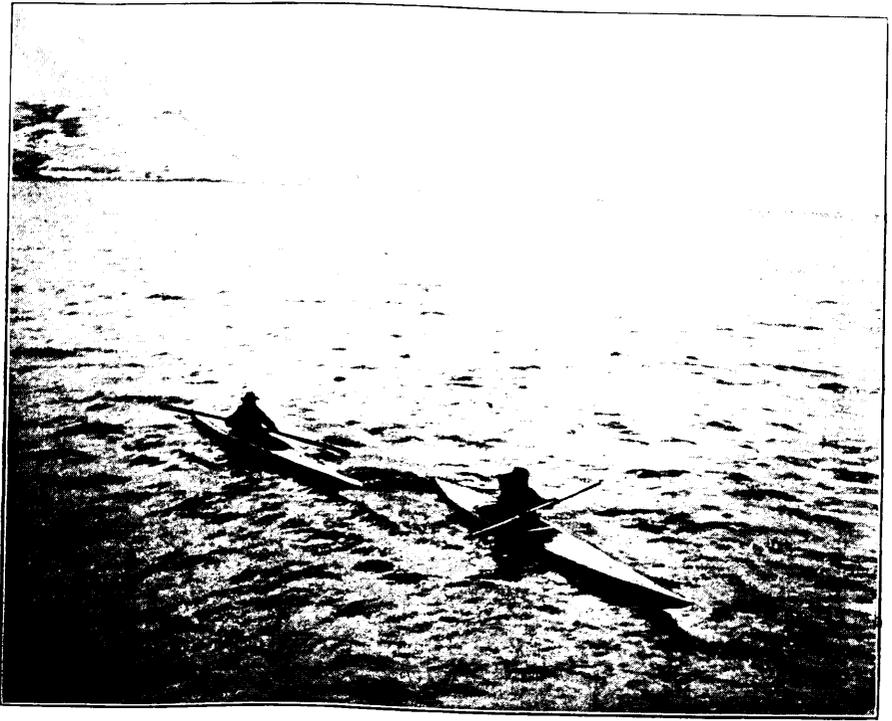
In 1612 Sir Thomas Button sailed from England in the beginning of May, discovered and named the Button Islands, Southampton and Mansfield Islands, reached Nelson River on the 15th of August, wintered there and returned home in 1613.



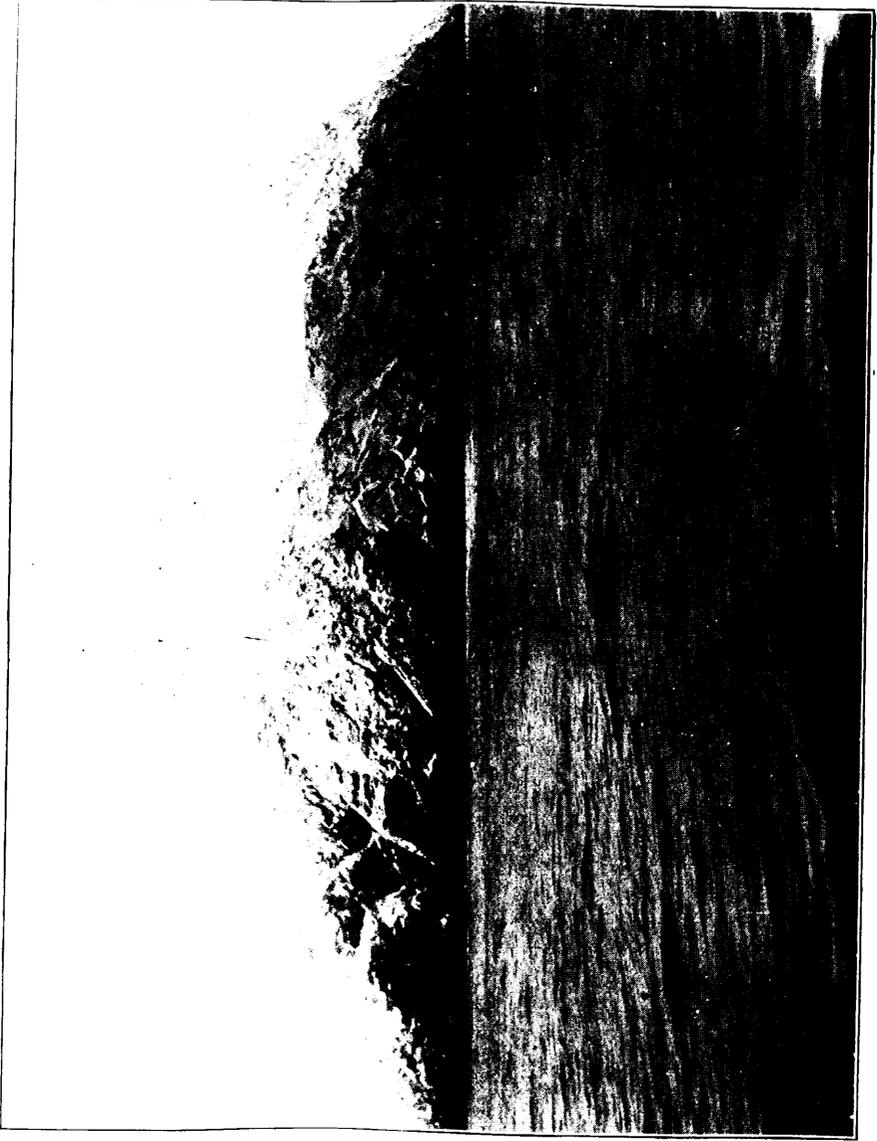
ESQUIMAUX AT DOUGLAS HARBOUR (Oct. 20).



HUSBAND AND WIFE—DOUGLAS HARBOUR—MAN IN WINTER DRESS (Oct. 28).



ESQUIMAUX KYACKS COMING OFF TO THE SHIP.



CAPE CHUDLEIGH (Oct. 15).

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Gibbons—1614.

Gibbons in 1614 is also reported to have entered Hudson Bay in search of a north-west passage.

Robert Bylot—1615.

Captain Robert Bylot in 1615, in the "Discovery" of 55 tons, with William Baffin, whom he took as pilot, sailed from England on the 18th April, sighted Greenland on the 6th of May, made Resolution Island on the 27th of May, traded with savages at Savage Islands, saw the Mill Islands which he named on account of the grinding of the ice on them. On the 10th of July saw land to the west of him where he found a tide coming from the north which gave him hopes of a north-west passage; he called at Cape Comfort, and from there returned home on the 9th of September without losing a man. He says very little about ice, and seems not to have been delayed.

Hawkesbury—1616.

Captain Hawkesbury on the 10th of August, in 1616, reached Sea Horse Point. He could not find a passage beyond so he returned to England.

Luke Fox—1631.

Luke Fox in 1631 in the pinnace "Charles" of 20 tons (with twenty men, two boys and eighteen months' provision) sailed from England on the 8th May, entered Hudson Strait on the 22nd of June, passed Carey Swan's Nest, entered Sir Thomas Roe's Welcome which he named; he found fine, clear weather, an open sea, free from ice, no snow on the land. Sailing southward on the 30th of July, he named Brook Cobham; he sets down on the 3rd of August in his journal, that the further he got from Roe's Welcome, the less perceptible was the tide. He called at Nelson River on the 29th of August, where he met Captain James, he passed out of the strait in the beginning of October and arrived in the Downs on the last of the month. He never seems to have been bothered with ice and claims that the further north he got in Hudson Bay the warmer he found the weather and the less ice he saw. He was a firm believer in the north-west passage; believed it would be found up the Welcome, and in a temperate climate.

Captain James—1631.

Captain James sailed from England about the same time as Fox. He entered Hudson Strait in the middle of June, was exceedingly embarrassed with ice, of which he gives a long account; he went to the bottom of the bay; wintered at Charleton Island, where he was forced to take shelter early in October when it was beginning to snow and freeze excessively. Though the ice went out of James Bay on the 9th of June, 1632, yet the sea to the northward was full of floating ice until the 22nd of July. James sailed along the west shore to Marble Island, stood round by the main shore to Nottingham Island and being persuaded that no north-west passage was to be found, he sailed for home during the end of August, and only reached England on the 22nd of October.

When James and Fox's reports or journals were published there was great doubt as to which of them was telling the truth.

Captains Knight and Barlow—1719.

Captains Knight and Barlow sailed to Hudson Bay in 1719, but we have very little record of their voyage.

Captain Middleton—1741.

In 1741 Captain Middleton entered the bay in the "Furnace," he sailed up Wager River, wintered his vessels "Furnace" and "Discovery" in Churchill River; he had them in winter quarters on the 4th September, 1741. The river was frozen up eight miles above wintering creek on the 9th October, so that people could cross on the ice. On the 13th October all the ice that lined the shore without, and for two miles up the river, was driven out of sight to sea. He got out of winter quarters early in July, and by the 12th of July was in the latitude $65^{\circ} 30'$ north and longitude $85^{\circ} 55'$ west; was in Wager River 13th July, 1742; sailed round the Welcome, discovered Frozen Straits and left for England on the 15th of August.

He left Orkneys on the 27th of June, 1741; made Cape Farewell on the 16th of July; Resolution Island on the 25th of July, and on the 29th of July had reached Cape Digges. He found the strait clear of ice; same evening—29th of July—made north end of Mansfield Island; made Carey Swan's Nest 31st of July, and decided to go and winter in Churchill. August 2—On his way to Churchill met much ice. He entered Churchill River on the 9th of August; on the 31st of August hauled his ships ashore in Wintering Creek, and had them all secure for winter on the 17th of September. On the 29th of September the river was full of ice.

He sailed from Churchill again on the 1st July, 1742, and was in the Welcome until the 15th of August, when he bore away for England. Passed Mansfield on the 20th, Cape Digges on the 21st, Resolution Island on the 26th of August, and reached Orkneys on the 15th of September. He seems to have met little ice in the strait, either going in or coming out.

Captain Coates—1727 to 1751.

Captain W. Coates' narrative from 1727 to 1751, during the time he was employed in the service of the Hudson's Bay Company.

Barrow, who edited Coates' Journal, says: "Although a century has elapsed since the Journal was penned, Coates' remarks will be found surprisingly accurate and well deserving of being perpetuated among the rare and unpublished voyages and travels which the Hakluyt Society is engaged in preserving from the ravages of time."

In treating of the voyage to Hudson's Bay, and the best method of handling a ship in the ice, Captain Coates says: "Keep well south of Cape Farewell, and carefully avoid being entangled in ice before you enter Hudson's Straits; the ice is hard, and the swell runs miles into it; tides and currents keep the ice in continual motion, make it dangerous to hazard a ship in it until you get 10 or 15 leagues into the straits. In 1727 I lost a ship near Cape Farewell by being nipped, and in 1736 I lost another during a calm, when the ice shut in on me six leagues inside Cape Resolution; the ship sank in 20 minutes.

"Keep to the north side of the straits, as the north side of the straits and bay is generally clear of ice first, due to the prevalence of the northerly winds and a draining current always to the southward; although the winds sometimes produce a contrary effect.

"You should sail from England to be off the mouth of the straits by the 6th of July, a few days sooner or later as the season will admit. But take notice that on the 3rd of July, 1736, the ice was so large in the entrance of the straits that, being inclosed, we had our ship crushed to pieces; and in 1739 we attempted to enter the straits six times between the 1st and the 12th of July, and could not effect it, so compact and close a body of ice lay across the entrance, which obliged us to stand out to sea. I remember once we got in by the 26th of June, and got up with great labour about 60 leagues; but then we found such banks and walls of ice from side to side that we did little or nothing until the 20th of July. And, therefore, you see 'tis to little purpose to be there sooner, and your hazard is much greater, being the ice is more compact, much larger, and not so mashed and shattered; and 'tis incredible what an alteration the spring tides in the beginning of July make amongst the ice in the mouth of the straits, and what immense

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bodies it will shatter and break in pieces, which before was dreadful to look at when agitated and put in motion by those furious tides, which are so distracted and cut by those heavy rands of ice which makes them boil up in eddies and whirlpools in the most amazing manner, which you are particularly and carefully to attend to; and if you are doubtful of being entangled before you get in at least 15 leagues and more, especially on the approach of the springs, you are to forbear and make it a rule to stand out to sea clear of that indraught.

“Further up the straits we find the ice not so rude, without you are near the shore or near the isles of ice, until you are half way up the straits and beyond that to Cape Digges in the second Narrows upon the turns of the tides, and more especially of the spring tides everywhere the ice is rude and troublesome and very dangerous. The ice may not improperly be divided into three species. First—Is those isles of ice are such immense bodies, are so deep immersed in the water below the current of the tides, are so fixed like land without motion or what is scarce sensible. Second—It is what is called large heavy solid ice, and is that species we most dread to fall amongst; this ice lies very deep in the water and feels the full force and power of the tides; these plough and smash the ice in so amazing a manner as if God had endowed them with a furious spirit of perdition and these are so rent and shattered of themselves when they are hurled against those isles of ice, or one another, as if they strove which should be first dissolved. Third—The small ice is as it were the sport of the other two species of ice, and is much more effected by the wind than by the tides, and this species is by much the greater quantity, in and amongst this we always endeavour to shelter our ships, where we lie easy and quiet and safe and undisturbed, but only when we drive near a jostling, clashing and running one against another, as I have before mentioned. This is evident whether you see them or not, as we have an abundance of dark, foggy weather. I must not omit to remark that although the ice is as it were the sport of the tides, yet the tides are violently effected by those thick, heavy rands of ice, which distract them in all directions, and in all gradations according to the bulk and depth they are immersed.

“These as before plough through the small ice with astonishing force but are overcome by the superior quantity of small ice. In all these encounters there is great danger to be caught near the borders where the undertow is so powerful like falling athwart a tire of ships in a strong tide way. No power can remove until the return of a contrary tide, and so you lie exposed to the crush and shock of all that comes; these we call escapes with some propriety.

“What I have said hitherto belongs to the ice in the straits where the tides are powerful everywhere, but the ice in the bay, until you are near the land, is very still and is in a manner moved by the winds only, which makes us take any method, or sail almost any distance rather than fasten in the bay ice. And as a moment never enter a body of ice in the night, nor in the fog, when there is any hazard of being inclosed, nor before you have circumscribed it as much as possible; nor imagine 'tis lost time to take two looks before you resolve once. I have constantly experienced this, which has more than once given me considerable advantage over other ships; in short, wherever I slighted this precaution, I generally was punished in the neglect of it before I got distangled.

“As it is very hazardous to enter the straits before the beginning of July for ice, so it is dangerous to be in that bay after the middle of September. The gales of wind and snow set in for a continuance with very short calm intervals; the severe frosts are such that you cannot work the ship; possibly as the frosts prevail the winds decrease, but to what purpose when the blocks are locks and ropes are bolts and sails can neither be taken in or left out, is surely the last extremity. The new ice near the shores and rivers and the wash of the sea stick to your ship and ropes like bird lime, caud in your sails like pitch, and so all operations by water ceases, in the northern part of the bay first and so southward soon after. The winds on the land are variable, and you have short intervals of fine weather in the day time until the end of October, but those violent gales of frost and snow are so frequent that all our craft are put into winter quarters when the rivers are covered with ice and the shores are lined to a great

distance, and water disappears, the land clothed with snow, then prevails those violent piercing winds, which no creature can face for a continuance (except some short intervals). These terrible snow drifts and dark condensed fogs are hardly to be guarded against."

Ellis, Moore and Smith—1746.

The "Dobbs Galley," 180 tons, and "California," 140 tons, William Moore in command of "Dobbs Galley," Francis Smith of "California." Henry Ellis went with them as agent of those who fitted out the expedition. He was a firm believer in the north-west passage. A lengthy code of instructions was given for the guidance of the two commanders. They left England on the 12th of June, 1746, in company with the Hudson's Bay Company's ships. On the 5th of July they began to meet the mountains of ice always found off the mouth of the strait. They reached Resolution Island on the 8th of July, and were nearly wrecked on Resolution Island during a fog. Met with very little ice to Upper Savage Islands. On the 13th of July fell in with an abundance of low ice, five to ten fathoms thick. Were abreast Cape Charles on the 17th of July, much incommoded with ice, and on the 30th of July were abreast Salisbury Island. Passed Cape Digges on the 2nd of August, Mansfield Island on the 4th of August, and on the 11th of August made the Welcome. Nothing was done that season. They went into winter quarters in the end of August in Hayes River. Winter began the end of September. Wintering Creek froze by the 8th of October and by the 31st of October Hayes River was frozen over hard. Got out of winter quarters and sailed north the 1st of July, 1747; were in the Welcome up to the 19th of August; passed Mansfield Island on the 28th of August, bound home; entered Hudson Strait on the 29th of August; had a good deal of difficulty there on account of fog and ice; got out of the strait on the 9th of September, and reached England the 28th of September, 1747. Henry Ellis was a firm believer in the north-west passage even after his failure to find it in this voyage.

Franklin and Back—1819.

On the 23rd of May, 1819, Franklin and Back left England on board the Hudson's Bay Company's ship "Prince of Wales" on a land expedition to explore the coast east of the Coppermine River. On the 4th of August they fell in with their first icebergs, and reached York on the 30th of August.

Parry—1821.

Captain Parry on his second voyage—Parry in the "Fury," Lyon in the "Hecla"—left England on the 8th of May, 1821. First met ice in the middle of June (17), latitude 60° 53', and longitude 61° 39'. Sighted Resolution Island on the 19th of June; beset for a week under Resolution Island about the 16th of July. On the 21st of July off the Lower Savages they met with three of the Hudson's Bay Company's ships which had left England twenty days after them. Passed Salisbury and Nottingham Islands on the 13th of August, Frozen Straits (of Middleton) on the 20th of August, Repulse Bay on the 22nd of August, and laid up their ships for the winter in Lyon Inlet on the 6th of October. They had to cut a channel through one-half mile of shore ice to get their vessels into the inlet. They began to cut their way out on the 21st of May, 1822. They found the ice to average four feet thick, though in some places it was twelve feet thick. Had their channel cut out by the 18th of June, 1822; put to sea on the 2nd of July; entered Fury and Hecla Straits on the 26th of August; straits blocked with flat ice. In winter quarters again about the 4th of September near Iglolik; were in winter quarters 319 days; got out on the 9th of August, 1823; they were carried in drift ice until the 12th of September in Fox Channel; the ships were beset and in great danger for thirty-five days; only got out of Hudson Strait on the 23rd of September, and reached Scotland on the 10th of October.

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Captain Lyon—1824.

In 1824 Captain Lyon in the "Griper" left England on the 20th June, rounded Southampton Island on the 30th of August and stood up for Roe's Welcome. He entered Wager Inlet on the 12th of September, but his ship was crippled and leaking so he returned home directly.

Captain Back—1836.

Captain Back left England in the "Terror" on the 14th of June, 1836. By the first of August he was struggling with ice floes off Resolution Island; on the 23rd he sighted Baffin's Island, and began to work his way through a sea of ice to Southampton Island, thence he proceeded towards Repulse Bay where he intended to winter, but late in September a violent storm drove him back past Cape Comfort, when the "Terror" was fairly ice bound, resting on the solid ice as on a cradle, and driven to and fro as the fast frozen plain moved with the currents and winds. In this position Captain Back and his crew passed the winter. Towards the close of February the floe was rent asunder, with a commotion which threatened to crush the ship; the broken masses of ice drove backwards and forwards, grinding and crushing together with the most appalling sounds, now lifting the ship quite out of the water, now dashing against her sides with a force which made her reel from stem to stern. These conditions continued up to the 16th March, 1837, when they reached a crisis, a sudden coming together of the ice raised the ship entirely on the floe; "scarcely ten minutes," says Back, "were left us for the expression of our astonishment," that anything of human build could outlive such assaults, when another equally violent rush succeeded, and on its way towards the starboard quarter threw up a rolling wave thirty feet high, crowned by a blue square mass of many tons, resembling the entire "side of a house, which after hanging for sometime in doubtful poise on the ridge, at length fell with a crash into the hollow, in which as in a cavern the after part of the ship seemed imbedded. It was indeed an awful crisis rendered more frightful from the mistiness of the night and dimness of the moon."

During all this period of disaster, the unfortunate "Terror" was driven to and fro over a range of from twenty-six to forty-eight miles north-west of Seahorse Point, but after the 16th of March she drifted off from the shore and set towards the south-east. Another month passed and still the ice held her in its grip, then it parted for a while and Back seized the opportunity to refit his shattered vessel. The ice closed in again and continued packed from the 7th of May until the 2nd of June, when it finally broke up without any commotion. The ship's hull was caulked and coated with tar and a channel having been cut through the broken floe to the open sea the "Terror" finally regained her liberty near Cape Charles on the 13th of July. The ship was broken, leaky and riddled, there was nothing for us but to try and get her home, when she reached the north-west coast of Ireland she was actually sinking by the head, so that it was found necessary to run her ashore in Lough Swilly on the 3rd of September. Had she been three hours more at sea she would have foundered.

Dr. Rae—1846.

In 1846 Dr. Rae left Churchill with a boat expedition on the 5th of July. He met ice off Cape Fullerton on the 15th of July; reached the mouth of Wager Inlet on the 22nd of July, and got into Repulse Bay on the 24th of July, and Committee Bay by the 2nd of August, where he went into winter quarters on the 2nd of September. He made a land voyage across the isthmus to the Gulf of Boothia, during April, 1847; got back to his quarters by the 5th of May, and on the 13th of May again left to survey Melville Peninsula. He returned to his quarters on the 9th of June, remained waiting for the ice to break up until the 12th of August, when he left to return to Churchill, reaching there on the 31st of August and York Factory on the 6th of September, 1847.

STATEMENT OF CAPTAIN THOMAS MCKENZIE, OF NEW BEDFORD.

20th December, 1897.

I am captain of the whaling bark "Platina"; I am 45 years of age; have been whaling since 1875, but I never went north on this side before 1896, when I went up in the "Platina." I left here the 6th day of July, 1896; I got to the strait on the 23rd of July, and I got to Whale Point at the mouth of the Welcome on the 14th of August; it was not ice that delayed me, but head wind. I met my first field ice at the Lower Savages. Outside the strait I saw lots of bergs, but no field ice. The ice I met off the Lower Savages was open so that I could work through. I found this same kind of ice all the way to Charles Island; I had no ice after that to the Welcome. The ice I met in the straits was well eaten up, honeycombed, any of our steamers would have gone through it all right. The ice I met coming out was bay ice; ice coming out of the bay; the Baffin's Bay ice never goes any distance into the strait, though bergs may sometimes be driven in. From Whale Point I went up to Repulse Bay; I got there on the 6th of August. It is narrow up there and the tide is bad; I tried to get through Frozen Straits to Fox Channel, but I never got a chance; it was always full of ice coming from the north. This ice is set off the north-western shore of Southampton Island and forcing up blocks the strait. The current comes into Fox Channel from the north by way of Pond's Bay, and from the west by Fury and Hecla Straits. On the east shore of Fox Channel there is generally open water in summer, on the west shore the ice lies off about five miles, that ice is passing to the southward all the time out of Fox Channel in to Hudson Strait; this is field ice, some of it from twenty to thirty feet thick, this is mostly all rafted ice, but in Fox Channel and in Frozen Straits we do see ice not rafted which is twenty to thirty feet thick. I think this ice comes through Fury and Hecla Straits. I never saw a big berg in the Welcome or in Fox Channel, and I never saw a big berg above Big Island. We see small bergs say from thirty to fifty feet out of water and I think they break off the land there. The ice from the Welcome works to the southward down the western shore of Hudson Bay, it is eventually carried across the bay and goes out by the islands and Cape Digges. When Repulse Bay ice first breaks up about from the 1st to the 10th of August, it generally goes out by Frozen Straits. Our whalers bound for the Welcome try to leave here about the 15th of June, so as to be off the mouth of Hudson Strait about the 15th of July. They have found by experience that generally they can not get in before that date. It is useless to go earlier. I have looked over several logs of vessels, and I have never found one that did anything before that date, they always found ice even at the date mentioned 15th of July; and they have generally got through the strait and into the bay from the 5th to the 15th of August. It would be an object with them to get in earlier for the whaling; the whaling begins on the west side of Southampton Island early in August, off Whale Point or Yellow Bluff from the end of August to 10th September, after that to the south and west of Cape Fullerton, until the 20th September, then we have to go into winter quarters on the 20th of September. The whalers winter now, either at Depot Island or at Fullerton. We go by our own head and by what we see, rather than by any chart, the charts are all wrong, and there are reefs and rocks along the shore in the Welcome that are none of them down. Whale Point is about right. We always try in our sailing ships to get out of the Welcome homeward bound from the 1st to the 15th of September, that is leaving Whale Point at the mouth of the Welcome. This year, 1897, I left on the 19th of September and saw no ice. Fisher Straits I found blocked, and I came south of Coates' Island, coming that way I saw no ice, I saw a few bergs off the mouth of the straits, but no field ice. I got out clear of the straits on the last day of September, and had a heavy long run home, gales from west and north-west. I got home on the 23rd of October. We do no whaling on our way home, but get out as soon as we can, once we leave. We generally begin to have stormy weather, thick snowstorms as soon as September sets in. For all that the Fox Channel ice may swing down past Salisbury and Nottingham islands to the Labrador shore in the fall, yet there will generally be found an open channel

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along by Cape Digges. We are more apt to be jammed in the fall at Charles Island ; one of our whalers the "Desdemona" has gone in between Charles Island and Labrador and found a good channel. There is a rock off Cape Kendall, the land just in sight, in the mouth of the Welcome, it will break in a sea, but it is not on any chart. The west entrance of York Bay is in the Welcome instead of being round where the chart gives it. I do not think you are going to get through Hudson Strait into the bay, even with suitable steamers before the 15th or 20th of July. The ice in the fall is not drove together as it is in the spring ; it is in long tongues, and you could work through it with a steamer. Owing to the risks of navigation from thick weather and snowstorms I would not advise risking coming out of the bay after the 10th to the 15th of October, the weather is too bad. Late in the fall you can never depend on seeing land for more than two or three hours at a time. As soon as it is through snowing from one quarter, it will breeze up from another and snow again, this is in the strait. Up in the Welcome I had no snow in June, July or August. Snow begins with September and we have it from that out, but the weather is not as bad inside as as it is coming through the strait. When going into the strait we keep under Resolution Island, but you must look out or you will be carried out again between the Lower Savages, the main land of Baffin, and Resolution Island. In coming out, I consider the worst part is from Mansfield to Charles Island ; it is bad there also in going in, but going in the ice would be the worst from Resolution to Charles Island. I think, and the natives say, that the whales—bowheads—come in the strait early in the spring along the south shore. We never find whales in Fox Channel, but in the mouth of the Welcome and in Repulse Bay ; I never saw a whale in the strait. I never got a cod or a halibut in the bay and I never knew any one that did. At Marble Island we get a fish we call the toad fish, but we do not eat it ; it will weigh four or five pounds. We get trout and salmon trout in the ponds and lakes ; the salmon trout has the trout spots, but they are large, and look like salmon ; the trout are like our own trout. The big ones—the salmon trout—come out into the salt water from the fresh water in the spring, and go in again in the fall. We find a few walrus, white whale and seals in the Welcome, and the ougug, which is between a walrus and a seal. I never saw a narwhal there. There are plenty of deer at Repulse Bay, no bears to speak of, few foxes ; for musk ox you have to go back inland, up Wager River. We have given up Marble Island as a wintering place, because it is too far off the whaling ground. Whales are getting scarcer every year. Oil is worth here about 34 cents a gallon, and bone about \$4 a pound. Our whales would average seven to nine feet bone ; 12 feet 3 inches bone is as good as you get ; one was taken in the Welcome seven or eight years ago which made in one head 3,300 pounds. We employ natives to hunt for us in the winter to get fresh deer meat. We find the natives very good people ; they will do anything for us they can. We meet different tribes in Repulse Bay. The Northern tribe, who come from Pond's Bay, are not as honest as the others.

The opinions I have given in the above statement, which has been read over to me, are those that I have always heard expressed by the whaling captains ; they are certainly those which I hold myself.

THOMAS McKENZIE.

BEDFORD, 22nd December, 1897.

STATEMENT OF CAPTAIN E. B. FISHER, OF EAST FALMOUTH.

December 21st, 1897.

I am aged sixty-four, and have visited Hudson Strait and Bay regularly since 1864—except in two voyages—before I took charge, having commanded whaling vessels. The practice is to sail from New Bedford anywhere from the 1st of May to the middle

of June. The object is to reach the mouth of the strait about the 1st of July. We do no whaling until we get into the bay. The earliest date on which I have entered the strait was the 1st of July. That year I got into the bay on the 19th of July. I had no great difficulty with ice that year. I went in between Mill Island and Salisbury. It was all full of ice that year along the Cape Digges shore. In all my experience of the strait, I have never found the ice alike in any two seasons. There is no regularity in the movements of the ice, it all depends on the winds. One year I entered the strait the 1st of August, and I got into the bay on the 9th of August, and saw no ice at all. I have taken the ice off Resolution Island on the 4th of July and not got above Big Island at North Bluff before the end of July and not into the bay before the middle of August. That season, 1874, the strait was practically full of ice from the mouth up to Big Island and from Big Island into the bay the ice was more open. My practice going into the bay is to work up along the north side of the strait where I find a favourable current. I never saw Davis Strait ice above Big Island; above Big Island I would expect to find only the bay ice. The thickness of the ice met with varies greatly, some of it draws fifty feet, some only six feet. Above Big Island and in that vicinity I have found pans of ice of many acres in extent. This ice has not come from outside or it would be broken up. This thick ice is rafted; it looks as though it had been subject to pressure and had thus been piled up. Large bergs from outside never pass Charles Island. I have seen small bergs above that but never any large ones. I have never seen any bergs in the Welcome or Fox Channel, there is not water enough for them, and they are not made up there. I gave Fisher Straits their name. In going into the Welcome I usually strike Cape Pembroke, going south of Nottingham, and then go through Fisher Straits north of Coates. In the early summer I have generally found these straits clear of ice. Our whaling is done from Marble Island towards the Welcome, and the sooner we get in there the better. The ice from the Welcome goes down into the bay and there decays. I have known the Welcome to be closed with ice till the end of August; this with Fox Channel ice that came through Frozen Straits. This ice came in after the Welcome ice had gone out. I have never attempted to go from the Welcome into Fox Channel with a sailing ship. There is no use trying, as the current is too strong—a five or six knot current. The current flows both ways into Wager River, the ebb goes north and the flood comes south. I have never been further into Fox Channel than the south-west cape, Fisher's Cape, near the Three Sisters Islands. Repulse Bay is fed with whales from Fox Channel, and the same in York Bay. Whales go in by Hudson Strait; years ago a lot of whaling used to be done off Resolution Island in May. They go in in May. Whaling begins off the mouth of the Welcome in May and June, and if whalers could get in through the strait early enough they would not winter in the north. They winter north because they cannot get through the straits early enough to begin whaling in time. I have never caught bottom fish, cod or halibut in the strait or bay. I have seen tommy cods in the ice. Salmon and trout we get from the natives. Within my recollection six or eight whaling vessels have been lost up north, two in the strait going in, the "Isabella," one other, a new London vessel, the "Pioneer;" this last was a steamer. Both these vessels were crushed in the ice nip; both were lost just above Big Island on their way in, one in July, the other in August. The other vessels were lost—three at Marble Island parted their chains and went ashore, and the other two or three lost in the Welcome on reefs. The last one was lost a year ago last fall. She went on a reef above Wager River. The man who was captain on her is now frozen in on one of the Arctic whalers on the west coast. The whaling is done; we are sinking money every year. The whales are easily disturbed, and they leave the grounds; they are also being killed faster than they increase. We used to get some very large whales in the Welcome, but not now; this was thirty years ago. I have always made it a practice to leave the Welcome to come home from the 5th to the 10th of September, and it usually takes a week to ten days to work out of Hudson Strait. I would come through Fisher Straits and shape a course from Cape Pembroke to North Bluff, keeping about twenty miles off shore from North Bluff, coming down past the Button Islands. The last time I came out in company with one of the Hudson Bay ships. I have usually got out without any trouble, but one year I found the ice all from the north down to within

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five miles of Mansfield Island. This ice was coming south from Fox Channel. I managed to get through between the land and ice. I had left the 11th of September, and it was about the 16th of September when I got to Mansfield Island. I had come up Fisher Straits and met the ice close to Cape Pembroke. From Mansfield to the east of Nottingham was clear, and I had no more trouble. Some years before this Captain Jacobs of the Hudson's Bay Company's ship was blocked going out and could not get through; he had to winter in the bay. Captain Jacobs would be coming out later than I did. I have wintered in Repulse Bay, and at Marble Island, and at Depot Island, to the westward of Cape Fullerton. When wintering north we try to get into winter quarters about the end of September. We must do so early, as such a vapour or steam rises off the water that we can get no observation and can see nothing; we would get blown off, and owing to the uncertainty of the compass could not tell where we were. The ice begins to make hard about the 1st of November, and by the middle of November we are finally frozen up and in a safe harbour we will not break up again. Salt water ice will make in the one winter about five and one-half feet. We usually begin to cut out trenches about a couple of feet deep early in the spring, say 1st of April—this is where we intend to saw later on. This helps to make the ice porous, and gives us less thickness to saw. We scatter salt in the trenches. This cuts down with the help of the sun. Then we begin sawing out the last of May or the first of June. This will depend on the pack ice. We wait till this has gone. We are finally sawed out the last of June, and go to sea at once. I have been kept in Marble Island until the last of July. When I first went whaling ten or a dozen vessels would winter up there; this was thirty years ago. Now not over two the last ten years, and this only every other year. I have taken the ice off the mouth of the strait seventy-five to one hundred miles off shore. This is heavy, rugged ice—Davis Strait ice. Never find much current or nipping in this ice. Off Resolution Island on the spring tides in these tide rips I would not like to be caught. No wood or iron could ever stand when heavy ice comes together. Not then much danger of nipping until off Big Island, at what is the narrows of the strait. Beyond that I would not consider it dangerous, though you must always keep a good look out, as it is nowhere surveyed. The first smooth white pan ice you meet coming out of the strait is made in the bay and about Nottingham and the other islands, and the next ice you meet is that heavy, rugged, solid ice which comes down out of Fox Channel. It is deeper ice, more broken, and not in such large pans; it is deep away under water as far as you can see.

The navigable season in Hudson Strait will vary. I would say from three months to three and a half is about the time for which the strait could be safely navigated by steamers for commercial purposes.

The above statement having been read over to me, I approve of and have signed.

E. B. FISHER.

FALMOUTH, 22nd December, 1897.

STATEMENT OF CAPTAIN JOHN SPICER, OF GROTON.

23rd December, 1897.

I am aged 62, I first went whaling in 1849, this was on Behring Sea side. In 1856 and 1857 I was at Spitzbergen, and in March, 1859, I first went to Cumberland Gulf. I had been before that to East Greenland and Iceland. In 1863 I sailed in the schooner "Active" for the north. I sailed from here in June about the 20th, not positive as to the date. I thought I would go through the Straits of Belle Isle, in those straits I met ice, proceeded through this, on July the 4th, was to the east of Cape Charles in a hole of water some 25 miles across, without any ice in it, and no chance

for 20 days to enter the ice on any side; saw several vessels in the ice pack unable to stir; about the 20th of July we had a heavy gale, this slacked the ice so that I got to the land of Labrador about Venison Tickle, I was there a few days. I found several vessels had been crushed in the ice, fell in with an old pilot who I employed to pilot me among the islands. Kept on north among the islands as the ice would slack, and I could work along; when north of Nain picked up two native mail carriers who were bound to Okkak, having a heavy breeze and squally among the islands sprung my mainmast head and had to go into Okkak and lie five days to repair. Proceeded north again working along the land through and inside the ice pack. When abreast of Cape Chudleigh, on the morning of the 12th August, got free from the ice, whilst scanning the horizon with my glass, discovered two boat masts and boats and men upon the ice to the east, distant six miles. I knew there must have been some wreck, proceeded to rescue people, found them to be two boat crews from barque "George Henry" of this port which had been lost about the middle of July (17th). She had been crushed in ice on the middle Savage Islands; ascertained that three other boats crews had been separated from them in a gale. Consulted with them; I decided to see if I could find the other boats, this was at 7.30 a.m.; proceeded east under double reefed sail, keeping good lookout aloft; at 11 a.m. thought I must be to eastward of lost boats and while debating whether we had passed them I made out their signals on my quarter; tacked ship and proceeded to them through the scattered ice; in taking them on board we saved the people but smashed all the boats. Hove to for 16 hours in heavy south-east gale and decided to proceed to where they had left the wreck. They had left her fast to the land and had landed a good part of their provisions. I wanted the provisions for the 34 extra hands I had now on board; got there evening of the 15th of August, found that the vessel had been released from the shore and had disappeared, the provisions that they had landed had been sacked, found only a few sails. Decided then to proceed to Hudson Bay where we knew there were several American ships that would be bound home and could take the wrecked crew. On the morning of the 17th of August proceeded to sea to west, entered the ice before coming to Upper Savage Islands, about 50 miles off; ice being there heavy but slack, set solid to the south but more open water on the north side, having strong breeze, continued working through the ice to the west until about 30 miles west of North Bluff. In the morning saw a ship to the south-west of me trying to work through the ice to the west, set my colours and worked towards her, seeing open water about Charles Island. She answered with her colours, when I got within three miles of her she set all sail and left me, when I got in open water I made chase, when I overtook her I found her to be the "Prince Arthur" of Hudson's Bay Company. I asked her if she had been to the Lower Savages, or where the provisions were and if they had seen any wreck; they said "No." I asked them if they had seen any other vessel; they said they had seen the ship "Queen" to the north of them about Savage Islands. I told them I had a shipwrecked crew on board who were looking for their provisions. He told me if they were English seamen he would relieve me. I declined as they were Americans. I kept along the south edge of the pack till I passed Nottingham Island, when I saw no more ice. It was the 23rd of August when I reached Marble Island. At Marble Island I fell in with the other ships, disposed of part of the crew; saw the ship "William Thompson" of New Bedford who had got into the bay a few days previous, having been in the ice several weeks jammed in the straits on to the north shore, and had escaped with a little damage. The brig "Pavilion" was also jammed ashore and lost off Crow Head on the reefs, 70 miles west of North Bluff. Her crew, two boats of them, took the coast down and one was lost with all hands crossing from Resolution to Cape Chudleigh. The other two boats got on the Labrador and found about Cape Mugford another Hudson's Bay ship which was a chartered vessel set ashore by the ice. They got her off and went to St. John's, Nfld., in her. After disposing of the crew, I went on my voyage, working into Roe's Welcome. I secured a cargo of oil and bone, and on the 23rd of September started for home, against the advice of all the other masters, as the year before the bark "Black Eagle" had started for New Bedford the 19th of September, but when coming to Nottingham Island fell in with the pack from Fox Channel, and after a very boisterous time could not get through, and was forced to turn back and winter near the

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depot; but I proceeded with a south-west gale, when south of Southampton and near Mansfield. I hove to a day and a night in a snowstorm, ice freezing solid from the boats to the rail of the ship. On the morning of the 25th of September, came up with the pack to the west of Nottingham, knowing the gale had been to the south of west, thought there must be a lead on the south shore and followed the pack on its south edge to the south of Charles Island and having about seven miles of working ice along the south shore went to the east and when abreast of North Bluff seemed to get out of the pack; saw but a few bergs until outside of Cape Chudleigh, when I followed the land down and saw the last of the pack off Cape Mugford. I only got the ice off my vessel on the 7th of October, when down off Hopedale.

It is an object with whalers to get to the whaling grounds in the Welcome as early as they can. To be there early they have to winter there. They have found by years of experience that they cannot get in early enough from the Atlantic.

I wintered at Spicer's Harbour with the "Nile" and schooner "Era" the winter of 1877 and 1878. We left New London in July, 1877, reached the strait about the 3rd of August; saw some scattered pack ice along Ungava Bay and Green Island. I was exploring that trip. I went up to Spicer's Harbour and on to King's Cape, where I found some natives; took them on board to show me Akolear, a place where the natives said there were always whales. I went back to Akolear, which is now called Spicer's Harbour. I cruised about there for a month, not having met my consort; and as the Esquimaux wanted to get back, and told me there were whales up about King's Cape at that time of the year—in the fall; so back I went to King's Cape, met my consort after looking over the country a few days; started back in October. I went to winter quarters at Spicer's Harbour. We froze in about the 20th of October. The 10th of November the Fox Channel pack was down across the front and as far out as you could see, and continued all winter setting to the south and east, at times with north-east; had open water along the shore. In May and first part of June, when I was looking for whales, the pack was closed in the whole time. The 22nd of June, the pack being slack and some open water and having seen no whales, decided to try and get into the bay. We got under way, both ships, and started; having free wind and working ice, we attempted to go through Fisher Strait. I did not fetch in, the other vessel did; so went around Southampton Island, continuing in the ice until the 2nd of July, when I got out of the pack up by Cape Kendall on Southampton Island, where I got four whales. I went up the Welcome and to the head of Wager River and back to the west shore of the Welcome. Finding no whales, decided to try Frozen Straits to go into Fox Channel; was in ice for a week to get passage into Fox Channel, but could not do it on account of ice pack. I returned back to Spicer's Harbour, took a look at the place, and went around to Cumberland Sound; saw my stations there, and then came down to New Gummiute; captured a big whale and left for home the 3rd of November, and saw no ice coming home.

In 1879, 24th June, sailed again to Hudson Strait in the "Era" (she is wintering in the Welcome this year); called at St. John's, Nfld., 5th July; called at New Gummiute 16th July, where I engaged two boat crews of natives; on the 19th of July left for Spicer's Harbour; saw some ice off Resolution Island. On the 20th of July passed south of Resolution; saw loose ice to the south and scattering ice all along the south side of the strait, and a few bergs, until the 23rd of July, when I came to anchor at Spicer's Harbour. Left Spicer's Harbour 31st of July for Fox Channel; on 4th August fell in with ice west of King's Cape, and worked to the north through the ice. The Fox Channel ice is heavier, rafted more, and has more sand on it than the bay ice. Some of it is from 10 to 15 feet out of water; is in moderate sized pans, though early in season is larger. On the 7th of August was beset; what I took to be water ahead turned out to be reefs and lowland, now called Spicer's Island, hardly seen from decks at high water. On the ebb the ice was setting east north-east, and to south-west on the flood, at about three miles per hour, and continually drawing us nearer the reefs. This made me believe there was a channel through from Davis Straits by way of Home Bay. I drifted in the ice back and forth. On the 14th of August, having got 12 miles south of Spicer's Island, found the current setting east south-east. Ice very heavy on the 18th of August; at 7 p.m. got into clear water about 35 miles south of Spicer's Island, and proceeded down to King's Cape, with the Fox Channel pack to the west of me.

I do not think that much ice comes in to Fox Channel through Fury and Hecla Straits. Nothing is known of the north-east part of Fox Channel. There are three lakes south of Lake Kennedy, and these empty at a place about seventy miles north of Spicer's Harbour. The salmon there are as big as young seals. The natives go from the straits up into these lakes in their kyacks. I went up with my dog teams in winter, and saw the water holes in the ice. Lake Kennedy besides discharging into Fox Channel has also an outlet into the head of Frobisher Bay.

On the 23rd of August saw the land at Cape Fisher, on Southampton, distant about thirty miles; ice all around to the west or north. The 25th of August worked down south-west of Mill Island, could not get any further; gave up trying to get into Hudson Bay and Fox Channel for this season. Kept away for Spicer's Harbour; called there for two days, followed back inside of Big Island and followed along; saw a few pieces of scattered ice between there and Resolution Island. I had left Spicer's Harbour the 3rd of September and passed Resolution on the north by the narrow channel into Frobisher Bay on the 13th of September; saw ice in Frobisher Sound, a pack often holds in there, this is Davis Straits ice; anchored in New Gummiute Bay 15th September. Kept on whaling there until the 4th of November. I was stowing down my last oil on that date when the Davis Straits ice closed down on that shore and shut me in for the winter, and it never let me out until the 18th day of next August, 1880. When I got outside the pack found the "Delia Hodgkiss" schooner which had been trying to get in to the land but had given up, and I proceeded to Spicer's Harbour for my two boats crews that I had left whaling there, passing south of Resolution on the 19th August, seeing loose heavy ice in big sheets all the way to North Bluff but had no difficulty working through it. On the 20th of August Cape Best bore north true, plenty heavy ice and bergs, but scattered. Arrived on the evening of the 24th at Spicer's Harbour, found some one had been there and stole my bone, my crew were inshore hunting. I had been reported lost as they had not heard from me since the last fall. Left again the 31st of August, came out of strait on the 7th of September; wind north-west on the 8th September; came up to the pack, (had not much ice coming out through the strait) off New Gummiute, got in and remained whaling there until the 31st of October when I left for home, I saw no ice coming back.

If I were going up for Hudson Strait to-day I should keep well off shore till I got abreast of the strait in the latitude of Resolution Island, when I would head in, I would expect to meet the ice about sixty miles off. I would meet Davis Straits ice, heavy pack ice with bergs through it. This Davis Straits ice may be driven up to Big Island. I have never seen bergs beyond this, if it did come that far it would meet the other ice coming out, only continuous strong east wind would drive it up there. I have made three other trips through besides these mentioned. In 1885 I did not go myself but sent Captain Clisby to relieve my station in the "Era." He left here about the end of June, he was nearly a month off the mouth of the strait, and was another month getting up to Spicer's Harbour, being in ice all the time, he got shoved ashore but got off, he only got to Spicer's Harbour the end of August. He found the "Isabella's" crew there. She had been crushed in the ice about twenty-five miles off shore, off the harbour. The crew had managed to land there over the ice on foot having lost their boats; the delay of taking this crew caused him to be so late that he was caught at New Gummiute in October, and could not get out on account of the Davis Straits ice coming down, he had to winter there with both crews. He got out the 7th of August next year and came to St. John's being short of food. If I were going to the north I would go in June and feel pretty sure that with a steamer I would find a passage along the board ice on the spring tides, before the shore ice had come out. I would do this with a steam whaler not with an ordinary freight steamer of iron. I would keep the north shore up to Big Island, then if there had not been strong northerly winds I would seek across to Charles Island.

As to the navigation of Hudson Strait for commercial purposes it is a very uncertain proposition, there are years when with care you could safely navigate in July, August and September, there are other years when ice will be met with every month. You will have snowstorms earlier in Hudson Strait in September than you do further north; my reason for this is the wind sweeping over the land of Meta Incognita with

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that big glacier. I consider October a very unsafe month as you are in addition almost sure to have the Fox Channel ice down.

The strait never freezes over solid in winter, the ice is always moving—the same among the islands; natives have wintered on Nottingham and the ice sets off and on shore there in winter as it does off North Bluff.

When 90 miles east of Resolution Island in the pack, I was hunting ducks, having shot several and wounded others. I saw a bladder nosed seal come up with something in its mouth and shake it, I thought it was a wounded duck, I tried to get it, I fired at the seal and pulled in and hooked on to his prey which was a halibut weighing about thirty-eight pounds with two big bites out of it. In the Strait and Bay of Hudson and in the Welcome never got any bottom fish, but in Frobisher Bay on the south side there are some cod, salmon and trout are found in all the streams; the salmon are not the same as the Atlantic salmon—they are a trout; they are the same as I have found in the Okhotsk sea in Russia.

The Esquimaux are a shrewd fine people; they have all the ability of the white, but not the energy. I find them a very trustful people, also very honest. I have had them come 300 miles just to call on me, and when I was in need of help they would stick by me and were very generous.

I do not think that the Welcome ice ever goes out, it breaks up the reefs; the water in the Welcome is shoal, and there are many shoal spots. In Fox Channel I saw no reefs, other than the ones I named, but north of King's Cape the shoal water extends a long ways off; bergs are never seen in the Welcome or Fox Channel. Ice will freeze on an average about four feet in a winter, I have seen it five feet in a still place. When inside ice is found thicker than this, it is from rafting.

There would be no safety for a loaded merchant ship when the ice nipped, a light vessel would perhaps lift; I have made twenty-three voyages to the Northern seas, and have wintered eleven winters in the Arctic.

In Hudson Strait the ice on the south shore is always working out unless held by the wind.

I got becalmed once off Cape Best and I found the current set me right on shore. Resolution Island is not all one island, it is full of fiords and the tides set through it.

Get past Resolution Island in clear water if you can, as you are never sure of your vessel if you get caught in the ice near Resolution Island.

The above statement having been read over to me, I approve of and have signed.

JOHN O. SPICER.

CONCLUSIONS AS TO THE NAVIGATION OF HUDSON STRAIT.

In the preceding pages I have given with considerable detail an account of the conditions met with in Hudson Strait during the voyage of the "Diana," together with the experiences and remarks of some of the early explorers, and the statements obtained from a few of the most experienced whaling captains who have made numerous voyages in the bay, and have wintered both on the shore of the strait, and in the northern part of the bay. It, therefore, only remains for me to sum up, as briefly as possible, the conclusions I have come to, both as the result of my own experiences and those of the others I have referred to, regarding the period during which Hudson Strait may be held to be safely navigable by suitable steam vessels for commercial purposes.

In connection with the journal of the expedition I have thought it wise to present photographs of some of the conditions met with. It will be understood that it is always difficult to secure good views of ice even under favourable conditions of light and weather; during most of the time when we were closely beset in the ice the weather was either rainy or foggy, so that it was not always possible to get pictures of our surround-

ings. Such views, however, as we did secure show more clearly than words of mine could express the state and extent of the ice through which the "Diana" was forced on her passage into Hudson Bay.

It had been my intention to be off the mouth of the strait early in June. The "Diana" having been delayed at the seal fishery only reached Halifax at about the date on which I had intended leaving there for the north. We were also delayed on our passage up the Labrador coast owing to the extent of the ice through which we had to work our way into the open water of the Atlantic, so that it was only on the 22nd of June that I found myself on the 61st parallel and able to head in for the strait. Though I was disappointed in not being off the mouth of the strait at an earlier date, yet I do not consider that we lost much by the delay. We had been coasting along the outer edge of the ice which was steadily streaming to the southward, for several days without seeing any chance of finding a passage to the land. Two days before we entered the strait we had tried to get into the Moravian settlement at Okkak, but had found the ice so closely packed and heavy that it was useless to put the ship into it. At Cape Mugford we had got to within about twenty miles of the land, but from there north though we kept closely along the margin of the ice we had been gradually headed off shore so that when we turned in on the morning of the 22nd we were some eighty miles off the land to the eastward of Resolution Island. We headed in through the first fair looking lead we came to, we had not found any such an opening during all the time we had been skirting the ice on our way north. The ice was passing to the southward at the rate of about fifteen miles a day, so that even had we been off the strait say a week earlier, I do not consider that we would have got through any sooner than we did; in fact it is quite possible that had we been north earlier and attempted to force a way in, as we no doubt should have, we might have got fast in the ice and been carried to the southward in the pack. It was the opinion of several of our officers that our best chance of any early passage into the strait lay in getting in under the land between Nachvak and Cape Chudleigh and working round between the cape and the pack, passing in through Grey's Strait. We therefore kept a sharp look out for an opening which might have induced us to put the ship in for the land, rather than be headed off shore. I consider it fortunate that no such chance presented itself, we kept outside the pack until we were fairly abreast of the centre of the strait, and then headed the ship in through the first lead we met. We found the ice much gone abroad, loose and scattered; we did not know it at the time, but we were really passing through the last of the Baffin's Bay ice. Continuous northerly winds had been hurrying this ice to the southward since early in the fall of 1896. The experience of the fishermen who visit the neighbourhood of Cape Chudleigh for the purpose of cod fishery, is that under ordinary conditions the last of the Baffin's Bay ice does not pass to the southward before the middle of August. Captain Spicer was held shut up in his winter harbour inside the North Foreland until the 18th August, 1880, by the Baffin's Bay ice which had closed in on him on the 4th of November, 1879 (see statement of Captain Spicer, page 57, *ante*.)

Capt. Buddington, in the "George Henry," was held shut up in Rescue Harbour in the mouth of Frobisher Bay from the 17th of October, 1861, when he was shut in by the Baffin's Bay ice, until the 9th of August, 1862.

Capt. Clisby, in the "Era," got shut in by the coming down of the Baffin's Bay ice in the harbour of New Gummiute, near the North Foreland, in October, 1885, and only got released on the 7th of August next year. So that I consider we lost no time owing to the delay, but were rather unusually fortunate in striking the entrance to the strait just when we did and under the conditions above described. I do not consider the risk of entering the ice to be met with off Hudson Strait during the end of June and in July is very great. Our experience of this ice, while working through it from the 7th to the 19th June, was that though it closed together so that we were held fast in it, yet there was no rafting or nipping, consequently the ship was in no danger. I allude, of course, to a suitably constructed ship. I do not believe that the ordinary tramp ship of commerce should ever be risked in heavy ice. The ice we met with outside the strait and along the Labrador differs from that met with inside the strait

Outside we find first icebergs of all shapes and sizes; these come from the Greenland glaciers. Second, growlers; these are generally less or more heavy rounded knobs of

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ice formed by the breaking up of bergs, or from exceedingly heavy old floe ice such as that described by Captain Nares as existing in the extreme north. These growlers have evidently travelled a long way. They have a worn and rounded appearance. In the pack they are not dangerous, but adrift by themselves they are more dangerous than either bergs or field ice; they float low in the water, and even in moderately clear weather, especially at night, would easily escape notice. There is no doubt that the "Knight Bachelor," a view of whose bow we give, struck one of these growlers; it was not seen by the look-out, and judging from the impression left in the ship's bow, was not floating any great height out of the water.

● Thirdly, field ice; this description of ice as met with between Newfoundland and Baffin's Land during the end of June and in July is not usually found in large pans; these have been broken up by the action of the sea. The experience of that part of the crew of the "Polaris" who made the memorable drift on the ice, after leaving the ship, shows that they were constantly in danger from the breaking up of the pans, as they drifted to the south; this ice, as we found it, varied in thickness, was not rafted to any considerable extent, and did not seem to have been subjected to much pressure, so that on the whole I do not consider that any great risk would be run by a suitable vessel in entering it during fine weather after the middle of June. Earlier in the season, off the mouth of the strait, this ice will be heavier, the pans of more considerable extent, the risk would be then much greater, especially as one neared the immediate mouth of the strait, where the tides and currents are unusually strong; given large and heavy pans in motion surging about with the current or the wind, there would always be danger, and no deep ship would be safe. All former voyagers have dreaded being caught in the ice between Resolution Island and the Buttons, and for some distance inside, several sailing ships and at least one steamer have been lost by being nipped between the Buttons and the Middle Savage Islands and it was in about this locality that Capt. Gordon was fast in the pack with the "Alert" between the 15th June and the 6th July in 1885. It is quite likely that had the "Alert" not lost her iron stem plate she might have been forced out of the pack, and have made an early passage further up the strait. Capt. Gordon has been blamed for not continuing his voyage on this occasion, instead of returning to St. John's to repair, but no one but a fool would think of driving a ship into heavy ice without some iron covering to the stem. While we were in St. John's in September we saw in dock there one of the sealing steamers undergoing repairs for damages caused by the loss of her iron stem plate. This vessel carried away her plate in the ice off St. John's in April; in trying to extricate the ship from the ice the oak stem had been worn completely through, even the ends of the planking which butt on the stem had been eaten into; a sort of jury stem had been rigged by securing the spare rudder up and down the bow. The ship was in the company of other sealing steamers, and only a short distance from port, so that the crew could afford to run great risks in the attempt to save her; in spite of all this it was only with the greatest exertion that she was saved. In the case of the "Alert," deeply laden so that she could not be trimmed by the stern, far from port, and alone, with no possible chance of assistance, it would have been madness to have attempted to force a passage through the heavy ice of Hudson Strait, and continued the voyage in her crippled condition.

There can be no doubt that even with a suitable steamer great care should be taken not to get fast in the ice in the mouth of the strait or for some distance inside, as where heavy ice is rafting and piling up in pressure ridges no ship no matter how strongly constructed, that will not rise when nipped, would be safe for a moment.

We were extremely fortunate in the "Diana," on the 22nd of June, to enter the strait as easily as we did, there was a heavy pack of ice to the north of us extending westward from Resolution Island, but we steamed along the southern edge of it in open water, it was wheeling down across the mouth of the strait as we passed, and I have no doubt that had we been making the same passage a day or two later we might have had some delay in getting through, this pack seemed to be heavy and close. We steamed during the night of the 22nd of June and the morning of the 23rd some 120 miles into the strait, up to the Middle Savage Island, in comparatively open water, over the very track where most voyagers have found heavy close packed ice at about the same season, and even later. It was here that Captain Guy in the "Arctic" was carried

helplessly along in the pack in May and June, 1886. He had been caught in the pack outside of Monumental Island on the 25th May, swept round south of Resolution Island, and only released near the Lower Savages on the 2nd June. The "Arctic" was a large powerful ship, her power in proportion to her tonnage was greater than that of most freighters, and when such a ship, built specially for ice navigation, strengthened and braced so that she could be driven full speed at or through heavy ice, could be helplessly jammed, it is absurd to think of forcing a ship of wood or steel, built to carry freight at a profit.

All the ice we saw in the strait up to noon on the 23rd of June was Baffin's Bay ice. This was driven into the strait by easterly winds and swept along the north shore by the current which sets pretty steadily up along the north shore as far as Big Island. This ice is easily distinguished from that which is made in Fox Channel, or in Hudson Bay or Strait. This latter I call inside ice, it is lighter and thinner when not rafted, in larger pans; does not show the evidence of rough usage and wear that the outside or Baffin's Bay ice does; it contains no bergs or growlers; pressure ridges are found running all through it; it is more soiled in appearance, especially that which comes out of Fox Channel showing that much of it has been capsized, piled up or rafted on shore or in shoal water bringing up sand, gravel and small stones from the bottom, while no doubt a good deal of the debris found on it is blown from the hill tops, high beaches or bluffs. We found that much of what appeared to be sand or earth at a distance on a close examination turned out to be a delicate brown algæ growing in small cups of water on the surface of the ice; at a little distance it gave the ice a rusty appearance, specimens of this algæ were secured and preserved; they are now being examined by the scientific officers of the department.

Baffin's Bay ice is no doubt sometimes, by continuous east wind, carried as far west as Big Island. Bergs may even be taken up to Charles Island and any bergs found in the strait must have come in from Baffin's Bay as there are no glaciers in Fox Channel, Roe's Welcome or Hudson Bay.

The barrier of ice which we met on the afternoon of the 23rd of June, and which I have fully described in the early part of this report was composed entirely of inside ice. The long prevailing easterly winds had simply dammed the ice pack, and the strait had filled up with the ice which was being poured in from the westward. I believe now that I did wrong in forcing the ship into this barrier; it is easy to be wise after the event. We were all anxious to get on and make if possible a record passage. We felt that we had a stout able ship, but we had no idea of the weight and extent of the pans, or of the manner in which they surged about. I am fully convinced that had I stuck to my original intention and kept outside of the pack until we had a change of wind, and the ice began to go abroad, we would have got through and into the bay a few days earlier than we did, and the ship would not have been as roughly used as she was. I think we would have found slack ice along the Labrador shore between the body of the pack and the mainland. The authorities generally have advised sticking to the north shore on the inward passage on account of the favourable current; this may be all very well with sailing vessels, but the case is quite different with a steamer; this favourable western current really packs the ice on the Big Island shore; the currents and eddies are much stronger on that shore and the ice surges about more. Were I going in again and found similar ice conditions I should hug the south shore. The current would be against me, but with a steamer this is really not a disadvantage, as it loosens the ice and keeps it in strings with open water or loose patches between.

From the 23rd of June to the 8th of July, when the ice began to go abroad slightly, the strait was blocked from a line running from about Icy Cove over to Cape Hope's Advance on the eastward right up to Salisbury Island to the westward, a distance of nearly 250 miles. This jam consisted of heavy ice, mostly in rafted pans running from three to thirty feet in thickness. What I should call the bay ice was generally thin and not so much rafted as that which came from Fox Channel. Through this jam no ship could have penetrated any faster than the "Diana" did. A large and more powerful vessel, such as the "Arctic" or the "Terra Nova," might have made more headway in light, close, brashy ice, but among the large pans, of which the jam was

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mostly made up, the "Diana," owing to her handiness and ability to turn quickly, possessed an advantage which was worth more than weight. Into such a jam it would not be safe to put a deeply laden vessel or to allow her to be caught. I do not allude here to what is known as the ordinary tramp ship, but to such a vessel as was described by Captain Gordon as being most suitable for the trade to Hudson Bay—"a ship of about 2,000 tons gross, fortified for meeting the ice, and of such a construction as to enable her to be a fair freight carrier, well strengthened forward, to have wooden sheathing, a full counter, small propeller well down in the water." Even such a vessel I say would not survive a nip in such ice as the "Diana" was in from the 24th of June to the 10th of July. On the return voyage, between the 14th and 21st of July, we found a great change in the conditions in the strait. Any one having any experience of ice must have remarked that when it begins to loosen out and drift backwards and forwards with the tide, particularly if exposed to a warm sun or rain, it is wonderful how quickly it disappears. This is just what happened with the ice in the strait. With the change of wind it opened out. The weather, which had been raw and cold with frost at night, became warm and bright, and in less than a week the bulk of this enormous mass of ice had simply dissolved away. I consider that the climatic conditions are such that in the strait there is but little thawing of the ice in June. In Churchill Harbour the ice only breaks up about the middle of June. This is considerably south of the strait, within the wooded belt, and the breaking up of the harbour ice is due, not to an actual thawing out, but to the flood of warmer water coming down from the interior. At Nachvak, on the Labrador, over 200 miles south of Big Island, the bay ice only breaks up towards the end of June. When we made Ashe Inlet, on the 19th of July, we found the harbour ice only just broken up and coming out. I am of the opinion that after the 15th of July very little, if any, of the inside ice ever reaches the Atlantic. Some of it may be carried into Ungava Bay round Hope's Advance, but most of it will have disappeared soon after passing the neighbourhood of Stupart's Bay. In the north-western part of the strait heavy ice will be met with all through the season. This is the ice from Fox Channel. Under ordinary conditions it streams steadily down between Salisbury Island and the Baffin Land shore in the direction of the eastern end of Charles Island. Long continued and strong north-east to easterly winds must drive it down past Nottingham and even over to Wolstenholme, so that it will always have to be reckoned with. I believe that the endless stream of this ice which comes down along the western shore of Fox Channel is due to the fact we have here discharging, not only the ice from the channel itself, but also a share of that from the Gulf of Boothia and further north. McClintock, in his voyage of the "Fox," referring to the tides in Bellot's Straits and the Gulf of Boothia, says:—"As in Greenland, the night tides are much higher than the day tides. The flood tide comes from the west. Such is also the case in Fury and Hecla Straits. In both places (Bellot's Strait, Fury and Hecla Straits) the tide from the west is much the strongest." This being the case, I should expect that a good deal of the ice from the Gulf of Boothia is carried through Fury and Hecla Straits into Fox Channel and on down into Hudson Strait. The ice discharged from Fox Channel into Hudson Strait is much heavier and older than any other ice found there, and can be readily distinguished whenever met with. The whalers I interviewed at New Bedford and New London claimed that a tide set into Fox Channel from the north-east, and they believed that channels existed between Home Bay and Pond's Inlet and the north-east part of Fox Channel. Old charts show such channels. On talking the matter over with Dr. Dawson, Director of the Geological Survey, he was kind enough to offer to write to Dr. Boas, who had wintered in Baffin's Land and made considerable explorations there. Dr. Boas replied to Dr. Dawson as follows:—

"I have your favour of the 3rd inst. I think that the idea of the New Bedford whaler is erroneous. You will see on my map of the coast of Davis Straits that I travelled along Home Bay, and there is certainly no water communication to the west. You will, of course, understand that I did not follow the shores right along, but I think it very unlikely that any deep inlet should have escaped my attention. I also consider the descriptions by the Esquimaux entirely trustworthy. I have not seen the shores of Pond's Inlet, but if you will consult the Esquimaux maps published by Nourse in his

description of Hall's Second Expedition you will see there is no water connection in that direction. This agrees with the information I obtained from the natives of Pond's Inlet, whom I met on Davis Strait. I should not wonder if the tides in Fox Channel are quite different on the east and west sides. We must remember that Fox Channel is probably a basin with a very narrow entrance to the south, deep on the west and very shallow on the east side, so that we may expect very irregular currents."

Under these circumstances and as Pond's Inlet and Home Bay seem to have been pretty well examined by whalers and others, and no channels are reported running out of them in a south-westerly or westerly direction, I think it may be taken for granted that no such channel exists. The tide which Captain Spicer found setting from the north-east was undoubtedly that sweeping in from the westward through Fury and Hecla Straits. With strong easterly wind a good deal of the Fox Channel ice is driven in between Belle Island and Southampton Island, and even down towards Mansfield and Coates. Whalers coming out from the Welcome in September have frequently been forced to go round south of Coates as they have found Fisher's and Evan's Straits blocked, this was the case last fall. Captain McKenzie in the "Platina" leaving the mouth of the Welcome homeward bound on the 19th of September, found Fisher's Strait blocked and was forced to go south of Coates Island.

The ice in Hudson Bay will never give much trouble to steamers; at present sailing vessels dread it greatly, not from any danger of nipping, but because they are liable to be becalmed in it. The ice from Roe's Welcome is occasionally set by north-east winds and the current down along the western shore of the bay as far as Cape Tatnam it has filled up Churchill Harbour and Bay in August, so that vessels could not enter. In 1896 the Hudson's Bay Co.'s SS. "Eric" was delayed eight days in this ice between Mansfield Island and Churchill. From the western shore at Cape Tatnam the ice is set across the bay towards the islands on the East Main coast and thence carried north by the current between Mansfield Island and the mainland of Labrador. I should say that none of the Welcome ice ever reaches the strait.

Winter in Hudson Strait sets in early in September. We had our first regular snowstorm off Cape Digges on the 7th September; from that date on snow continued to fall regularly. We ran up the Ungava River on the 17th of September in a thick snowstorm. The snow along the skirt of woods behind Fort Chimo was then a couple of feet deep. We came out of Ungava Bay and round Cape Chudleigh on the 20th September, with the snow falling steadily. The hills and rocks were everywhere thickly covered with snow as far down the Labrador as Cape Mugford. We re-entered Hudson Strait on the 15th of October in a snow storm; we had had more or less snow all the way up the Labrador from Belle Isle. From the day we re-entered the strait until the day we left, the 30th of October, it snowed more or less every day, and when not actually snowing there hung over the water a dark mist; looking at it from the shore or from shelter, it appeared to be quite black; when we got into it it turned out to be minute particles of snow or ice; the sailors called it frozen fog, and I can imagine no better description. It was just as thick as fog, and we could not see any further through it. Capt. Fisher (see p. 55) speaks of it as "vapour or steam rising off the water," owing to which he could see nothing. It is the certainty of this condition which drives the whalers into winter quarters as early as the end of September. Capt. Coates (see p. 50) alludes to it as "dark condensed fog." Whatever you may call it, it will always make the navigation of Hudson Strait extremely risky after the middle of October.

The ordinary spirit and pole compasses of the "Diana" were utterly worthless from the moment we entered the strait, but the standard compass, one of Sir William Thompson's which I had taken from my own ship and fitted to the "Diana," gave us the greatest possible satisfaction. Once properly compensated it never varied, and we learned to trust it most implicitly.

The only safety during snowstorms or while navigating in the frozen fog, was to go slow or stop entirely, and keep the lead constantly going. In the strait the lead is of very little value, as the water is bold to; off Capes Digges and Wolstenholme we got no bottom at 120 fathoms within a couple of hundreds of yards of the rocks. The currents are strong and uncertain, and in spite of every precaution we were frequently out

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in our dead reckoning. These conditions, together with the further fact of the short days, the difficulty in distinguishing the land, or judging accurately the distance when you do get a glimpse of it when all is covered with snow, and the constant gales of wind shifting suddenly from one quarter to the other, make the navigation of the strait during the month of October extremely difficult and hazardous.

There can be no question that we were favoured with an unusually open season, and once the strait became clear, after the middle of July, we encountered much less ice than others have constantly met with.

The records of our meteorological observations having been submitted to Mr. Stupart, Director of the Meteorological Service, for comparison with those made in 1884-85 and 1886, he writes me as follows:—

“I inclose herewith a weekly abstract of meteorological observations taken on board Dominion SS. “Diana” between 5th June and 6th November; also a short report based on these observations. Comparing the weather in the strait during this past summer with the weather experienced in 1884-85-86, it is very obvious to me that you had this year a most favourable and open season, and that the winter weather set in later than usual. The most doubtful thing is the force of the winds. According to the records you had very few gales indeed. In September, 1885, and also in 1886 heavy gales followed each other in quick succession.”

I have pleasure in submitting Mr. Stupart's report, along with the weekly abstract of the meteorological conditions which he has had prepared.

I now conclude this part of the report by saying that I absolutely agree with Captain Gordon in fixing the date for the opening of navigation in Hudson Strait, for commercial purposes, by suitable vessels, at from 1st to the 10th July. I do not consider that the strait can be successfully navigated in June. Such ships as the “Diana” might force a passage through, but these vessels would be useless for commercial purposes. They have to be so braced and strengthened that they are impossible freight carriers.

I consider that navigation should close from the 15th to the 20th of October. I would not dread the ice in October, though there is always a chance of the western end of the strait being blocked by the Fox Channel ice between Nottingham and Digges, or even about Charles Island. I believe, however, that as westerly winds prevail at this season the block would not be permanent and a passage will generally be found along the Labrador shore which is bold and good. In Captain Hawes' journal at Churchill, which is certainly the most available harbour on the western shore of the bay, I found that on the 1st of October, 1895, his men were off hunting on snowshoes, and there had been good snowshoeing for ten days. The ice was also at that date running up and down the harbour. Of course the harbour does not usually freeze over before the end of October, but for some time before it closes it would not be safe for vessels owing to the rush of the ice in the strong current. Captain Hawes, an old sailor and an exceedingly observant and intelligent man who had navigated the strait since 1864 and of recent years has been settled at Churchill as agent in charge, fixes the date for the closing of Churchill Harbour for shipping at the 15th of October. I have already described the climatic conditions met with in October. We were favoured with a mild and comparatively calm month, yet the risks of navigation were so great that I have no hesitation whatever in saying that after the last date which I have given above it would be folly to think of carrying on any commercial traffic through the strait. I would therefore fix the 20th of October as the extreme limit of safe navigation in the fall.

There is another and serious obstacle to the later navigation of the strait which I have not seen mentioned elsewhere—that is, the blocking of the eastern entrance of the strait by the descent of the Baffin's Bay ice. In October, 1885, the whaler “Era,” Captain Clisby, was shut in for the winter near the mouth of Frobisher Bay by the wheeling in of the Davis Strait ice. On the 4th of November, 1879, Captain Spicer was shut up in New Gummiute, just inside the North Foreland, by the closing in of the pack from Davis Strait.

On the 17th of October, 1861, Captain Buddington in the “George Henry” was shut up for the winter in Rescue Harbour by the closing in of the Davis Strait ice.

Captain Hall in his Arctic Researches thus describes the closing in of the ice on this occasion. The "George Henry" had already passed one winter in the north, they were getting short of supplies, and were ready to sail in a few days for New Bedford.

"The summit was finally reached and a moment's look round was sufficient to repay me for all the efforts I had made to gain that point. Field Bay, Davis Strait, Frobisher Bay and Kingaita were within sight. I was surprised at the height we had evidently gained. Lady Franklin Island out in Davis Strait, Monumental Bay, and the islands off the extreme land between Frobisher Bay and Field Bay which I visited last winter loomed up as I had never seen them before at so great a distance from them, showing that the high land on which I stood was high indeed."

"I took the spy glass and proceeded to make a prolonged observation. I first directed the glass towards the vessel which was at a distance of seven miles, I then directed it to Davis Strait. This I saw was filled with a heavy pack. I swept with the instrument along down said strait to the extremity of Hall's Island; no black water; naught but *pack, pack* met my view. I asked my native attendant Shevikoo to look at the sea ice; when he had viewed it carefully I asked him: 'Do you see much ice?' He replied, 'Noud-loo, Noud-loo, yes, yes.' I took another prolonged look before I left. Monumental Island was white and its sides presented no black rock peering out, and the same was true of Lady Franklin Island. The pack appeared very rough; much pinnacled ice was among it."

"When I got on board, Captain Buddington came to me asking if I had seen any heavy ice pack in Davis Strait. I told him I had and proceeded to give him as truthful an account of it as I could. I was astounded at the effect it produced upon him. Then it was I first began to realize, to feel the overwhelming importance, the momentous character of that pack. On getting through my description, telling him that I not only took repeated careful looks through his glass, but had required Shevikoo to do the same, Captain Buddington with fevered brow responded: *Our fate is sealed. Another winter here. We are all imprisoned.* He said further that to take the pack at this season of the year would be the very height of foolhardiness. In the spring the whalers do not hesitate to do it, for then constant daylight and warm thawing weather is expected. But now everything is freezing up; long dark nights are upon us, and the "George Henry" (she was afterwards nipped and lost in Hudson Strait) is not such a vessel as one should think of venturing with into dangerous places. Captain Buddington is thankful that I made the trip I have to-day. He says what would have been our condition had you not seen and reported this. As soon as possible (three days) I should have been on our way. I should have weighed anchor and raised sail at the first fair wind, but in what kind of situation should we soon have found ourselves? *In the pack without the power to retreat.* On the 20th of October the ship was frozen in, the ice in the harbour being strong enough to walk on. On the 25th of October Captain Buddington sent three natives on the mountains to see the position of the pack. They returned and their report removed the hope of those who were still looking to get out of our imprisonment this season. The natives state that seaward it is all ice. The lower and entrance part of the bay is filled with pack, 'all white, no black.' The effect produced by this upon some of the men was very painful."

Capt. Charles Smith, of Dundee, who has called at Cumberland Sound returning from a whaling voyage further north for five seasons, reports that he left Cumberland Sound in the "Esquimaux" on the 15th October last, homeward bound for Dundee; when outside the headlands he met the heavy ice coming out of Davis Strait and had to steam 150 miles south to get round it. He sighted Lady Franklin Island on his course. That is to say, Capt. Smith had to come south between the Davis Strait pack and the mouth of Hudson Strait 150 miles before he could shape his course across the Atlantic for the north of Scotland. Westerly winds had prevailed and the pack was blown off shore. This pack must have been well down on the Labrador when we came out of the strait on the 30th of October, but the wind held it off shore.

Now this same pack so graphically described by Hall is carried right across the mouth of Hudson Strait, which is only separated from Frobisher Bay by Resolution Island, and on down along the Labrador shore to the north-east coast of Newfoundland. It moves on and off shore with the wind. As described by Hall, it is heavy pinnacled ice, into which it would not be safe to put a loaded ship during the end of October.

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The steamer "Virginia Lake," returning from Sandwich Bay during the first week of December, 1897, reported the Arctic pack visible off shore just north of Belle Isle; by the end of the month it was down on the Newfoundland shore blocking all the north-eastern ports.

In the St. John's Evening *Herald*, 21st December, 1897, it is stated that the SS. "Nimrod," Capt. Newberry, had just arrived from the Strait of Belle Isle. Ice was met with from Greenland out round Cape Norman (in the Strait of Belle Isle), and it covered the ocean as far as the eye could see beyond Belle Isle—real heavy ice of a dangerous nature.

On January the 26th, 1898, the St. John's, Nfld., papers report, "the ice blockade at that post has raised to-day, freeing the 'Grand Lake' and 'Portia,' which were outward bound, also permitting the Allan's 'Numidian' to enter the harbour. No sailing vessels, however, ventured out. Reports from the northern portions of the island show that the whole shore is blocked."

In the St. John's Evening *Herald* of February 5th is the statement, "Another disabled steamer was signalled from Cape Spear and at noon entered in tow of the 'Ingraham.' She is the SS. 'Addington,' Capt. Harland, nine days from Baltimore for Bergen, Norway, with a cargo of rye. Yesterday at noon Cape Race was passed and the first ice met, but the captain, thinking it was only a narrow string, steamed away north hoping to get through without damage. Gradually it became heavier, and when about 30 miles south of Cape Spear a heavier pan than usual was struck. The impact was terrific although going at reduced speed, and ere anything could be done the iron plates were smashed in. The starboard bow plates, even with and just below the water line, were crushed, while the port bow had several loosened and the rivets smashed off. She at once bore up for this port, as it was feared another storm would do greater damage, and five miles off Cape Spear the slob was so thick, the 'Ingraham' was hired and had hard work towing to port."

Now this is all heavy Arctic ice, the same as that in which McClintock got fast in Melville Bay, in the "Fox," in the end of August, 1857, and in which he made his memorable drift, wintering in the pack during the winter of 1857 and 1858, and only getting released on the 26th of April, 1858, when south of Cape Mercy.

This pack has, therefore, to be reckoned with by every one coming out of Hudson Strait during the end of October. It has been down as early as the 15th October; we saw nothing of it on the evening of October the 30th last, but it was snowing heavily at the time and we might have passed close to the pack without seeing it. It could not have been far away, as the ice was in sight from Belle Isle during the first days of December. Given a drift of 15 miles a day, which is not an excessive allowance, it must have been past the mouth of Hudson Strait on the 1st of November.

Therefore, for all the reasons I have enumerated, I consider the 20th of October as the extreme limit of safe navigation in the fall. To such brave and experienced mariners as those who accused Capt. Gordon of timidity because he refused to force the "Alert" through the ice of Hudson Strait in June, after she had lost her stem plate, or who have dubbed the hardy men from Newfoundland who manned and sailed the "Diana," as "feather bed sailors," because we left the strait with the end of October, these conditions are frivolous and will have no influence; but to the ordinary sailor and ship owner, I flatter myself, sir, they will be plain and sufficient.

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PART IV.

THE FISHING CAPABILITIES OF THE REGION, AND THE EXTENT TO WHICH ALIENS CARRY ON FISHING OR WHALING WITHIN OUR TERRITORIAL LIMITS.

I was instructed to cruise through the bay and ascertain its capabilities for fishing purposes, etc., but owing to the length of the time taken up in getting through the strait in the first instance, and in making a series of later trips through to fully satisfy myself as to its navigability and having then to go down the Labrador coast to Nachvak for coal, and make a trip north into Cumberland Sound to inquire into the extent to which trade is carried on by aliens, the season was far advanced before I could make any attempt to test the waters for fish. When we did make the attempt we happened on extremely rough weather, the roughest we had experienced since leaving Halifax, so that I am not prepared to speak very positively as to the fishing possibilities in Hudson Bay. In Hudson Strait the currents are too strong and the water too deep and cold to expect any bottom fishing for cod and halibut. It will be more convenient to discuss the question of fisheries by taking up the various fishes and mammals in detail.

SEALS.

Seals congregate in large numbers on the smooth pans off the Labrador in January, February and March. These are mostly harps and hoods. The spring hunt takes place in March and April off the north-east coast of Newfoundland, and as soon as the young seals can look out for themselves and the ice begins to loosen, scatter and dissolve, the northerly migration sets in. Very few, if any, of these seals enter Hudson Strait or Bay. They pass north along the eastern shore of Baffin's Land and are scattered indefinitely throughout the bays and coves far to the north. I do not consider that any profitable hunt for seals could be carried on during the opening season of navigation anywhere in the north. The seals are scattered. They are extremely shy and difficult to approach; in fact, no one but an Esquimaux in his kyack would stand any chance of getting near enough to spear or harpoon them. If killed outright with a charge of shot or ball they sink before you can get near them. The only way a profitable seal hunt can be made is by the methods now followed in the Gulf of St. Lawrence and off the Newfoundland coast in March and April, and it is a wise provision of nature that at other times these mammals betake themselves to the far north and are so scattered and difficult of approach as to be practically safe. Seals are not numerous in Hudson Strait or Bay. We saw a few old square flippers on the ice when we first passed through the strait. These seals were almost as large as walrus. In the bay we saw very few seals, and these only along the shore. I do not think that the bay seals ever pass out of the strait to join in the southerly migration. The whalers say that seals are not numerous in Fox Channel or Roe's Welcome. Most of the seals killed in the Welcome are square flippers; these the natives seem to look on as a cross between the walrus and the seal.

Seal meat forms the principal food of the Esquimaux—it is generally eaten raw; as the Esquimaux lives beyond the wooded region he has little or no means of cooking his food. A little heat and light is obtained by sticking a wick of dried moss into a piece of seal fat, the whole being held in a shallow stone dish; over the flame of this lamp is suspended a small stone pot capable of holding about a pint. A kind of stew sometimes may be made in this, but the bulk of the food is consumed raw, and in winter frozen. As the fat, blood, entrails and flesh of the seal form the staple article of food, so the skin furnishes the dress of the native. The summer dress of men and women

consists of a seal skin jacket, worn with the hair out, trousers coming to the knee of the same—also worn with the hair out, and boots of the dressed skin of the seal with the hair off; these boots are water tight, they come up to the knee and are there fastened with a thong. These jackets and trousers are often highly ornamented with borders and patterns of different coloured skins. Some of the more fashionable women wear very handsome jackets of young seal skin; these are highly dressed and worn with the hair inside, and are worked and decorated with ornamental work of various kinds, beads, coins, bowls and shanks of pewter spoons, old brace buckles, and any other similar trinkets that the wearer had been fortunate enough to pick up. The jackets of both men and women are fitted with hoods, the man's hood is just large enough to cover the head, and is the only head covering worn; the woman's hood has to be large enough to carry her child, which lives naked in the hood until it is about two years old, when it is taken out and dressed as an adult. In winter the seal skin jacket is worn with the hair in, and an outer jacket of deer skin is added with the hair out. Mitts are generally made of seal skin or the skin from the shank of the deer. All the sewing, both of boots and clothing, is done by the women; they are most expert with the needle, which they hold between the thumb and fore finger, with the point towards them. They use sinew for thread, and in the absence of a steel needle they use one made of bone. In making or mending the boots they soften the skin by chewing it well before sewing it; a little nourishment it is said to be sucked out of the oily, greasy skin in doing this. The kyacks (men's skiffs) and oomaicks (women's boats) are covered with seal skins without the hair, and similar skins are used for covering the summer dwelling or teepee. Sleeping rugs or bags are made of dressed deer or bear skins. Great ingenuity and patience is shown by the Esquimaux in hunting the seal; when hard pushed for food for himself and family the hunter will sit motionless for days over a seal house or air hole watching for the return of the seal; this in a temperature a long way below freezing.

WALRUS.

The walrus like the seals go north in the spring and return south in the fall; they were at one time abundant in the Gulf of St. Lawrence. I have frequently seen their bones turned out of the earth at Anticosti and the Magdalen Islands. They are now however seldom seen south of Nachvak though an odd one is occasionally found among the seals on the ice. We saw very few in the strait until October when several considerable schools were met with off Douglas Harbour and about Cape Digges. They are hunted by the natives for their flesh and fat which is used as food, though it is not considered as good as seal. The skin is sometimes used for soleing the boots, but its most common use is for dog traces and harpoon lines. For this purpose it is dressed without the hair and cut evenly and smoothly into long lines. The ivory of the tusk is used for making spears and lances. The natives are expert workers in ivory. Near the whaling stations the walrus hide is sold to the agents and exported for the manufacture of belting. The ivory also commands a certain value though owing to its smaller size and its flaws or defects it never commands anything like the same value as elephant ivory. Proportionately the walrus has not as much fat as the seal. They are difficult to kill, though a single native in his kyack and armed only with a lance and harpoon will not hesitate to attack them. They have always to be treated with respect and caution, as when disturbed or wounded they will come straight for the boat, and either try to stave her in from below or tear her to pieces by getting their tusks over the gunwale. We had a most exciting adventure with one off Big Island. He was wounded from the ship after some hundreds of shots, from all kinds of arms, had been fired at him. He made no attempt to get off after he was wounded but would even have attacked the ship. For fear of losing him we got the boats out with arms, harpoons, axes, gaffs, etc., for some time he held us at bay. The men followed him over the small pans of ice, or more often he followed them. They smashed the oars over him, but they might as well have beaten him with pillows. A perfect pandemonium reigned for some time, the men being seized with a sort of blood frenzy. I held the ship close to the scene of the battle, which was taking place on, or among, the loose ice, and for some time vainly tried to produce order. One boat got stove in, though I have my doubts as to whether the

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damage was not caused by some one letting off his gun in the wrong direction. All the oars and gaffs were broken. The harpoon had not been ground and the soft iron shank simply doubled up with each thrust the harpooneer made, some of the men had got out of the boats on to small pans of ice and thus were separated from them, and from each other, and the walrus was getting decidedly the best of it as he scrambled on the pans and chased the hunters. By dint of shouting and using pretty forcible language, I got one of the boats back to the ship, had her fitted with a fresh set of oars, got down into her myself and getting close up to the walrus finished him with a couple of shots out of a short Snider, holding the muzzle only a couple of yards from his head. We got him safely alongside and hoisted in ; he was about 11 feet long, girthed 8 feet around the shoulders and must have weighed almost a ton. Walrus are not found far off shore ; they remain about isolated rocks or islands, or under inaccessible cliffs. They are not numerous in Fox Channel or the Welcome nor along the western shore of the bay. They are reported to be plenty on the islands off the East Main.

They are sometimes killed in considerable numbers off the edge of the ice in Cumberland Sound, as they are going north, by the natives engaged in the spring whaling—otherwise not many are taken. The skin in this case is sold to the agent of the nearest whaling station ; it is worth from five to six cents a pound in England, where it is used for belting. Six average sized walrus should yield about a ton of oil, this is usually mixed with the whale oil and sold as such. The ivory is not sold to any great extent, it is either retained by the natives to work up into spears or lances, or used locally for carving into ornaments.

The Moravian missionaries on the Labrador collect all they can, the natives about the mission stations are set to carving in winter, and the product of their work is sent to Europe for sale. The number of whaling vessels going north having greatly decreased, I do not consider that the walrus will suffer any further diminution, that is north of the strait ; they are fairly abundant now and with only the natives hunting them for food, they should soon be as plenty as ever ; we saw a good many in the strait in October, they were then returning south for the winter. On the Labrador shore they are likely to be soon exterminated:

WHITE WHALE.

An extensive fishery used to be carried on at several points by the Hudson's Bay Company for the white whale, notably at Ungava and Churchill ; this was when the oil had a greater commercial value than it has now. At the present time they are only taken to provide meat for the dogs in winter, the oil is not saved and the skins have little or no commercial value. The fishery is always carried on in a river ; long heavy nets are rigged out to buoys and anchors from certain favourite points. These nets are sunk, the whales come up with the rising tide ; at high water the nets are raised and set out and a certain number of the whales are barred off ; at low water the hunters go out in boats or kyacks and despatch them with guns and lances. A good many white whales were formerly killed in the rivers at the head of Cumberland Gulf ; it was the custom, if the the whaling voyage to Baffin's Bay, or Lancaster Sound, had not been a profitable one, for the whaler to call in at Cumberland Gulf on his way home, and if possible fill up his tanks with the oil of the white whale. It usually took about seven to yield a ton of oil. This is now no longer done, and the white whales are practically undisturbed. In 1897 the fishery at Ungava was a good one, some sixty whales being captured. They were, however, taken entirely for dog food. A few are occasionally killed by the Esquimaux ; they use the flesh and blubber for food, the skin for food or for lines and traces. The white whale goes off shore into the Atlantic during the winter, returning into Hudson Bay, Ungava, Roe's Welcome, Fox Channel, Frobisher and Cumberland Gulfs as soon as the ice breaks up. During the summer season they seem to feed entirely in the rivers, moving up and down with the tide, they are very destructive to salmon and trout.

NARWHALS.

The narwhal is not abundant, an odd one is taken now and then by a whaler or an Esquimaux hunter ; they do not yield much oil. The native uses the flesh and fat for

food. White hunters kill them for the sake of their long twisted ivory horn, otherwise they have no special commercial value. They are generally closely associated with the white whale. We saw several come up to breathe through holes in the ice when we were fast in June or July, but we did not succeed in killing any.

WHALES.

The whale fishery has greatly fallen off of recent years; this is due both to a scarcity of whales, and the depreciation in the value of the oil, which has been replaced both as an illuminant and a lubricator by the much cheaper mineral oils. At one time, between thirty and forty years ago, upwards of twenty vessels sailing out of New Bedford and adjacent ports, were engaged in the whale fishery off the mouth of Hudson Strait and in the northern part of the bay and Welcome. The vessels entering the bay usually wintered at Marble Island, Whale Point, or at Repulse Bay in the head of the Welcome. English or Scotch whalers did not often enter the bay, their whaling grounds being in Baffin's Bay, Lancaster Sound or Barrow Strait. They frequently called in at Cumberland Gulf on their way home, and remained whaling in the gulf, or off its mouth, as late as the ice would permit. The whale taken in all these northern waters is the "Bow Head" or "Greenland Whale" (*Balæna mysticetus*). During the last twenty years the whale fishery has been steadily failing; steam was first introduced about 1858, at present, of the New Bedford fleet, only three small sailing vessels remain, and these are not always out. The Dundee fleet has also gradually dwindled; as far as I know only the SS. "Esquimaux" having been whaling in 1897. Her voyage was a failure and, on her return, she along with the "Terra Nova," belonging to the same owners, was offered for sale. No new whalers, either sailing vessels or steamers, have been built for some years and as the existing vessels which are fit for no other work become worn out or are lost, they are not being replaced. The Hudson's Bay Company has had a small sailing barque named the "Perseverance" whaling in the Welcome for several years; her trips have not been a success, and I understand that she has gone home and will not return.

The whales found about Marble Island and further north in the Welcome are believed to enter via Hudson Strait in May and June; they return to the Atlantic in the fall.

Whales are taken in Cumberland Gulf off the edge of the ice in the spring. They are then on their way north and remain for some time playing or feeding about the mouth of the gulf which freezes over in the winter. They pass on north in June and do not return to the gulf until about the end of September or October, when the ice is again making. The very large whales do not enter the gulf.

At the present day, the only profitable and successful manner of carrying on the whale fishery seems to be by the establishment of sedentary stations, managed by an experienced whaler and employing the natives to do all the work. The Esquimaux, or Innuits as they prefer to be called, are first-class boatmen and get to be quite as expert as white men in the use of the modern whaling tools.

We found in Cumberland Sound two considerable sedentary whaling establishments—one at Kekerton on the north-east side of the gulf and the other at Black Lead on the south-west shore; both these establishments are at present owned by the Messrs. Noble of Aberdeen; and have been in operation for some 35 years. The establishment at Kekerton is managed by Mr. Mutch, who has been in charge for upwards of 35 years. He was absent at the time of our visit, having returned to Scotland during the fall of '96. We met at Kekerton his assistant, Mr. Milne, who was daily expecting his chief back on their supply vessel, a small brig called the "Alert." This vessel usually arrives from Scotland about the 15th of August, experience showing that this is about the earliest date at which she can safely cross Davis Strait and enter the gulf after landing her supplies of fuel, provisions and such few articles as are required for trade with the natives first at Black Lead and then at Kekerton; she returns to Aberdeen in September with the oil and bone taken during the previous fall and spring. At Kekerton we found a well-built dwelling house with capacious store rooms and work shops; half a dozen large and highly finished Scotch built whale boats and a most

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complete whaling outfit, all in the most perfect order. The boats were up on skids and were painted and varnished; the oars, gaffs, etc., scraped and whitened as perfectly as those of any man-of-war gig; the bomb guns, harpoons, lances, spades, and all the tools pertaining to a whaling outfit, neatly racked, polished and shining. The whole in the most man-of-war order and perfection; all this was the work of the natives under the direction of Mr. Milne. At this station there are living and attached to it about 150 natives, men, women and children. At the time of our visit the most of these were away in the interior deer hunting. The natives are engaged on the following conditions—each family to receive the following weekly ration:—Four pounds bread (ship biscuit), one quarter pound of coffee, two and a half pounds molasses, four plugs of tobacco.

When not engaged at the whaling, preparing for it, or cleaning up after it is over—that is in winter from December to April—they are allowed to leave the station and find their own food by hunting seals through the ice. They also require the skins for inside and summer clothing, and for covering their kyacks and teepees. Between April and July they are engaged at the spring whaling; when this is over they go into the interior of Baffin's Land for the deer hunt, returning to the station in time to fit out for the fall whaling.

At Black Lead we found another somewhat similar station under the management of Mr. Sheridan, employing about the same number of natives. There was also here the Rev. Mr. Sampson, a church missionary sent out by some society in England; he had come out in the "Alert" in 1896.

Both at Black Lead and Kekerton similar establishments to those of the Messrs. Noble, though on a less elaborate scale, had been maintained by the Williams Company of New London, Con., until three years ago, when these people had retired, selling out to the Messrs. Noble. The Williams Company had been established here since 1859, and for many years these stations had been managed by Captains Spicer and Sheridan; the latter had remained here and transferred his service to the Messrs. Noble.

A third sedentary whaling station had been operated by the Williams Company at a place called New Gummiute, near the North Foreland, just inside of Monumental Island. When the Cumberland Sound stations were given up, this one had been sold by the Williamses to Captain Clisby, the manager of the station. Clisby was drowned in 1896. His assistant named Jansen had been badly frozen and was taken to the United States by Lieutenant Peary in the "Hope" in 1896. A few days before our calling at Black Lead the whole of the natives formerly attached to the New Gummiute station had moved up to Black Lead, so that for the present it was abandoned. For several seasons no supply vessel had called there and the station was out of everything. The average catch for a number of years at one of these stations would be about one and a half whale per season.

A whale having bone 10 feet long will yield from 10 to 14 tons of oil. The oil is worth about £22 a ton and the bone £2,500 per ton; the average bone will run from 9 to 10 feet and should weigh about 17 cwt. The values given above are those in England in 1895-1896. While in New Bedford lately I found that bone was being held for a price of between four and five dollars a ton, and that oil was worth 30 cents a gallon. Bone has been taken 17 feet long. The bowhead has the longest and finest bone. The bowhead is so called on account of the arch in its head; a good sized bow-head will run from 65 to 75 feet in length. Mr. Milne informed me that the first sedentary whaling station is said to have been established in Cumberland Sound as far back as 1820 by Captain Penny, an English whaling captain. He afterwards commanded the "Lady Franklin" during one of the search expeditions in 1852.

Very little trade is done with the Esquimaux, as most of the skins they obtain are required for their dress, bedding, boats or tents. In the neighbourhood of the whaling stations the natives are fast ceasing to be expert in the use of their old fashioned weapons, such as spears, small harpoons, bows and arrows, etc., as they are now pretty generally supplied with modern repeating arms, and there can be little doubt that those who have been brought up about the stations would be badly off were these closed and abandoned. The natives are highly spoken of by the captains of the whaling stations; they are honest, faithful and active in the hunt. At Black Lead we found two white

men who had married and settled among the Esquimaux, adopting altogether their manner of life. One of them, a very intelligent man whom I questioned on the subject, was dressed in skins and living in a skin teepee like a native. He informed me that he was fond of his wife and children, that the life agreed with him, that he was altogether free from the worries, cares and vicissitudes of our more artificial existence.

There is now no scurvy about the whaling stations, nor on board the whaling vessels wintering in the Welcome; they have learned to altogether avoid salt beef and pork and use the same food as the natives, that is seal, walrus and whale meat, occasionally varied with venison, bear meat, sea birds and fish. Some of the white men, who have been long with the natives and have travelled with them into the interior, have quite got over the repugnance for raw flesh.

New Bedford whaling vessels no longer winter at Marble Island. It was impossible to get fresh meat there as there were no natives about and no deer on the island. This forced the crews to use salt meats, with the result that they were always laid up with scurvy. The thing that most struck us, when calling at some of the old harbours where whalers had been in the habit of wintering, was the great number of graves; the death rate among the men, confined in the dark ill-ventilated cabins, in idleness and filth, with a diet of salted meats and often a too free use of alcohol, was something frightful. This is a thing of the past. Whalers now winter with the natives, employ them to hunt, and keep the ship supplied with fresh meat; the crews are kept actively at work in the open air, wearing the native clothing, so that there is an absolute freedom from scurvy. We could never get the natives to partake of salt meat; they seemed to have a horror of it.

COD

Are taken all the way up the Labrador coast. They usually strike in at Nachvak about the 10th of August and reach Cape Chudleigh from the 15th to the 20th of the same month, though their arrival depends somewhat on the condition of the ice along the Labrador shore. They strike at Port Burwell about a week after they are first taken off O'Brien Harbour, under Cape Chudleigh. They are not taken any further up Ungava Bay than Port Burwell. The agent of the Hudson's Bay post on St. George's River has frequently tried for cod off the mouth of George's River, but has never got any. We tried at several points in Hudson Bay between Churchill and the southern end of Mansfield Island with trawls, hand lines and jiggers, but got none. I was informed that a species of rock cod was occasionally taken in shoal water off the points of the reefs on the south-eastern shore of the bay. Captain Hawes informed me that he had often tried for bottom fish when becalmed in the bay, but he had never got anything; other Hudson Bay captains had met with the same experience. The whalers have repeatedly tried for bottom fish in the strait and northern part of the bay, but have never got any. Cod are reported by whalers and the natives to be found in Frobisher Bay and Cumberland Sound. Though we did not give the bay a fair trial, I am disposed to believe from reports of the Hudson Bay masters and the whalers that the true Atlantic cod do not exist in Hudson Bay.

At Port Burwell the cod back off about the 15th of September—they are taken off O'Brien Harbour for about two weeks longer; fishing vessels, however, do not care to remain north later than the 25th of September, as the weather is too rough and cold to risk the gear in the water. All cod fishing on the Labrador is done with traps, seines, or jiggers; the fish do not take the bait, though their stomachs are found filled with small squid, bill fish, and what the fishermen call blackberries.

HALIBUT.

Halibut are not taken to any extent on the Labrador; they have never been taken in the strait or bay; we failed to get any on our trawls. The natives informed me at Black Lead that they occasionally find small halibut frozen in the ice. Captain Spicer reports killing a seal that had brought to the surface a good-sized halibut. This was in the ice in the spring, 90 miles east of Resolution Island.

Hudson Bay Expedition, 1897.

HERRING.

Herring are not taken north of Hamilton Inlet on the Labrador ; they have never been seen in Hudson Bay.

SALMON.

Salmon are found in all the bays and large streams on the Labrador. An extensive salmon fishery is made by the Hudson's Bay Company's men at George's Whale, and Ungava or Koksoak rivers. The fishery is made in August ; for a few years the company tried the experiment of shipping the salmon fresh to market in England, for this purpose their SS. "Diana" was fitted up with refrigerator chambers. The venture was not a success, and at present the fish are shipped salted or pickled. Salmon are found as far north as Lancaster Sound ; those taken in the rivers before mentioned which empty into Ungava Bay, as well as those found in the bays and streams along the eastern shore of Baffin's Land, are exactly like the salmon taken in the Gulf of St. Lawrence and on the outer Labrador. As far as we know there are no streams of any considerable size emptying into Hudson Strait ; we saw no salmon with the natives, though they told us that we would find trout in all the small streams, as we did.

The salmon fishing season was over before we reached Fort Churchill. From all I could gather, the salmon taken in the rivers emptying into the bay are small, not much larger than good sized trout. They winter in the rivers and lakes and only go out to the salt water with the breaking up of the ice in June, returning up stream in the end of July and August, at which time the fishery is carried on. These salmon are more like trout ; their habits and movements are the same ; they are undoubtedly what is known as Hearn's salmon. I do not believe that they ever leave Hudson Bay or pass in and out through the strait.

On the Labrador and rivers of Ungava Bay the salmon fishery is made with large sized gill-nets, set off from the shore, in which the fish mesh exactly after the fashion practised in the Gulf of St. Lawrence. In Baffin's Land no regular fishery is carried on ; the fishing is done at intervals by the natives, who build stone weirs across the streams, into which the fish are driven. Large quantities of salmon and trout are often penned up in this way, the fish being generally speared or dipped out with bag-nets made of fine seal skin lines. At Churchill I found the Indian half-breeds fishing very much as did the Esquimaux in Baffin's Land, by building stone weirs across the streams, these walls converged to a narrow opening in the centre in which a twine bag-net with a square mouth was fitted ; a couple of hands then came down the stream beating the water ahead of them. In this way the fish were driven into the bag-net.

TROUT.

Trout are found abundantly in all the streams of Labrador, and as far as I could gather from the natives and white men at Cumberland Sound, they are just as plenty in the rivers of Baffin's Land. The whalers while at Roe's Welcome, employ the natives to catch trout for them. As far as I could judge they are the ordinary sea trout of the Atlantic coast. A number of specimens were brought back, which have been submitted to the scientific experts of the department for report.

From Churchill River we brought back specimens of whitefish, suckers, pike and grayling. Attempts were made whenever it was possible to collect specimens by the use of dredges, tow-nets and seines. Such material as was collected has been handed over to the officers of your department. I append a list of these specimens which have been classified by Mr. Andrew Halkett.

From the above it will be seen that but little trading or fishing is now carried on by aliens about the shores of Hudson Bay or Baffin's Land. The only foreign vessels which enter Hudson Strait are the two or three small whaling vessels from New Bedford. There are two wintering north this season. The only trade done with the natives by these whalers is the purchase of a few skins of the polar bear, wolf, white and blue fox and musk ox. Not many musk ox skins are obtained in this way, as

these animals are not found about Whale Point or Repulse Bay, where the vessels winter. These skins are obtained in exchange for tobacco, rifles and ammunition, knives, files, needles, &c. The natives do not require food or clothing.

In Cumberland Sound there are no longer any whaling stations owned by aliens. The amount of supplies imported from Dundee to the establishments of the Messrs. Noble is small. Of course no duty is paid to Canada on these goods, nor on those used for trade by the United States whalers in Roe's Welcome. The amount of duty which might be collected on these goods is extremely small. The natives have very little to trade for, as they require most of the skins they obtain for their own use. The more valuable furs are not taken by the Esquimaux, as such furs are not found beyond the timber limit. Musk oxen are said to be found in northern Baffin's Land, and they are easily got at from the head of Chesterfield Inlet, but these parts are not visited by the United States whalers, and they get no skins from there.

From present appearances it is quite likely that the next two or three years will see the last of the whaling done by alien vessels in northern Hudson Bay. There is no likelihood of any sedentary stations being established in Roe's Welcome, as the locality is too far away and hard to get at. In Cumberland Sound the existing stations are owned by British subjects. Should the station at New Gummiute be reopened it is altogether likely that it will be under the ownership of the Messrs. Noble.

On closing this report I desire to acknowledge with extreme pleasure the active, intelligent and willing service rendered on all occasions by the officers and men of the "Diana." We had a most remarkable immunity from sickness or accident, and it is something to boast of that after such a voyage the ship was returned to her owners without having touched a rock or carried away a line. She, of course, lost a rudder, and got severely nipped in the ice now and then, but this was unavoidable, and the inspection made at St. John's by Lloyd's agent on her return showed that she was but slightly damaged after all. The officers and men of the Geological Survey, though not of the actual ship's company, were always ready to bear a hand, and in the representative for Manitoba and the North-west who made the voyage with us we all had a cheerful and interesting companion, and myself particularly a kind friend and adviser.

I therefore beg to conclude the report of this exploratory voyage to Hudson Bay and Baffin's Land with the trust that I have carried out your instructions energetically and in a manner to meet with your approval.

The whole humbly submitted

By your obedient servant,

W. WAKEHAM,

Officer Commanding Expedition to Hudson Bay and Baffin's Land.

REPORT ON A COMPARISON OF THE METEOROLOGICAL OBSERVATIONS IN HUDSON STRAIT, 1884-85-86 AND 1897.

In 1885, between 22nd June and 5th July, the "Alert" was drifting about in the ice at the entrance to Hudson Strait, between longitude 64° 25' and 66° 25', not very far from Resolution Island. During this time the mean temperature as determined aboard by readings of the maximum and minimum thermometers, was 35.1°; there was very little fog and the wind was generally light or moderate, although it on a few occasions blew strong. In 1897, during the corresponding period, the "Diana" was in the straits between 68° and 71° longitude, the mean temperature was 38.8°; the wind never exceeded a fresh breeze and there was no fog to speak of except on 1st, 4th and 5th July. The latter half of June and early days of July were apparently several degrees warmer than in 1885.

Hudson Bay Expedition, 1897.

In July we can make direct comparison between the weather experienced from the 9th to the 26th by the "Alert" in 1886, and the "Diana" in 1897, both vessels having spent most of this interval towards the western end of the strait. The mean temperature in 1886 was 39·4°, and in 1897, 42·7°; in the former year there was one gale, none in the latter, but in 1897 there was somewhat more fog than in 1886.

In August we have periods of 20 corresponding days (5th to 24th) in each of the three years 1884-85-97. The mean temperature of these periods were respectively 38·5°, 37·5° and 44·5°, which shows that August, 1897, was much warmer than the same month in either 1884 or 1885; in neither 1897 or 1885 were there any gales, but 1884 there were four heavy gales and much snow fell. Fog was infrequent in all three years.

The only direct temperature comparison we can make in September is from the 7th to 20th, in the years 1886 and 1897, which periods give respectively means of 36·6° and 37·9°, indicating that, like the preceding months, 1897 was warmer than 1886, and probably than either 1885 or 1884. In 1884 September was not stormy, only one moderate gale having occurred, but in both 1885 and 1886 there were many very heavy gales and the weather was very much worse than in 1897, when apparently but one heavy blow occurred while the ship was in the strait between the 7th and 20th.

In October, in order to have a comparison, we must compare the observations made on the "Diana" between the 14th and the end of the month, with those made ashore between the same dates in 1884 and 1885. The mean temperatures thus obtained for 1884, 1885 and 1897 were respectively 14·4°, 22·1° and 28·4°, which show that at least the last half of October, in this past year, might almost be considered balmy compared with 1884. In 1884 the temperature fell to zero on 24th, 25th and 26th October, and to -2° on the 31st, whereas in 1897 17° was the lowest temperature recorded.

R. F. STUPART,

Director.

WEEKLY ABSTRACT of Meteorological Observations taken on board Dominion steamer "Diana," June to October, 1897.

Weeks Ending.	BAROMETER.				TEMPERATURE.				Hours Rain.	Hours Snow.	Days Fog.	Days of Wind more than "fresh."
	Mean.	Highest.	Lowest.	Range.	Mean.	Max.	Min.	Range.				
	Inches.	Inches.	Inches.	Inches.	°	°	°	°				
June 12	30·22	30·33	30·00	0·33	34·4	73	28	45	0	2	34	0
do 19	29·79	30·16	29·42	0·74	32·5	45	24	21	52	10	44	0
do 26	30·10	30·25	29·82	0·43	35·3	58	24	34	18	0	1	0
July 3	29·87	30·03	29·69	0·49	37·3	54	29	25	0	0	1	0
do 10	29·4	29·63	28·82	0·81	35·4	44	28	16	62	2	5	0
do 17	29·72	30·16	29·38	0·78	40·6	51	30	21	8	0	2	0
do 24	29·98	30·30	29·53	0·77	44·6	64	31	33	10	0	0	0
do 31	29·97	30·37	29·69	0·68	46·7	62	34	23	0	0	2	0
Aug. 7	29·83	29·98	29·61	0·37	55·6	79	32	47	24	0	14	0
do 14	29·87	30·11	29·52	0·59	44·0	56	35	21	29	0	3	0
do 21	29·68	29·91	29·45	0·46	42·1	54	35	19	40	0	24	0
do 28	29·69	29·81	29·51	0·30	44·0	50	34	16	14	0	2	1
Sept. 4	29·88	30·21	29·61	0·70	46·2	53	38	15	35	0	24	1
do 11	29·83	30·18	28·94	1·24	37·1	43	29	14	5	10	1	0
do 18	29·85	30·15	29·60	0·55	40·5	53	27	26	2	6	13	0
do 25	29·98	30·17	29·71	0·46	40·9	58	27	31	0	9	0	0
Oct. 9	29·96	30·17	29·81	0·86	45·9	67	31	36	17	0	24	0
do 16	29·72	30·32	28·90	1·42	35·9	44	27	17	27	6	4	1
do 23	29·76	30·17	29·28	0·89	27·9	37	18	19	0	25	0	0
do 30	29·45	30·02	28·99	1·03	28·6	37	21	16	0	28	0	2
Nov. 6	29·88	30·35	29·24	1·11	30·4	40	17	23	9	23	0	0

LIST OF ZÖOLOGICAL SPECIMENS, ETC., COLLECTED BY DR. WAKEHAM AND MR. LOW AT VARIOUS POINTS IN HUDSON BAY AND STRAIT DURING SEASON OF 1897.

Dredged between King George Sound and bottom of Ungava Bay, summer, 1897 :

FISHES.

1. Sculpins. *Cottoids*.
2. Vahl's Lycodes. *Lycodes vahllii*, Reinhardt.
3. Pollack or coal-fish. *Gadus (pollachius) virens*, L.
4. Alligator-fish. *Aspidophoroides monoptyerygius*, Bloch.
5. Sea-snails. *Liparis*.

GASTEROPODS.

6. Whelks. *Buccinum plectrum*, Stimpson, and *B. tenue*, Gray.
7. *Neptunea*.
8. Pelican's Foot. *Aporrhais occidentalis*, Beck.
9. Screw-shells. *Turritella*.
10. Periwinkles. *Littorina palliata*, Say.
11. Periwinkles. *Littorina rudis*, Maton.
12. *Natica cluusa*. Broderip and Sowerby, with *Eschara elegantula*, d'Orbigny, attached.
13. *Margarita cinerea*, Couthuoy.
14. *Cyclostrema*.
15. Limpets. *Acmaea*.
16. Chitons. *Tonicella marmorea*, Fabricius.
17. *Bulla*.
18. Egg-case of *Fusus*.

PTEROPODS.

19. *Clio*. (A few specimens).

LAMELLIBRANCHS.

20. *Saxicava rugosa*, Lamarck.
21. Clams. *Mya arenaria*, L.
22. *Macoma*.
23. *Astarte banksii*, Leach.
- 23½. *Serripes grœnlandicus*, Gmelin.
24. Cockles. *Cardium islandicum*, L.
25. *Leda minuta*, Müller.
26. *Crenella*.
27. Mussel. *Mytilus edulis*, L. (Valve with *Balanus* attached.)

BRACHIOPOD.

28. Lamp-shell. *Rhynchonella psittacea*, Gmelin. (Barnacles attached.)

ECHINODERMS.

29. Sea-urchin. *Strongylocentrotus drobachiensis*, . . Ag.
30. Star-fish. *Asterias*.

CELELENTERATES.

31. Actinozoans.

Hudson Bay Expedition, 1897.

CRUSTACEANS.

32. Crabs. *Hyas*.
33. Hermit-crabs. *Pagurus*.
34. Prawn. *Pandalus*.
35. Sand Shrimp. *Gammarus*, and an allied form.
36. *Phronima*.
37. Barnacles. *Balanus*.

ANNELIDS.

38. *Polynoe*.
39. *Nereis pelagica*, L. (Male and female.)
40. Tubes of *Cistenides*.
41. Tube of *Serpula*.
42. Tubes of *Spirorbis*. On algæ.
43. *Euchone elegans*.

44. POLYZOA.

45. SPONGIADÆ.

46. ALGÆ.

Dredged in 30 fathoms of water, 20 miles off Churchill, clay bottom, small stones and gravel, 2nd September, 1897 :

LAMELLIBRANCHS.

47. *Yoldia*.
48. *Modiolaria*.
49. *Saxicava rugosa*, Lamarck.
50. OPHURIANS.

CRUSTACEANS.

51. Isopod.
52. Baffin's Bay Arcturus. *Arcturus baffinii*, Sabine.
53. Mantis shrimp. *Caprella*.
54. Sand shrimp. *Gammarus*.
55. Shrimp. *Crangon*.

POLYZOANS.

56. *Myrionozoum subgracile* (Fragments).
57. *Cellepora* (Fragment).

Obtained south of North Foreland, about 30 miles off shore, on night of 21st August, 1897 :

58. *Phronima*, and a smaller Crustacean.

Taken in seine, Sir Terence O'Brien Harbour, Cape Chudleigh, 28th July, 1897 :

59. Sculpins. (*Cottoids*.)
60. Portions of some Teleostean.
61. Crustaceans. *Gammarus*, and an allied form.

Obtained at Nachvak Bay^A Labrador, 3rd August, 1897 :

62. Presumably Smolts. (*Salmo salar*, L.)

Obtained by the trawl, King George Sound, in 40 fathoms of water, 9th September, 1897, south side, Hudson Strait.

- 63. Holothurians. *Pentacta frondosa*, Jæger.
- 64. Holothurians. *Psolus phantapus*, L.
- 65. Shell of Barnacle. *Balanus*.
- 66. Ascidians, with Annelids, Mollusc Valves, etc., attached.

Dredged in King George Sound, in 40 fathoms of water, south side of Hudson Strait, 9th September, 1897 :

- 67. *Natica*.
- 68. *Astarte banksii*, Leach.
- 69. *Saxicava rugosa*, Lamarck. (Valve.)
- 70. *Pecten islandicus*, L. (Valve.)
- 71. Ascidian.
- 72. Fragments of *Balanus*, of *Strongylocentrotus drobachiensis*, A. Ag., of *Cellepora*, Algae, &c.

Found in pools at low water, Kekerton, Cumberland Sound, 17th August, 1897 :

- 73. Nudibranch. *Æolis*.
- 74. *Polyzoa* (Fragments).
- 75. *Annelid*.

Obtained in shoal water a short distance off the mouth of Churchill River, in about 20 fathoms of water, summer 1897 :

- 76. Salve Bug. *Æga psora*, Kröyer.

Found on the surface of the ice in Hudson Strait early in July :—

- 77. *Diatoms*. (See note, p. 83).

Besides the above mentioned a few gastropods, bivalves, molluscs and fragments of annelids, crustaceans, algæ, etc., require additional determination.

LARGER SPECIMENS.

Obtained on the south shore of Hudson Strait from July to September, 1897 :—

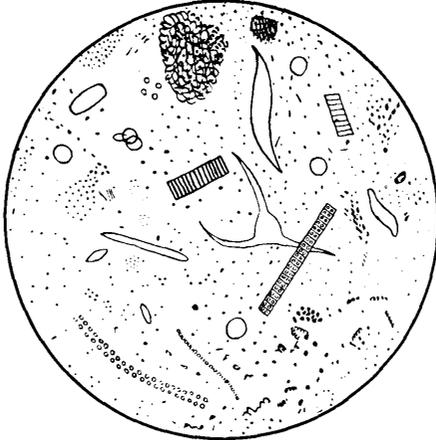
- 5 Sculpins. (*Cottoids*.)

Obtained at Nachvak, in the mouths of small rivers emptying into the bay on the 3rd August, 1897.

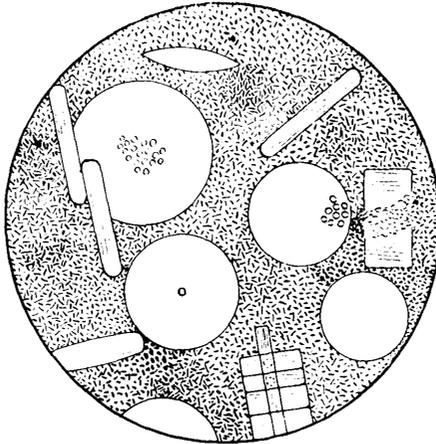
- 2 Sea-trout. *Salvelinus fontinalis immaculatus*, H. R. Storer.

Fishes obtained at Churchill on 1st of September :—

- 2 Suckers. *Moxostoma*. In the river.
- 6 Whitefish. *Coregonus labradoricus*, Richardson. In the sea.
- 3 Grayling. *Thymallus signifer*, Richardson. In the Churchill River and its branches.
- 1 Pike. *Esox lucius*, L. In the river.



MAGNIFIED 50 DIAMETERS.



MAGNIFIED 500 DIAMETERS.

Diatoms and allied forms found on the surface of the ice in Hudson Strait early in July, 1897.

Hudson Bay Expedition, 1897.

Invertebrates obtained along the south shore of Hudson Strait, at various dates between 16th July and 1st of September, 1897:—

- 5 Crabs. *Hyas aranea*, L.
- 1 Pecten, and a Pecten valve. *Pecten islandicus*, L.
- 5 Star-fishes. *Solaster papposus*, L.
- 2 Sea Urchins. *Strongylocentrotus drobachiensis*, A. Ag.
- Sea Cucumbers.
 - Psolus phantapus*, L.
 - Pentacta frondosa*, Jæg.
- Ascidians.
 - Ascidia*.
 - Boltenia*.

ANDREW HALKETT.

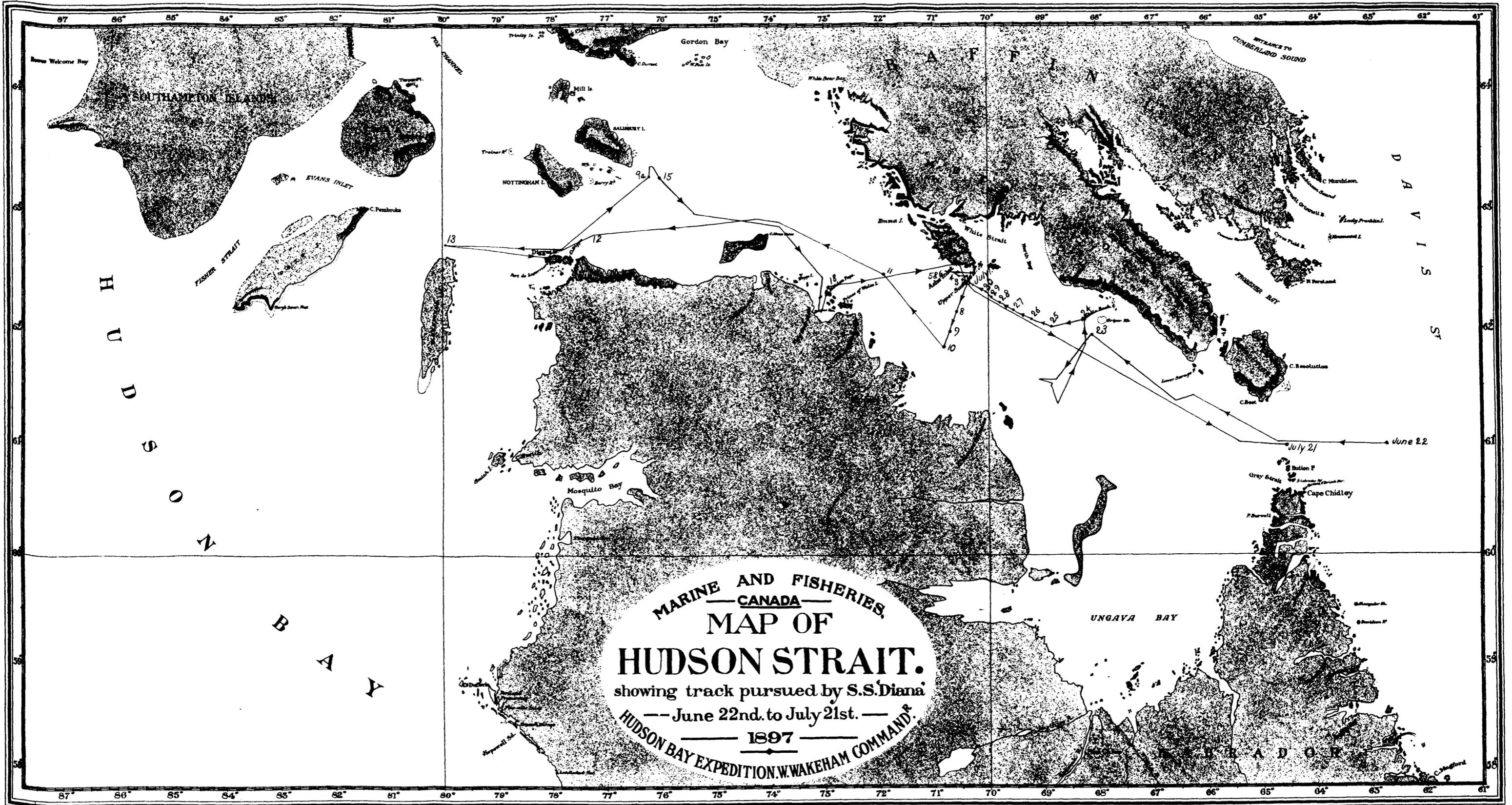
Diatoms found on the surface of the ice in Hudson Strait early in July, 1897. The species remain to be determined, and the following extracts may in this connection be of interest.

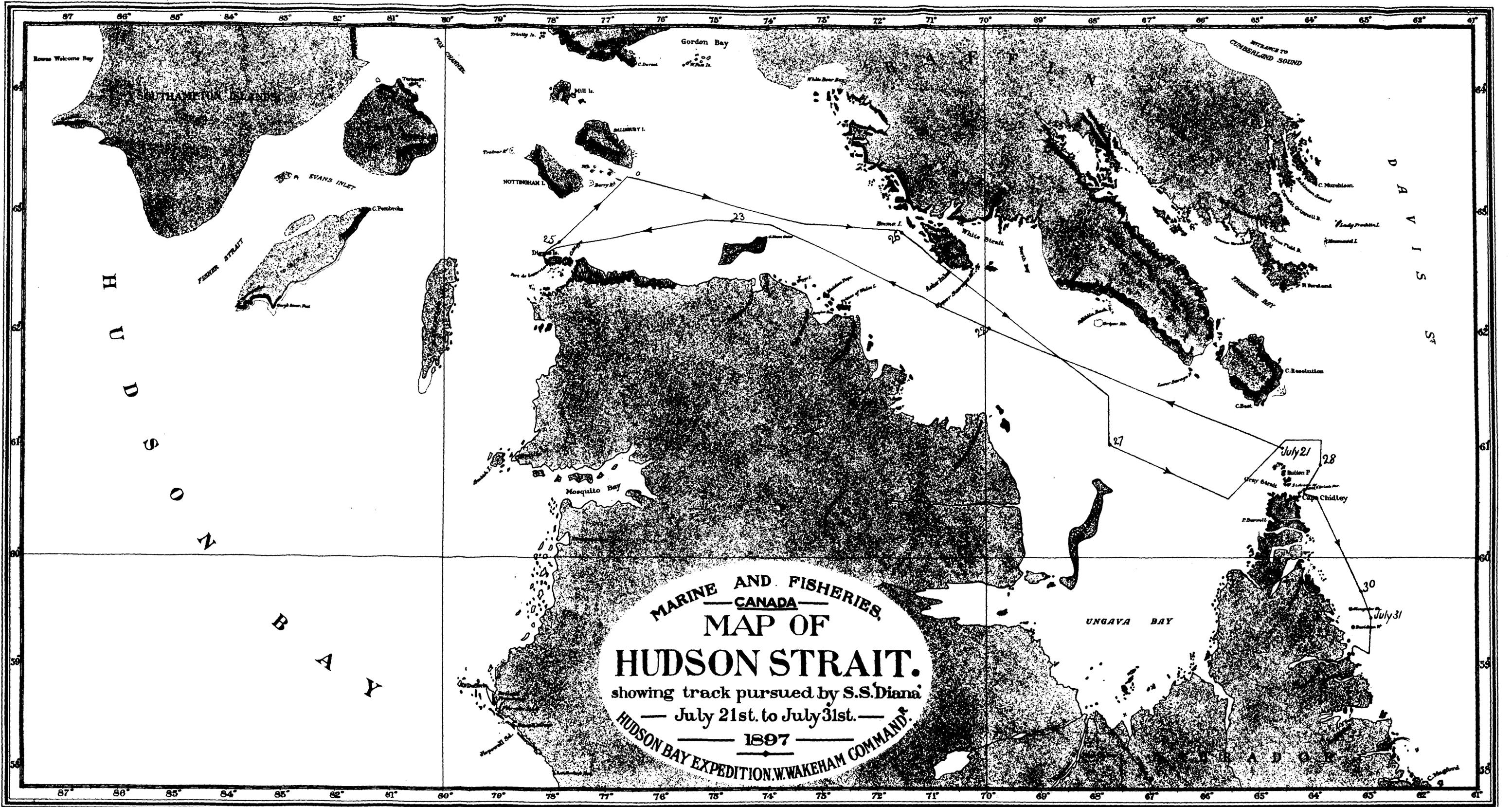
From Nansen's "Farthest North":—

"In the afternoon I examined the melted water of the newly formed brownish-red ice, of which there is a good deal in the openings round us here. The microscope proved this colour to be produced by swarms of small organisms, chiefly plants, quantities of diatoms and some algae, a few of them very peculiar in form." I., p. 173.

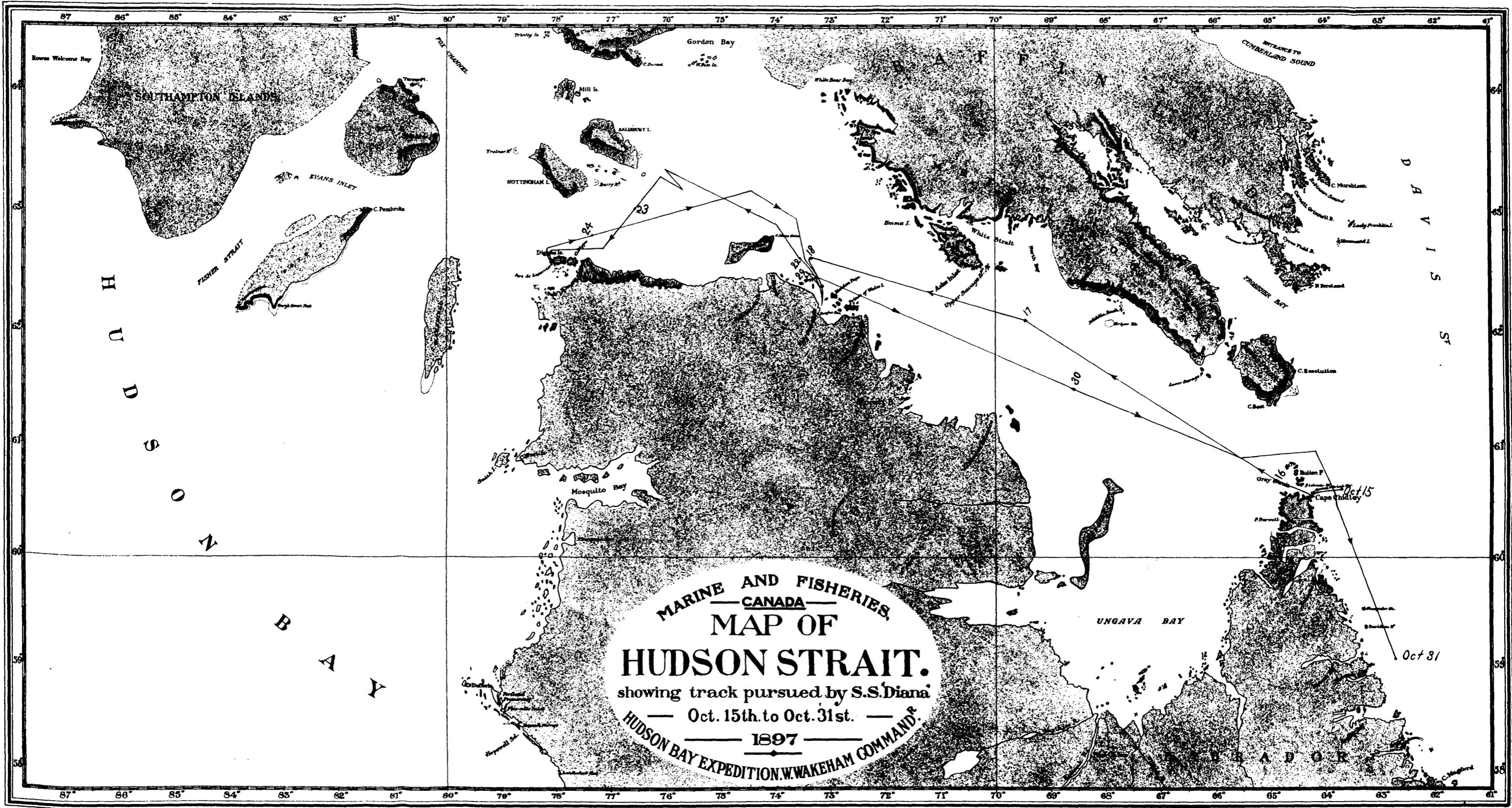
"The upper surface of the floes is nearly everywhere of a dirty brown colour, at least, this sort of ice preponderates, while pure white floes, without any traces of a dirty brown on their surface, are rare. I imagined this brown colour must be due to the organisms I found in the newly-frozen, brownish-red ice last autumn (October); but the specimens I took to-day consist for the most part of mineral dust mingled with diatoms and other ingredients of organic origin." I., pp. 301, 302.

"Professor Cleve, of Upsala, * * * says: 'These diatoms are decidedly marine (i. e., take their origin from salt water), with some few fresh-water forms which the wind has carried from land. The diatomous flora in this dust is quite peculiar and unlike what I have found in many thousands of other specimens, with one exception with which it shows the most complete conformity, namely, a specimen which was collected by Kellwan during the 'Vega' expedition on an ice-floe off Cape Wankarem, near Bering Strait. Species and varieties were perfectly identical in both specimens.' Cleve was able to distinguish sixteen species of diatoms. All these appear also in the dust from Cape Wankarem, and twelve of them have been found at that place alone, and nowhere else in all the world. This was a notable coincidence between two such remote points, and Cleve is certainly right in saying: 'It is indeed, quite remarkable that the diatomous flora on the ice-floes off Bering Strait and on the east coast of Greenland should so completely resemble each other, and should be so utterly unlike all others: it points to an open connection between the seas east of Greenland and north of Asia.' 'Through this open connection drift ice is, therefore, yearly transported across the unknown Polar Sea.'" I., p. 29.

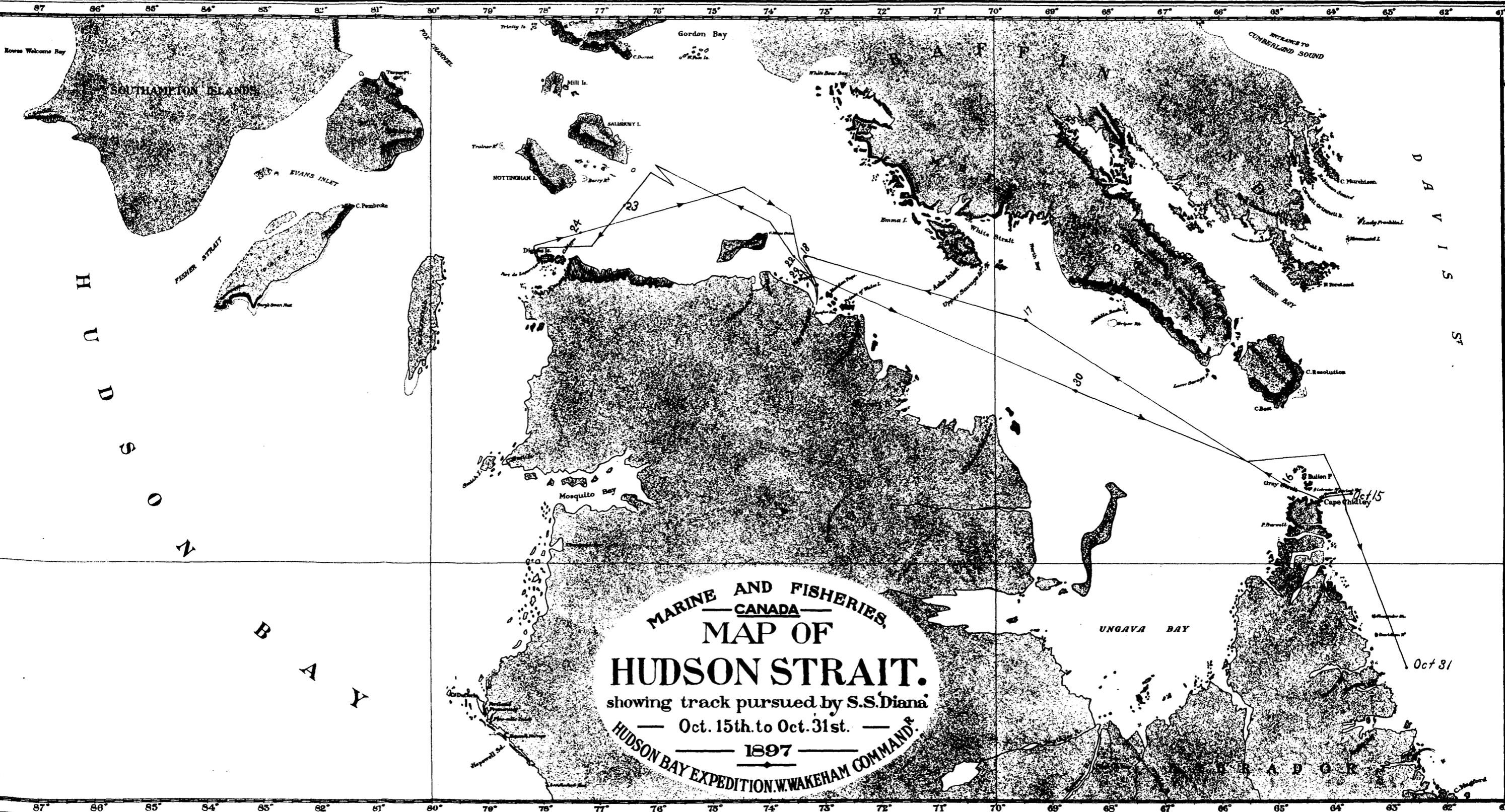




MARINE AND FISHERIES,
— CANADA —
MAP OF
HUDSON STRAIT.
showing track pursued by S.S. Diana
— July 21st. to July 31st. —
1897
HUDSON BAY EXPEDITION, W. WAKEHAM COMMANDER.



MARINE AND FISHERIES,
CANADA
**MAP OF
HUDSON STRAIT.**
showing track pursued by S.S. Diana
— Oct. 15th. to Oct. 31st. —
1897
HUDSON BAY EXPEDITION. WAKEHAM COMMANDR.



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UNGAVA BAY

BRADOR

SOUTHAMPTON ISLANDS

HUDSON STRAIT.

showing track pursued by S.S. Diana

— Oct. 15th. to Oct. 31st. —

1897

HUDSON BAY EXPEDITION. WAKEHAM COMMANDR.

Oct 15

Oct 31

Roves Welcome Bay

Gordon Bay

ENTRANCE TO CUMBERLAND SOUND

FISHER STRAIT

EVANS INLET

NOTTINGHAM I.

SALISBURY I.

Emma I.

White Strait

FRANZBAY

C. Resolution

C. Bear

Mosquito Bay

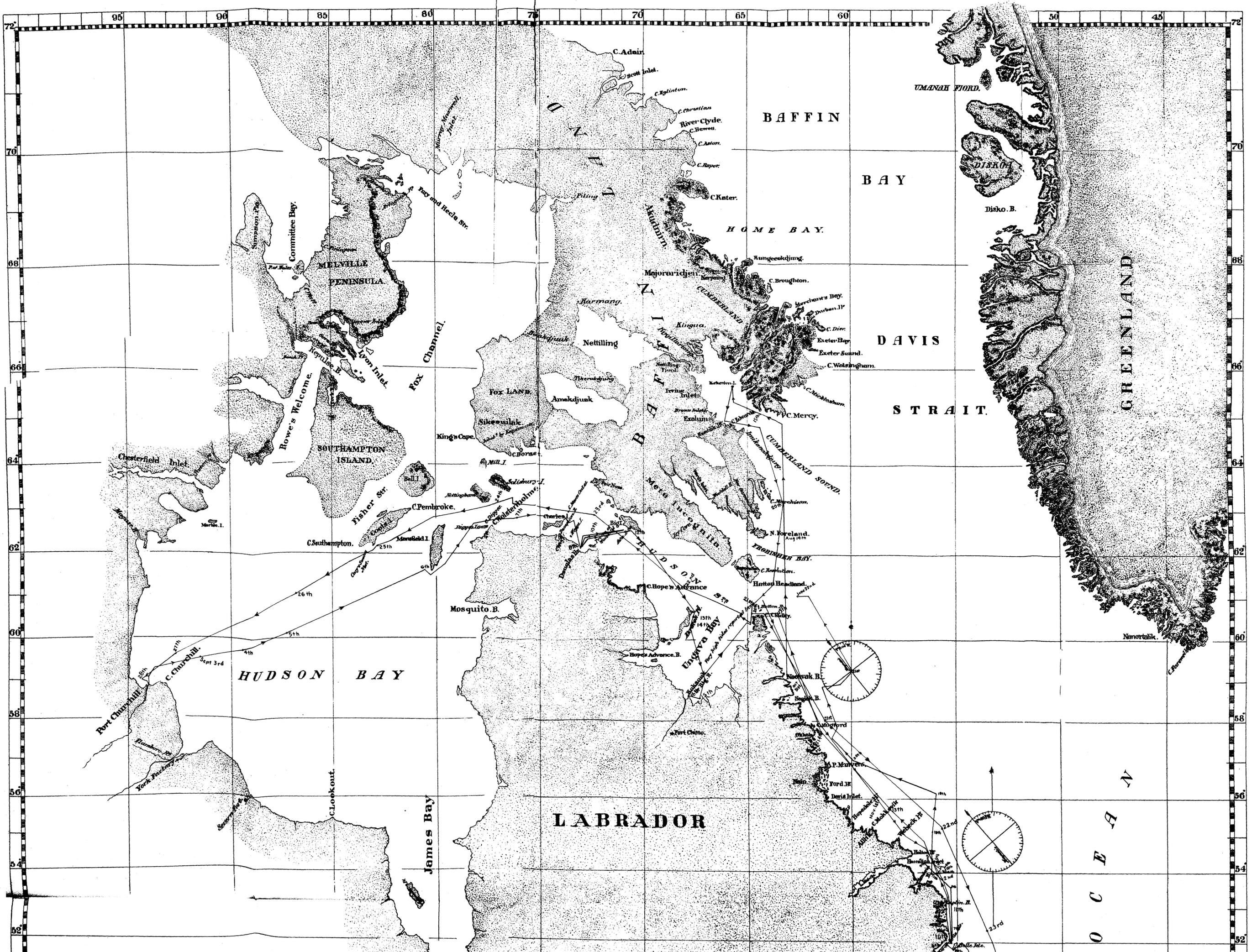
Oct 15

Cape Childley

P. Barwell

Oct 31

C. Magdalen



MAP OF HUDSON BAY AND STRAIT

showing the track pursued by S.S. "Diana"
 during the season of
1897

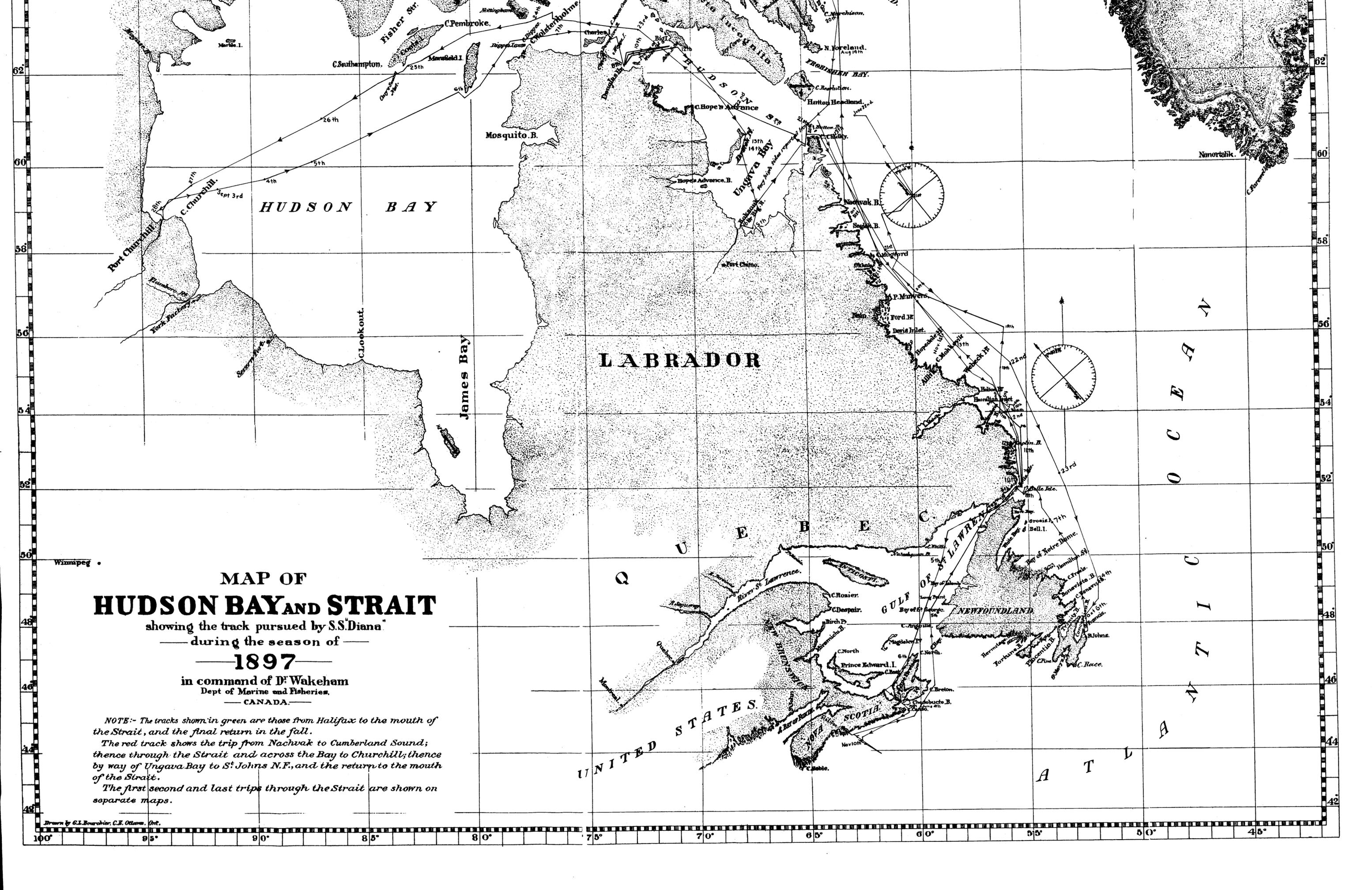
in command of D^r Wakeham
 Dept of Marine and Fisheries.
 CANADA.

NOTE:- The tracks shown in green are those from Halifax to the mouth of the Strait, and the final return in the fall.

The red track shows the trip from Nachvak to Cumberland Sound; thence through the Strait and across the Bay to Churchill; thence by way of Ungava Bay to S^t John's N.F., and the return to the mouth of the Strait.

The first second and last trips through the Strait are shown on separate maps.

Drawn by G.L. Bourcier, C.E. Ottawa, Ont.



S U P P L E M E N T

TO THE

THIRTIETH ANNUAL REPORT OF THE DEPARTMENT OF MARINE AND FISHERIES,
BEING PARTLY FOR THE FISCAL YEAR ENDED 30TH JUNE, 1897,
AND PARTLY FOR THE CALENDAR YEAR 1897.

MARINE

R E P O R T S

OF THE

HARBOUR COMMISSIONERS

FOR

TORONTO, MONTREAL, QUEBEC, THREE RIVERS, BELLEVILLE, NORTH SYDNEY AND PICTOU

THE PILOTAGE AUTHORITIES

THE HARBOUR AND SHIPPING MASTERS, CERTAIN PORT WARDENS, TOGETHER
WITH STATEMENT OF WRECKS AND CASUALTIES

CHIEFLY UP TO THE

31st DAY OF DECEMBER, 1897

PRINTED BY ORDER OF PARLIAMENT



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EXCELLENT MAJESTY

1898

Harbours and Shipping.

OTTAWA, November, 1898.

Hon. Sir LOUIS HENRY DAVIES, K.C.M.G.,
Minister of Marine and Fisheries.

SIR,—I have the honour to submit herewith the Supplement to the thirtieth Annual Report of the Marine Branch of the Department of Marine and Fisheries, being for the year 1897, containing a statement of wrecks and casualties, list of certificates granted to masters and mates; the reports of the harbour commissioners of Toronto, Belleville, Montreal, Quebec, Three Rivers and North Sydney; report of harbour master at Halifax; list of harbour masters; reports of harbour masters generally; reports of pilotage commissioners; reports of port wardens, and list of shipping masters.

I have the honour to be, sir,
Your obedient servant,

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

Harbours and Shipping.

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APPENDIX No. 1.

MERCHANT SHIPPING.

The total number of vessels remaining on the register books of the Dominion on the 31st December, 1897, including old and new vessels, sailing vessels, steamers and barges, was 6,684, measuring 731,754 tons register tonnage, being a decrease of 595 vessels and a decrease of 57,545 tons register, as compared with 1896. The number of steamers on the registry books on the same date was 1,785 with a gross tonnage of 213,864 tons. Assuming the average value to be \$30 per ton, the value of the registered tonnage of Canada, on the 31st December last, would be \$21,952,620.

The number of new vessels built and registered in the Dominion of Canada during the last year was 231, measuring 17,094 tons register tonnage. Estimating the value of the new tonnage at \$45 per ton, it gives a total value of \$769,230 for new vessels.

A statement follows, showing the number of vessels and number of tons on the register books at the different ports of registry in the Dominion, on the 31st December last, along with a comparative statement of the tonnage from 1873 to 1897. A statement is also published of the number of vessels built and registered in the Dominion during the last year, and a comparative statement of the number of new vessels built and registered from 1874 to 1897, both inclusive.

STATEMENT showing the number of Vessels and number of Tons on the Register Books of the Dominion of Canada, on the 31st December, 1897.

PROVINCE OF NEW BRUNSWICK.

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Chatham.....	326	39	1,794	7,860
Dorchester.....	5			1,607
Moncton.....	16	1	20	2,708
Richibucto.....	16	2	79	2,772
Sackville.....	12	2	41	1,082
St. Andrews.....	142	7	1,710	4,486
St. John.....	406	64	4,729	83,069
Total.....	923	115	8,373	103,584

PROVINCE OF NOVA SCOTIA.

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Amherst	4			113
Annapolis	55	1	25	5,864
Arichat	126	1	66	5,342
Barrington	49			1,740
Canso	8			332
Digby	166	6	170	8,812
Guysboro'	26			1,069
Halifax	472	58	12,905	27,245
Liverpool	72	2	137	4,976
Lenenburg	306	7	192	25,185
Maitland	20			18,387
Parasboro'	139	2	105	31,689
Pictou	58	20	770	9,675
Port Hawkesbury	85	2	43	2,745
Port Medway	20	1	45	1,726
Pugwash	8			634
Shelburne	101	1	32	5,780
Sydney	97	8	253	4,357
Truro	3			839
Weymouth	36	1	21	3,117
Windsor	138	12	1,538	83,547
Yarmouth	213	20	4,289	39,882
Total	2,204	142	19,992	283,066

PROVINCE OF QUEBEC.

Amherst (Magdalen Islands)	17			627
Gaspé	35	1	447	2,065
Montreal	532	178	34,599	88,976
New Carlisle	14	2	45	482
Percé				
Quebec	882	130	18,968	65,937
Total	1,480	311	54,059	158,077

PROVINCE OF ONTARIO.

Amherstburg	2			121
Bellefleur	20	13	363	893
Bowmanville	4			752
Brockville	19	18	183	203
Chatham	29	18	621	1,518
Chippewa	3	1	236	153
Cobourg	4	1	15	311
Collingwood	71	69	7,414	5,483
Corwall	4	4	250	162
Cramahe	2			278
Deseronto	19	13	931	1,412
Dunnville	1	1	86	57
Goderich	43	26	707	1,825
Hamilton	44	36	6,021	5,095
Kingston	161	73	6,932	23,393
Morrisburg	3			382
Napanee	1			122
Oakville	4			323
Ottawa	324	185	14,642	25,411
Owen Sound	35	32	5,847	4,332
Pictou	17	8	800	2,054
Port Arthur	10	10	3,099	2,004
Port Burwell	8	4	44	450
	2			

Harbours and Shipping.

PROVINCE OF ONTARIO—*Concluded.*

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Port Colborne.....	6	2	95	681
Port Dover.....	13	6	170	691
Port Hope.....	62	36	1,840	5,512
Port Rowan.....	4	1	168	491
Port Stanley.....	7	7	1,164	739
Prescott.....	35	15	1,110	6,175
Sarnia.....	29	21	8,391	7,091
Saugeen.....	9	9	479	328
Sault Ste. Marie.....	22	19	683	970
St. Catharines.....	95	53	7,508	13,427
Toronto.....	226	170	14,919	14,655
Wallaceburg.....	32	18	1,070	2,032
Whitby.....	3			514
Windsor.....	53	27	6,140	6,309
Total.....	1,424	896	91,928	135,349

PROVINCE OF PRINCE EDWARD ISLAND.

Charlottetown.....	174	21	4,043	15,812
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PROVINCE OF BRITISH COLUMBIA.

New Westminster.....	91	72	5,112	6,996
Vancouver.....	90	54	6,082	4,252
Victoria.....	213	100	17,848	17,356
Total.....	364	226	29,042	28,604

PROVINCE OF MANITOBA.

Winnipeg.....	115	74	6,427	7,272
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SUMMARY.

New Brunswick.....	923	115	8,273	103,584
Nova Scotia.....	2,204	142	19,992	283,056
Quebec.....	1,480	311	54,059	158,077
Ontario.....	1,424	896	91,928	135,349
Prince Edward Island.....	174	21	4,043	15,812
British Columbia.....	364	226	29,042	28,604
Manitoba.....	115	74	6,427	7,272
Grand Total.....	6,684	1,785	213,864	731,754

Harbours and Shipping.

LIST of Ports at which Vessels may be registered, showing the number of New Vessels built and registered in the Dominion of Canada during the year ended 31st December, 1897.

PROVINCE OF NEW BRUNSWICK.

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Chatham.....	19	7	361	429
Dorchester.....				
Moncton.....				
Richibucto.....				
Sackville.....				
St. Andrews.....	5			76
St. John.....	9	4	1,098	1,233
Total.....	33	11	1,459	1,738

PROVINCE OF NOVA SCOTIA.

Amherst.....				
Annapolis.....	3			177
Arichat.....	3			158
Barrington.....	1			13
Canso.....				
Digby.....	1	1	4	2
Guysboro'.....				
Halifax.....	6	1	2	22
Liverpool.....	2			333
Lunenburg.....	8			721
Maitland.....				
Parrsboro'.....	12			1,803
Pictou.....	1	1	6	4
Port Hawkesbury.....				
Port Medway.....				
Pugwash.....				
Shelburne.....	4			414
Sydney.....	4			159
Truro.....				
Weymouth.....	1			134
Windsor.....	2	1	85	131
Yarmouth.....	6	2	114	188
Total.....	54	6	211	4,259

PROVINCE OF QUEBEC.

Amherst (Magdalen Islands).....	1			8
Gaspé.....				
Montreal.....	19	10	603	2,605
New Carlisle.....				
Perce.....				
Quebec.....	29	3	491	1,614
Total.....	49	13	1,094	4,227

PROVINCE OF ONTARIO.

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Amherstburg.....				
Belleville.....				
Bowmanville.....				
Brockville.....	1	1	16	10
Chatham.....				
Chippewa.....				
Cobourg.....				
Collingwood.....	5	5	226	145
Cornwall.....	1	1	20	13
Cramahe.....				
Deseronto.....				
Dunnville.....				
Goderich.....	1	1	18	12
Hamilton.....	1	1	9	6
Kingston.....	4	4	89	61
Morrisburg.....				
Napanee.....				
Oakville.....				
Ottawa.....	10	10	702	445
Owen Sound.....				
Pictou.....	1			341
Port Arthur.....	2	2	21	13
Port Burwell.....				
Port Colborne.....				
Port Dover.....				
Port Hope.....				
Port Rowan.....				
Port Stanley.....				
Prescott.....	6			2,097
Sarnia.....				
Saugeen.....	1	1	88	60
Sault Ste. Marie.....	5	5	205	119
St. Catharines.....	2	2	91	62
Toronto.....	10	10	616	466
Wallaceburg.....				
Whitby.....				
Windsor.....				
Total.....	50	43	2,101	3,850

PROVINCE OF PRINCE EDWARD ISLAND.

Charlottetown.....	3	1	33	226
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PROVINCE OF BRITISH COLUMBIA.

New Westminster.....	11	9	437	330
Vancouver.....	8	8	2,743	1,739
Victoria.....	7	7	668	360
Total.....	26	24	3,848	2,429

Harbours and Shipping.

PROVINCE OF MANITOBA.

Name of Port.	Total Number of Sailing Ships and Steamers.	Number of Steamers.	Gross Tonnage of Steamers.	Total Net Tonnage of Sailing Ships and Steamers.
Winnipeg	16	15	501	365

SUMMARY.

New Brunswick	33	11	1,450	1,738
Nova Scotia	54	6	211	4,259
Quebec	49	13	1,094	4,227
Ontario	50	43	2,101	3,850
Prince Edward Island	3	1	33	226
British Columbia	26	24	3,848	2,429
Manitoba	16	15	501	365
Total	231	113	9,247	17,094

COMPARATIVE STATEMENT of New Vessels Built and Registered in the Dominion
both

Provinces.	1874.		1875.		1876.		1877.		1878.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
New Brunswick	90	42,027	65	33,483	61	31,040	54	31,158	56	27,368
Nova Scotia	175	84,480	177	67,106	194	58,771	219	47,980	166	49,784
Quebec	73	20,796	103	22,825	51	17,800	62	19,253	46	10,870
Ontario	50	10,797	53	7,760	47	5,397	28	3,316	30	2,409
Prince Edward Island	88	24,634	83	19,838	62	14,571	62	17,026	38	10,382
British Columbia	5	276			1	121	2	204	2	45
Manitoba							3	48	1	15
Add new vessels built in Canada which proceeded to the United Kingdom under a Governor's pass without being registered	490	183,010	480	151,012	416	127,700	430	118,985	339	100,873
Add new vessels which left Quebec for registration in Germany	6	7,746			3	2,721	2	1,943	1	663
Total	496	190,756	480	151,012	420	130,901	432	120,928	340	101,536

	1886.		1887.		1888.		1889.		1890.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
New Brunswick	34	4,931	18	2,909	32	2,530	50	4,792	35	5,572
Nova Scotia	93	20,948	87	12,310	116	12,965	126	19,645	150	33,907
Quebec	27	2,683	28	2,888	23	2,669	27	3,759	25	4,880
Ontario	52	2,075	66	2,993	62	5,095	45	3,259	41	4,917
Prince Edward Island	12	1,318	7	601	12	1,412	12	1,503	12	2,008
British Columbia	8	154	9	376	18	448	12	840	15	876
Manitoba	3	98	8	439	1	11	8	548	7	218
Add new vessels built in Canada which proceeded to the United Kingdom under a Governor's pass without being registered	229	32,207	224	22,516	264	25,130	280	34,346	285	52,378
Add new vessels which left Quebec for registration in Germany										
Total	229	32,207	224	22,516	264	25,130	280	34,346	285	52,378

Harbours and Shipping.

of Canada during the Year ended 31st December, in each year, from 1874 to 1897, inclusive.

1879.		1880.		1881.		1882.		1883.		1884.		1885.	
Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
43	19,067	63	18,896	57	18,259	66	16,820	72	21,103	46	12,888	34	7,736
126	39,208	126	31,257	150	40,465	117	26,711	202	35,765	178	42,032	102	24,703
29	7,421	33	8,219	56	5,673	26	6,785	42	6,594	32	3,815	29	4,556
42	2,464	44	3,610	54	5,111	55	4,369	34	4,311	58	4,446	45	4,509
20	5,279	21	3,359	15	4,351	15	3,508	17	5,343	21	5,189	11	1,707
5	788	.....	.....	2	85	8	1,631	5	849	15	675	6	648
.....	.....	1	100	3	116	1	289	2	125	37	3,366	13	320
265	74,227	271	65,441	336	74,060	288	60,113	374	74,090	387	72,411	240	43,179
.....	.....	.....	.....	.....	.....	1	1,029	.....	.....	.....	.....	.....	.....
.....
265	74,227	271	65,441	336	74,060	289	61,142	374	74,090	387	72,411	240	43,179
1891.		1892.		1893.		1894.		1895.		1896.		1897.	
43	6,269	21	1,873	119	2,819	40	2,534	27	714	24	627	33	1,738
130	35,528	105	16,446	111	15,089	128	8,721	89	4,762	97	7,704	54	4,259
46	4,200	34	2,620	53	4,220	55	4,412	49	4,335	36	3,969	49	4,227
44	2,662	34	3,684	49	4,126	64	3,137	52	3,732	38	1,757	50	3,850
5	1,000	9	967	3	634	3	183	1	196	3	111	3	226
41	2,364	46	2,887	19	944	25	1,900	18	1,709	22	1,466	26	2,429
3	122	6	296	8	608	11	356	14	822	7	512	16	365
312	52,145	255	28,773	362	28,440	326	21,243	250	16,270	227	16,146	231	17,094
.....
.....
312	52,145	255	28,773	362	28,440	326	21,243	250	16,270	227	16,146	231	17,094

APPENDIX No. 2.

REPORT OF THE MONTREAL HARBOUR COMMISSIONERS FOR
THE YEAR ENDED 31ST DECEMBER, 1897.HARBOUR COMMISSIONERS OF MONTREAL,
SECRETARY'S OFFICE,
MONTREAL, 20th April, 1898.F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by direction of the Harbour Commissioners of Montreal, to forward herewith, for the information of the Honourable the Minister of Marine and Fisheries, general statement of operations of the Trust for the year ended 31st December, 1897.

The net ordinary revenue was \$255,416.86, or \$2,714.90 less than in 1896. The small decrease is accounted for by the fact that a higher tariff of wharfage dues was in force during May and June, 1896, and with the same tariff for both years the figures for 1897 would have shown an increase of about \$10,000. As in the year 1896, there was again a large increase in the revenue from exports, while that from imports showed a slight falling off. The expenditure for management, maintenance and repairs and interest was \$222,097.52 net, leaving a surplus over working expenses of \$33,319.34. It having been found by the executive that the interest on harbour debentures, as well as the half-year's annuity payable to Mrs. Young under the Commissioner's Act, had not heretofore been provided for in the financial statements of the Trust as accrued to 31st December, these liabilities for the last six months of 1897 have been charged up in the books and shown in the statement and amount to \$70,183. The surplus of revenue during the past three years, having amounted to over \$100,000, covers this amount, and for the future the yearly revenue will only be chargeable with the interest of the twelve months during which that revenue accrued.

The expenditure on new works and plant for the year amounted to \$156,751.04, apart from \$1,000 shown as paid to the Longue Pointe Providence Sisters for all their rights in a wharf at Longue Pointe, and \$1,609.34 expended on Guard Pier construction on behalf of the city of Montreal, which sum is still owing by that corporation, as well as the amounts similarly expended in 1895 and 1896, or a total of \$32,410.73, including \$3,046.14 of interest to 31st December last.

Under the Act 59 Vic., chap. 10, the Government of Canada advanced to the Commission the sum of \$90,000 on the security of a Montreal harbour debenture, bearing interest at the rate of 3½ per cent per annum, for the purpose of completing a certain portion of the new Windmill Point wharf and basin, on which work \$100,000, also obtained from the same loan, had been expended during the previous year.

Harbours and Shipping.

The usual reports for the past year of the Montreal pilotage district, the Montreal decayed pilots' fund, and the harbour master, have already been transmitted to you, while that of the chief engineer on the works for the improvement and maintenance of the harbour is transmitted herewith. From the harbour master's report it will be noted again that there was a considerable increase in the number and tonnage of both sea-going and inland vessels, as compared with 1896 and previous years. Of the former there were 87 vessels and 162,534 tons, or $13\frac{1}{2}$ per cent more, and of the latter 130,229 tons, or about 13 per cent more.

I have the honour to be, sir,
Your obedient servant,

ALEXANDER ROBERTSON,
Secretary.

HARBOUR COMMISSIONERS OF MONTREAL.

GENERAL Statement of Operations for the year ended 31st December, 1897.

BALANCE AND RECEIPTS.		Revenue.	Capital.	DISBURSEMENTS.		Revenue.	Capital.
		\$	cts.			\$	cts.
<i>Balance at 31st December, 1896:—</i>							
Cash on hand	590 21			Refunds of wharfage dues, overpaid or paid twice	104 15		
Balance at credit of current account in Bank of Montreal	48,697 84			Exchange on United States bank drafts, &c.	2 79		
Balance at credit of coupon account	100 00			Mrs. John Young, one year's annuity	600 00		
Sundry accounts receivable	34,766 57			Administrative staff, salaries and fees (apart from engineering staff salaries of \$9,521.00 which are charged to the different works, proportionately to their cost)	20,510 84		
Value of materials in stock	25,003 09			Harbour expenses, taxes, lighting, heating, &c (see <i>contra</i> for credit)	4,951 76		
Discount on harbour debentures. "H"	10,913 65			Printing, stationery, &c., advertising, drawing materials, &c. (see <i>contra</i> for credit)	1,784 53		
do "J"	13,449 38			Travelling and incidental expenses	191 61		
	\$133,520 74			Legal and notarial expenses (apart from those on pilotage account, but including premium for legal liability insurance against accidents to all employees)	1,92 65		
Less—Amount due city of Montreal	\$ 1,372 91			Accident account, allowance made to injured man	8 80		
Harbour interest coupons outstanding	617 50			Electric lighting, Citizens' Light & Power Co., under contract	5,010 88		
At credit of cash suspense account	8 08			Harbour survey, soundings, surveys, &c.	974 25		
	1,998 49			Harbour dredging fleet, cleaning out basins (see <i>contra</i> for credit)	2,397 90		
	\$131,522 25			Harbour repairs, maintenance of wharfs and roadways (see <i>contra</i> for credit)	46,366 64		
<i>Montreal Decayed Pilots' Fund</i> (held in trust):				Harbour interest on debentures held by the public	\$100,880 00		
Montreal Harbour debentures	\$46,000 00			do on debentures held by the Dominion Government	37,400 51		
City of Montreal Consolidated Fund	5,000 00			do discount on debentures "H" & "J," proportion for year	925 60		
Deposit in City and District Savings Bank	1,646 06		184,168 31	do Bank of Montreal, for paying coupons	247 10		
	52,646 06			do Bank of Montreal, on overdraft	1,285 32		
(And due by the Harbour Commissioners for short deposit in said bank \$32.31).				Disbursements on revenue account for usual year	140,738 56		
				Mrs. John Young, six months' annuity to 31st December	224,335 36		
<i>Collector of Customs, Montreal</i> (see <i>contra</i> for refunds):—				Harbour interest, six months, due Dominion Government to 31st December	20,825 00		
Wharfage dues on imports	\$ 87,823 63						
do exports	128,763 74						
	216,587 37						

Harbours and Shipping.

Wharfage for Local Traffic.		
Wharfage dues on goods inwards,	\$ 6,205 22	
do do outwards	2,106 06	
Communication on steamers	8,670 00	
Rental of spaces for lumber	3,207 20	
do do coal	3,051 74	
do do coal elevators	1,350 00	
do do small offices	1,308 38	
do do scales	1,000 00	
do do firewood	633 35	
do do hay shed	83 20	
do do Quebec Basin for rowboats	50 00	
	27,665 15	
Dominion Cotton Mills Co. (Ltd.) rental of land at Hochelaga	250 00	
Storage of market wagons in harbour yard	2 75	
Dominion Coal Co. (Ltd.), balance of rental of space for coal elevators	1,886 44	
Canadian Pacific Railway Co., rental of tracks	3,766 50	
Grand Trunk Railway system	4,995 50	
John Lee & Son, rental of portion of harbour yard	300 00	
Beaver Line of steamships, outstanding wharfage dues on exports	25 29	
John Magor & Son, outstanding wharfage dues on exports	42 01	
Total ordinary revenue	255,521 01	
Windmill Point Basin, for credit of, from the Department of Railways and Canals, for hire of drill boat, coal and explosives		407 99
Harbour expenses, for credit of, from Deputy Harbour Master, amount received by him from owners of market wagons for sending same to the harbour yard (paid out through harbour expenses)	\$ 3 50	
From Department of Marine and Fisheries, for stove and pipes for semaphore	9 72	
Printing, stationery, &c., for credit of, for postage stamps, &c., supplied to the Montreal D. F. Fund		13 22
Harbour Dredging Fleet, for credit of, city of Montreal, for dredging sewage	\$ 737 50	10 00
Department of Railways and Canals, wages and expenses of No. 4 dredge in LaSalle Canal		376 59
Department of Railways and Canals, wages of carpenters, sawing timber		12 26
Three Rivers Harbour Commission, six days' use of No. 1 dredge		600 00
		70,183 00
Harbour interest, 179 days' accrued interest to Dec. 31 on debentures held by public \$ 49,058 00		
Accrued to 31st Dec., 1897, but only paid in Jan., 1898		450 00
Harbour of Montreal, surveyors' fees for establishing boundary		29,307 45
Windmill Point Basin, dredging and blasting (see <i>contra</i> for credit)		60,501 59
do wharf, cribwork, filling and macadamizing Harbour plant, advertising tug for sale	\$ 63 20	
do auctioneers' fees on sale	46 73	
do steel rails	\$ 109 93	
do do new wood lathe	195 87	
do do new water troughs	126 71	
do do new latrines	211 91	
do do new testing scow	2,371 95	
do do	3,621 71	
(Guard pier construction, dredging material and depositing on embankment (see <i>contra</i> for credit)		6,638 08
Harbour railway, new sidings		8,336 88
Longue Pointe Western wharf, extension to		14,065 91
do Providence Sisters for all their rights in wharf		5,502 10
Ship channel in upper part of harbour		1,000 00
Island wharf, pilework extension		7,599 38
Hochelaga construction		4,763 60
The Constructing & Paving Co. of Ontario (Ltd.), deposit made in 1896 as security for due fulfilment of macadam stone contract in 1897		9,246 82
Pilotage expenses, legal services from 1st July, 1896, to 31st December, 1897, salary and expenses of Quebec agent, &c. (see <i>contra</i> for credit)		13,627 21
<i>Montreal Dredging Pilots Fund.</i> — Pensions to old pilots and widows	\$ 5,589 84	509 40
Audit of fund for 1896 by Messrs. Riddle & Common	25 00	
Postage stamps and stationery	15 80	
Refund of percentage overpaid during the pilots' strike in June	139 02	
		5,769 66
Disbursements on capital account		170,367 43
do do revenue account		294,518 36
Total disbursements		464,885 79

HARBOUR COMMISSIONERS OF MONTREAL.
 GENERAL Statement of Operations for the year ended 31st December, 1897—Continued.

BALANCE AND RECEIPTS		Revenue.	Capital.	DISBURSEMENTS		Revenue.	Capital.
		\$	cts.			\$	cts.
Garth & Co., scrap copper, &c.	\$ 43 42			<i>Balance at 31st December, 1897:—</i>			
Pillow & Hersey Mfg. Co., iron scrap	126 88			Cash on hand	\$ 662 08		
F. Amesse, cast scrap	74 51			Balance at credit of current account in			
Petersen, Tate & Co., damage to dredge	10 00			Bank of Montreal	19,649 32		
J. & B. Grier, use of scow	12 00			Balance at credit of coupon account in			
Sincennes-McN. Line, tug services	10 00			Bank of Montreal	100 00		
Harbour repairs, for credit of, from harbour employees for old timber and cuttings	\$ 2 55			Sundry accounts receivable as follows:			
F. Amesse, for cast scrap	70 00			Collector of Customs, Mon.	\$ 1,034 97		
Peck, Benny & Co., scrap iron, &c.	35 46			Department of Railways and Canals	285 44		
Harbour plant, for credit of, from sale at auction of tug "Emma Munson"	\$ 1,348 35		1,360 65	Beaver Line of steamships	25 29		
Refunds of unearned insurance thereon	12 30			City of Montreal	32,410 73		
				Alexander Riendeau	172 80		
				The Standard Agency	150 00		
				J. & R. McLes	100 00		
				John Magor & Son	42 01		
				Damase Naud	5 00		
Guard Pier construction, for credit of, from the city of Montreal for its proportion of cost of work done in 1897			1,609 34	Value of materials in stock:	34,225 24		
City of Montreal, for interest on its proportion of cost on the Guard Pier during 1895 and 1896, up to 31st December, 1897			3,046 14	Coal	2,601 21		
Dominion Government, under the Act 59 Vic., ch. 10, balance of estimated expenditures on the upper portion of Windmill Point Basin			90,000 00	Macadam stone	1,031 10		
Chart Account, for credit of, for Ship Channel charts sold			165 75	Timber	3,424 74		
Pilots' expenses, for credit of 2 per cent of all pilotage dues and sundries	\$ 1,801 77			Lumber	1,355 22		
Fine for breach of By-law No. 81	50 00			Shipyards stock	3,923 79		
Apprentice pilot's license fee	5 00			Floating shop stock	10,277 89		
Expenses of witness in collision case	10 00			Harbour yard do	524 64		
Montreal Decayed Pilots' Fund, for account of, 5 per cent of all pilotage dues and sundries	\$ 3,064 02		1,836 77	Discount on Harbour Deben-			
Interest on invested funds	2,305 10			tures "H"	10,477 11		
				Discount on Harbour Deben-			
				tures "J"	12,960 52		
				Less following payable at 31st Dec., 1897:—			
				Interest and annuity as above	23,457 43		
					\$101,213 66		

REPORT ON THE WORKS FOR THE IMPROVEMENT AND MAINTENANCE OF THE HARBOUR OF MONTREAL FOR THE YEAR 1897.

JOHN KENNEDY, M. INST. C. E., CHIEF ENGINEER.

HARBOUR COMMISSIONERS OF MONTREAL,
CHIEF ENGINEER'S OFFICE,
MONTREAL, 19th February, 1898.

ALEXANDER ROBERTSON, Esq.,
Secretary, Harbour Commissioners of Montreal.

DEAR SIR,—I beg to submit, for the information of the Board of Harbour Commissioners, the following report upon the works in the harbour of Montreal for the year ended 31st December, 1897.

NEW WORKS.

The principal new works of the year are : The rebuilding and enlarging of the western wharf at Longue Pointe; the making of embankment along shore at Maisonneuve in such way as to form part of future wharfs; the extension of the harbour railway tracks to the outer end of the new pier, section 43, Hochelaga; the dredging away of shoals at various places between the wharfs and the ship channel from Maisonneuve to the entrance of the Lachine Canal; the enlargement of the Island wharf, section 15; the deepening of the Windmill Point Basin and the completion of the new wharf across its upper end and 800 feet in length down its south-east side; the further making of embankment down the same side of the basin to the lower end, so as to form part of protected wharfs; the extension of the Guard Pier to within 300 feet of the Victoria Bridge and the widening of the ship channel through the harbour between Victoria Pier and the Lachine Canal.

The principal details are as follows:—

Sections 5 to 10, Windmill Point.—The deepening and enlarging of the basin and the building of a wharf round its upper end, which were in progress up to the close of November, 1896, were resumed in the spring of 1897. Dredging in the basin was commenced on the 21st of April; drilling and blasting on the 24th; widening and grading of the embankment of the new wharf on 1st May, and building of crib-work on 26th May. Dredging was continued with varying strength of plant until the close of the working season, and was directed toward securing a clear depth of 25 feet at low water, of 13 feet on the old lock sill (or say 28 feet at the old reckoning of 16 feet 4 inches on the sill), throughout the whole breadth of the basin in 1,000 feet of its length at the upper end, and throughout 150 feet in breadth (or half the width of the basin) in the remainder of the length. By the close of the season this had been accomplished, with exception of loose stones and a few spots of no great size, yet remaining to be cleared away, and a narrow margin along the front of the wharf on the north-west side left to sustain the crib-work which is founded at a higher level than that of the bottom of the basin as now being made.

Harbours and Shipping.

The crib-work of the new wharfs at the upper end of the basin was finished in August, and the grading and macadamizing of sufficient of the embankment in rear of the wharf on the south-east side to give a ship's berth of 300 feet in length was also finished and made ready for use on the 23rd of August. Early in October the remainder of the 800 feet of embankment was also finished and made ready for use, except small corners at the upper and lower ends of the rear side, which were left for the reception of earth from city excavations and were nearly filled up by the close of the year. A railway embankment was made along the rear edge or south-east side of the main embankment and raised two feet above it, ready to receive a track when requisite. The outer slope of the embankment which is exposed to the current over the Point St. Charles Flats is nearly all protected by broken shale and boulders in rip-rap.

The wharfage thus practically completed in 1897 was commenced in 1895; it comprises the extension of the wharf of the north-west side to the head of the basin, a length of 290 feet, the wharf across the head of the basin 246 feet, and the wharf down the south-east side 817 feet, making in all 1,351 lineal feet of new wharf. The breadth of wharf on the south-east side of the basin is 300 feet over all, which gives about 275 feet clear breadth between the front edge and the railway bank. The height of the front edge of the new extension of the wharf on the north-west side is the same as that of the adjoining old wharf, and is 106.50 feet above datum, or 12½ feet above low water of 13 feet on the sill; the front edge of the new part across the head of the basin rises from the above height of 12½ feet at the north-west side to 16¼ feet above low water on the south-east side. The 800 feet of new wharf on the south-east side is made 16¼ feet above low water at its front edge, and rises to 20½ feet above low water at its rear side, and is raised to this height in order to provide a place for the storing of coal above ordinary winter water level. The railway bank is prepared for a height of 22 feet 10 inches from low water to the top of the rails, in order to afford access to the coal at all times except during floods.

In consequence of the small extent of wharf construction in progress in 1897 there was a large surplus of material from the harbour dredging to be deposited in spoil. As much of such surplus as could be deposited by the floating derricks, without hand work, was in 1897 utilized in constructing and enlarging the embankment made in 1895-96 along the south-east side of the Windmill Point Basin on the line of proposed wharf between the part just finished and the lower end of the basin. Besides having served as a convenient spoil-bank for a considerable quantity of surplus dredgings, it protects the basin from the shoving of the ice from the Point St. Charles Flats, and is in position to form part of the proposed wharf extension to the lower end.

Its height averages 30 feet above low water; its total content is about 100,000 cubic yards and the cost of the part of it made by the Commissioners' plant is about \$10,993.

The total quantity of wharf filling and embankment made at all parts of the Windmill Point Basin in 1897, and the sources of supply are as follows:—

	Cubic Yards.
From Section 5 to 10, Windmill Point.....	62,324
“ “ 15 to 17, Dominion Basin.....	15,622
“ “ 19, Bonsecours Basin.....	2,913
“ “ 25, Ship's Berths.....	212
“ “ 27, Molson's Shoal.....	4,604
“ “ 27 to 32, Shallow Wharfs.....	3,881
“ “ 40 to 44, Hochelaga (road blinding)....	450
“ Ship Channel in Harbour.....	77,003
“ Elgin Basin, and Wharf Platform.....	4,528
Total.....	171,537

A siding of 2,000 feet in length was, at the request of the Grand Trunk Railway Company, laid alongside the existing railway track on the wharf in sections 6 to 10, in the latter half of June, and was handed over to the railway company for use under the general lease. The new siding is all planked with four-inch hemlock, and the laying of it involved changing the position of the existing track and much of the macadamizing and planking connected with it.

The cost of the various new works of the Windmill Point Basin in 1897 are :

Dredging and blasting in the basin.....	\$28,657 09
Crib-work, wharf and raceways.....	18,883 17
Filling and back filling (or embankment) of wharfs, railway embankment for new wharfs and spoil bank on south-east side of basin.....	41,618 42
New railway siding and alteration of existing track for same.....	5,993 82
Total.....	\$95,152 50

There was also expended on dredging and depositing, chargeable to other works where the material was deposited, \$10,673.33.

Section 11.—The approach to the Windmill Point Basin was deepened and widened on the south-eastern side at several points. Cost, \$332.37. Half cost of dredging and depositing chargeable to other works, where the material was used, \$332.38.

Section 15.—In order to fit the outer, or south-eastern side of the Island wharf for the temporary accommodation of large ships it was lengthened 132 feet with pile-work, making it 442 feet frontage length.

The enlargement has a strong timber flooring supported on piles and covered with four-inch plank suitable for carrying heavy cargo; is triangular in shape, of 8,255 square feet area, 132 feet frontage length on the outer and 119 feet on the lower face. Construction was commenced on 19th April and finished 26th May. Cost, \$4,763.60.

Sections 16 and 17.—Several places between the Dominion Steamship Line berths and the ship channel were dredged to ship channel depth. Cost, \$1,679.31. Part cost of dredging and depositing, chargeable to the works where the material was used, \$1,663.18.

Section 19.—The down-stream side of the basin, and chiefly at its inner end, was deepened by dredging. Cost, \$343.15. Cost of dredging and depositing, chargeable to other works where the material was used, \$343.14.

Section 25.—Some small shoal spots between the ships' berths and the ship channel were deepened. Cost, \$69.89. Part cost of dredging and depositing, chargeable to other works where the material was used, \$19.20.

Sections 25 and 26.—Part of the railway track used by the Canadian Pacific Railway Company was altered, and 707 feet of new track laid in June last, making an increase of 1,042 feet of available standing room for cars. Cost, \$2,115.37.

Section 27.—The deep water was extended down stream to 150 feet below the corner of the deep water wharf, and also widened by dredging in the early part of summer. Cost, \$1,474.83. Part cost of dredging and depositing, chargeable to other works where the material was used, \$877.29.

Sections 27 to 32.—The dredging of the shoal in front of the 10-foot water wharfs was resumed on April 27th, and continued until 12th August, when the dredge was withdrawn to be sent to the Dominion Government, Department of Public Works. Expenditure in 1897, \$4,375.29. Part cost of dredging and depositing, chargeable to other works where the material was used, \$1,084.55.

Harbours and Shipping.

Sections 34 and 35.—Late in the autumn some dredging was done toward the removal of the shoals between the wharf and the ship channel. Expenditure, \$849.57. Part cost of dredging and depositing, chargeable to other works where the material was used, \$193.92.

Sections 36 to 40.—Nearly all the shoal places between the deep-water wharfs and the ship channel were dredged down to ship-channel depth, but are not yet tested to ascertain if they are clear for navigation. Expenditure, \$4,835.17. Part cost of dredging and depositing, chargeable to other works where the material was deposited, \$315.61.

Sections 42 and 43.—Early in the summer two railway tracks were laid from the main tracks on the shore wharf to the outer end of the new pier. Both were planked throughout with 4-inch hemlock, and the planking also continues some distance down the shore tracks. The tracks on the pier were tied down with two $\frac{7}{8}$ -inch bolts to anchor blocks placed $3\frac{1}{2}$ feet underground at 30 feet apart, in order to prevent their being moved by the winter current and ice. The track on the up-stream side of the pier was handed over to the use of the Grand Trunk Railway Co., and that on the down-stream side to the Canadian Pacific Railway Co., under the terms of the general leases. Total length of new tracks, 2,839 feet, or 0.537 mile. Cost, including alterations and work on main tracks, \$5,954.89.

Sections 43 and 44.—The space between the railway tracks and the boundary of the Commissioners' property was filled up to wharf level, chiefly with shale rock dredgings, and the surface of that and of the roadways between the tracks and on the opposite side has been macadamized. Expenditure, \$1,982.71.

Sections 40 to 45.—Some shoal spots between the wharfs and the ship channel were dredged out, and the basin on the down-stream side of the pier was deepened and enlarged. Expenditure, \$7,264.11. Part cost of dredging and depositing, chargeable to other works where material was used, \$392.84.

Sections 48 to 51, Maisonneuve.—Such surplus dredgings as could not be disposed of at the different places already mentioned were deposited alongshore at Maisonneuve by floating derricks in suitable position for forming part of future shore wharfs. Quantity deposited, 69,802 cubic yards. No charge for the dredged material has been made to these sections.

Longue Pointe.—The upper or western wharf opposite lot cadastral number 337, Longue Pointe, recently purchased from La Communauté des Sœurs de Charité de la Providence, was, at the close of the working season, in process of being rebuilt and enlarged. The old wharf was of crib-work, 80 feet in frontage length, and at low water of 13 feet on the lock sill had only about three feet depth in front. The top was seven feet high above low water, and was therefore usually submerged from the opening of navigation until about the middle of June.

The wharf as rebuilt has a new crib-work front of 100 feet in top length, with 13 feet depth below and 12 feet height above low water level, and it has a slip 18 feet in width cut down to within 6 feet of low water so that it may be conveniently used by river craft at all stages of the river. A new road of 20 feet width and of easy grade will connect the wharf with the nearest public street, which is 300 feet distant. Reconstruction was commenced 20th October and was stopped by bad weather on 26th November. At the stoppage the timber work was finished, the greater part of the filling, back filling and roadway were made up to full height and breadth, and about enough rock and earth delivered to complete the whole. The wharf is already fit for use, but the completing, trimming, and macadamizing of the filling and roadway yet remain to be done. Expenditure, not including purchase of old wharf, \$5,502.10.

Ship Channel.—The ship channel through the harbour was widened by dredging off the side of the Island shoal opposite sections 12 to 17, so as to give a breadth

of 370 feet opposite the Island wharf and thus leave a fair breadth of clear channel when the wharf is occupied by large vessels and their lighters. Expenditure, \$7,599.38. Half cost of dredging and depositing, chargeable to other works where the material was used, \$7,599.37.

One of the ship channel dredges belonging to the Dominion Department of Public Works, which was placed under the direction of the Harbour Commissioners, was employed throughout the summer in deepening the channel through the harbour, from section 17 to section 23, and section 32 to section 34, to compensate for the extreme lowering of the water of recent years.

Guard Pier.—The guard pier was, in August and September, lengthened so as to reduce the opening between its upper end and the Victoria Bridge to 300 feet width at high water, after which the end of the embankment was roughly but strongly paved with trap rock selected from that dredged out of the Windmill Point Basin, as a temporary protection from the action of the ice. Expenditure, including the erection and taking down of the trestle work and the fitting out and laying up of the working plant, \$8,336.88.

The expenditure upon the guard pier up to the end of 1896 was.....	\$297,708 80
The expenditure in 1897 was.....	8,336 88
	<hr/>
Total to the end of 1897.....	\$306,045 68
LESS—	
Portion payable by the city up to end of 1896.....	\$ 68,874 10
Portion payable for 1897.....	1,609 34
	<hr/>
Total payable by the city to 1897.....	\$ 70,483 44
Net expenditure on the part of the Harbour Commissioners.....	235,562 24

The quantities and kinds of stuff placed in the pier during 1897 are as follows:

	Cubic Yards.
Dredged from Windmill Point Basin, sections 5 to 10, shale and trap rock and hard-pan.....	16,456
Dredged from approach to Windmill Point Basin, section 11, shale and trap rock and hard-pan.....	2,020
Dredged from Ship Channel in harbour, hard-pan and gravel.....	12,808
Dredged from ship's berths and lumps below Victoria Pier, sections 20 to 25, silt, gravel and stones.....	1,094
	<hr/>
Total cubic yards, scow and box measurement.....	32,378

NEW LATRINES.

Section 6, Windmill Point.—A new latrine and drinking fountain were furnished and placed on the wharf and connected with an 8-inch water pipe laid on Ogilvie Street, which belongs to the Commissioners, from Mill Street to the wharf.

Section 27.—A new latrine, drinking tap, and crane for supplying watering carts were furnished and placed on the wharf, and connected with a water pipe laid from Papineau Avenue to the wharf.

Section 29.—A new latrine, drinking tap and water crane for supplying watering carts were made and placed on the wharf, and connected with 8-inch water pipes laid down on the ramp at the jail for supplying a hydrant at the foot of the cramp.

Harbours and Shipping.

Section 44.—A new latrine, drinking tap and crane for filling watering carts were made and placed on the wharf, and connected with the 8-inch water pipe laid on Nicolet Street from Notre Dame Street to the wharf.

The 8-inch water pipes necessary to connect the latrines with the city water mains at the several places were furnished by the water works department of the city, but the expense of laying them was borne by the Harbour Commissioners.

Cost of making, fitting and connecting new latrines, drinking taps and water cranes, including one new latrine house yet on hand for future use, \$2,371.95.

REPAIRS.

The total cost of maintenance and repairs in 1897 was \$46,258.63, the lowest since 1885, as will be seen by the following table:—

1875.....	\$16,499
1876.....	35,711
1877.....	26,077
1878.....	18,974
1879.....	18,819
1880.....	17,330
1881.....	16,159
1882.....	27,962
1883.....	35,768
1884.....	44,869
1885.....	42,158
1886.....	64,989
1887.....	64,984
1888.....	49,520
1889.....	51,892
1890.....	56,380
1891.....	49,109
1892.....	72,175
1893.....	58,644
1894.....	75,455
1895.....	50,081
1896.....	55,211
1897.....	46,259

The breaking of the winter ice commenced with a movement in the Laprairie Basin on the 1st of April. On the 2nd, shoves occurred in the main channel near the Victoria Bridge, and a large opening formed below the bridge. On the 3rd, shoving continued in the main channel between the Victoria Bridge and St. Helen's Island, and large piles were thrown up on Ile Verte and Victoria Pier. A slight shove occurred on the St. Lambert side on the 4th, and on the 5th the opening in the main channel below the Victoria Bridge increased to about a mile in length. In the night between the 5th and 6th the field ice on the Point St. Charles Flats shoved, from the force of water coming through the opening at the head of the Guard Pier, and forced its way into the Windmill Point Basin, filling it up, and at the same time shoves took place between the St. Helen's Island and the Guard Pier, and piles of ice lodged on the head of the island. The Point St. Charles Flats were all clear of ice during the 6th, until the afternoon, when large quantities came down from Laprairie Basin, first filling the main channel and then turning in through the gap at the head of the Guard Pier, filled the Point St. Charles Flats. About 8 p.m. the ice which had packed on the Flats broke loose and forced its way into the field ice between the entrance of the canal and Victoria Pier, splitting the field in several

places, and shoving one side against the Guard Pier and the other over against the wharfs. Appearances were at first supposed to indicate that the lower part of the field had moved somewhat upward, but more careful examination showed that all parts had moved downward as well as sidewise. The harbour dredging fleet was, by the shove of the 6th, moved about 350 feet towards the wharfs of the Allan Line berths, and some of the vessels were considerably displaced with respect to each other. Two scows and the boom of a derrick were damaged, but not seriously. Up to this time the water had fluctuated between 26 and 29 feet over the lock sill, but just after 11 p.m. it suddenly rose to 33 feet 8 inches, the highest point of the year, after which it fluctuated with lowering average, and by the 13th the wharfs were dry.

About 9 o'clock on the morning of the 8th a slight shove occurred both inside and outside of the Guard Pier.

Pieces of ice from Laprairie Basin and broken ice, apparently from Lake St. Louis, continued to come down on the 9th, 10th and 11th, sometimes temporarily filling the opening in the channel between the Victoria Bridge and St. Mary's current, but producing no considerable rise in the river level. By the afternoon of Sunday, the 11th, the greater part of the Laprairie Basin was clear and the main channel was open to Hochelaga, the water had fallen to 27½ feet on the sill and all risk of a flood or another considerable shove was past.

On the 16th the basin inside the Guard Pier was sufficiently clear to allow the starting out of the Commissioners' tug which had wintered in the basin, and by the next day, the 17th of April, the river was sufficiently clear to allow the ferry steamers Hochelaga and Longueuil to leave their winter quarters at Boucherville and enter the harbour.

Very large quantities of shoved ice were left lodged upon all the wharfs of the harbour from Victoria Pier downward, and from the pier upward there were areas of sheet ice and small shoves. The following are rough measurements of quantities at the different places:—

Sections 12 and 13, Allan Line Wharfs.—Two hundred feet by 25 feet by 1 foot to 6 feet, average 3 feet in thickness; 550 cubic yards.

Sections 15 to 17.—On the shore wharf 1,400 feet length by 120 feet by 1 foot to 6 feet, average 3 feet thickness; on the pier 120 feet by 200 feet by 2½ feet, or 20,900 cubic yards in all.

Section 18.—Fifty feet by 50 feet by 5 feet and 300 feet by 90 feet by 3½ feet, and 160 feet by 50 feet by 3 feet; in all 14,700 cubic yards.

Section 19.—Whole surface of pier, 300 feet by 100 feet by 3 feet; 3,300 cubic yards.

Section 20, Victoria Pier.—The down-stream extension of the pier was covered with from 2 feet to 10 feet thickness, average 6 feet by 900 feet by 150 feet; 30,000 cubic yards.

Sections 20 to 23.—Shore wharfs, 1,900 feet by 180 feet by 2 feet to 6 feet, average 4 feet thickness; 47,300 cubic yards.

Sections 23 to 26.—The whole length of 1,900 feet by 180 feet by 2 feet to 6 feet, average 4 feet thickness; 47,300 cubic yards.

Sections 24 to 26.—1,800 feet by 130 feet by 2 feet to 10 feet, average 6 feet thickness; 48,000 cubic yards.

Sections 27 to 29.—1,600 feet by 110 feet by 2 feet to 8 feet, average thickness 5 feet; 32,600 cubic yards.

Sections 30 to 33.—1,900 feet by 35 feet by 4 feet to 6 feet, average 5 feet thickness; 12,300 cubic yards.

Sections 34 to 37.—2,150 feet by 35 feet by 2 feet to 4 feet, average 3 feet thickness; 8,400 cubic yards.

Harbours and Shipping.

Sections 38 to 43.—Shore wharfs, 2,900 feet by 60 feet by 4 feet to 8 feet, average thickness 6 feet; 38,500 cubic yards. The whole up-stream side of the pier was covered with a pile 4 feet to 20 feet by 60 feet in width, and the remainder of the pier with sheet ice of three feet thickness; 860 feet by 60 feet by 12 feet and 860 feet by 120 feet by 3 feet; 34,000 cubic yards in all.

Section 46.—850 feet by 40 feet by 2 feet; 7,500 cubic yards.

Total quantities lodged on all wharfs as above, 345,350 cubic yards.

The clearing of the wharfs of ice at the sites of freight sheds and where otherwise urgently needed was commenced by the Commissioners' men on the 13th April, and was finished as far as necessary on the 27th. Cost, including 5 days' work of floating derrick \$2,674.32.

On the clearing away of the ice it was found that the earth filling of the wharf at the coal towers, section 37, had run out to a depth of about 15 feet by a length of 135 feet and breadth of 50 feet. A considerable length of the top timbers and planking of the wharf in section 40 were damaged by being chafed away by the moving ice, and some of the front timbers of the up-stream side of the pier, section 46, were crushed in by ice shoves.

The bottom part of the temporary trestle work in the opening through the Guard Pier was also considerably damaged by shoves, but the working plant, which was wintered at the usual place upon the pier itself, was not touched.

The following are the principal items of repair work done during the summer:—

Section 6.—A new plank footpath was laid on Ogilvie Street, from Mill Street to the wharf.

Sections 13 and 14.—The coping and top and face planking of the crib-work were largely renewed.

The deposit from the large sewer which discharges into the Elgin Basin had been accumulating since 1895, and it was, by arrangement with the city and at the city's expense, dredged out soon after the clearing away of the ice and before the arrival of ships. Expenditure, \$737.50; repaid by the city.

Section 15.—Early in the summer a considerable slip occurred in the earth work of the Island wharf at the upper inshore end, in rear of the pile work and under the Hamburg-American Packet Company's shed. Repairs were made by changing the front row of open piling into a close row, and by tying back the heads of the piles by long anchor bolts, so as to withstand the pressure of the foot of the earth slope, and by making good the slip with shale rock filling, after which the timber covering was rebuilt.

At the upper end of the basin, the timber covering of about 35 feet in length of pile wharf was renewed in the early part of summer. An adjoining part of the pile wharf, almost 20 years old, had become much decayed, and about 115 feet of its length was, after the close of navigation, renewed down to low water level. Cost of both, \$2,360.51.

A portion of the crib-work of the outer face of the Island wharf, which settled forward out of line in the latter part of summer, was, on the removal of the freight shed, after the close of navigation, strengthened by putting in eleven tie bolts, 1½ inches diameter, placed 8½ feet apart, and extending to anchor blocks 50 to 60 feet back. Cost, \$354.66.

Sections 15 to 17.—A number of shallow places in the ships' berths, caused largely by ashes and rubbish, were dredged out. Cost, \$315.04. Half cost of dredging and depositing, chargeable to other works where the material was used, \$315.04.

Section 16.—The wooden water trough was replaced by an iron one with new concrete foundation and piping. Cost, \$211.91.

Section 20.—The large platform for dumping earth from carts into scows was erected and maintained as usual, but it was reserved exclusively for receiving wharf scrapings.

The crib-work of the down-stream face of the triangular projection of the Victoria Pier had become undermined and sunken out of line to such extent as to be in danger of falling out. Repairs were made by tying back the cribs with long anchor bolts and driving sixteen piles in front and by rebuilding and raising the top timber work to proper line and level. Cost, \$2,239.38.

Another part of the crib-work of the outer face of the Victoria Pier, near the lower end, settled forward and was, after the close of navigation, tied back with long anchor bolts. Cost, \$454.65.

Sections 22 and 23.—Some shoal places near the wharf, caused by accumulations of sand, gravel and rubbish, were dredged out. Cost, \$80.40. Half cost of dredging and depositing, chargeable to other works where the material was used, \$80.40.

Section 25.—Part of the crib filling of the wharf was found to have run out at the junctions of the old crib-work and the new at the ends of the former basin. The opening at the lower end was stopped and the crib-work strengthened by driving 35 piles in front, and that at the upper end by driving 15 piles, after which a considerable part of the coping and top planking of the wharf was renewed. Cost, \$1,750.46.

Section 34.—About 200 lineal feet of the crib-work of the wharf, which had settled down and outward, was strengthened by seventeen tie bolts $1\frac{1}{2}$ inches in diameter and about 50 feet long, after which the top of the wharf was renewed and raised to proper level. Cost, \$1,726.40.

Section 36.—During winter a portion of the crib-work of the wharf at the coal towers became undermined, and the earth filling and back filling of the crib-work ran out to a depth of 15 feet, by a length of 135 feet and a breadth of 50 feet. Repairs were made by driving a row of fifty-six piles in front of the crib-work and tying it back by thirteen anchor bolts $1\frac{1}{2}$ inches diameter by 60 to 65 feet long, and by making good the subsidence with rock filling. Cost, \$2,569.23.

Section 40.—The top of the wharf was damaged by the winter ice, and repairs were made by renewing a considerable part of the top beams, planking and coping. Cost, \$983.61.

Section 46.—At several places in the up-stream side of the pier, of an aggregate length of about 60 feet, and at about two feet clear below the top, one or two courses of the front timbers were crushed in by ice shoves. The filling of the crib-work on the up-stream side had subsided in several places, and the top planking of the crib-work in general, though completed only in 1891, had become much decayed. All defects were repaired and the pier put in good order. Cost, \$846.50.

Longue Pointe.—The eastern wharf, built by the Commissioners in 1878, was thoroughly repaired. An average of two courses of the timber of the crib-work were renewed, the slip almost all renewed, all the planking and coping renewed, the wooden mooring posts replaced by countersunk iron posts, and the top of the wharf and approach road largely macadamized anew. Cost, \$417.40.

General Repairs.—Ordinary general repairs have been made throughout the wharfs wherever needed, and both woodwork and roadways kept in good condition. The fastenings of the oldest bolted-down mooring posts throughout the harbour were examined, and the bolts and anchorages were renewed wherever found defective.

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Macadamizing stone to the extent of $393\frac{1}{4}$ toises was used in the maintenance of the roadways, and was distributed as follows:—

	Toises.
Sections 5 to 10.....	62½
Sections 12 to 20.....	116¼
Sections 21 to 30.....	170¼
Sections 31 to 40.....	41½
Sections 41 and 42.....	¼
Longue Pointe wharf repair.....	2½
Total.....	393¼

The usual taking up of the mooring posts where not protected by the Guard Pier, the moving of drinking troughs and latrines and the storing away of materials for the winter were done between the 25th and 30th of November.

DREDGING PLANT AND DREDGING.

The dredging plant used in 1897 belongs to the Harbour Commissioners, and was composed of six dipper dredges, five floating derricks, one double land derrick, one drilling and blasting boat, three tugs, twenty-five flat deck scows and a floating shop, as detailed in the annexed table.

Derrick No. 3 was wintered in the Government dry dock, Lachine Canal, during the winter of 1896-97 to allow of repairs being made. All the other vessels of the dredging fleet were wintered in the harbour, near the entrance of the canal, in order to avoid the delay and expense, as also the risk of damage by grounding, incident to wintering in the canal. The vessels which wintered in the harbour were considerably moved as a whole, and displaced with regard to each other, by the shoving of the ice from the Point St. Charles Flats, as already described.

Derrick No. 4, which fouled with the drill boat, had her boom stays and turntable somewhat damaged, and two of the oldest scows were also damaged in the movement, but no other injury was sustained.

The winter repairs to the hulls and machinery of the dredging fleet were made by the Commissioners' own men, with exception of foundry work and some heavy machine work and forging, which were done by neighbouring shops.

The following are the chief items of repairs:—

Dredge No. 1.—One new main spur wheel and intermediate spur wheel, new pinion on crank shaft of main engine; throttle valve of swinging engine altered to work with independent lever; legs of boiler furnace renewed; new tubes to heater; foundation plate put on bow for receiving hawse pipe of backing chain; larger steam cylinder put on friction box of bucket handle. Dredge docked in summer; about half the outside planking and about 40 side frames, chiefly in the after end of the hull, which were much decayed, were renewed; about one-fourth of the deck plank renewed; spud-keepers re-riveted, and new rubbing plates put on spud slides; one forward spud renewed.

Dredge No. 2.—New intermediate spur wheel; cast iron spur wheel of after spud drum replaced by a steel one; new supports for rock shaft of brakes of hoisting drums; new bush in backing drum; throttle valve of swinging engine altered to work with independent lever; foundation plate put on bow to carry hawse pipe of backing chain; new bucket door of a single steel casting, with Canan valve; new stays for spud slides; new hinge strap for lower spud keeper; new davits for small boat.

Dredge No. 3.—New intermediate spur wheel; steel spur wheel of after spud drum substituted for cast iron one; new supports for rock shaft of brakes of hoisting drum; new friction bands for spud drums; foundation plate put on bow for

hawse pipe of backing chain; new sheave at upper end of boom; new sheave on top of forward spud; friction box of bucket handle renewed in steel; new bucket door of a single steel casting, with Canan valve; new after spud and one new forward spud; new davits for small boat.

Dredge No. 4.—Boom rebuilt with entirely new woodwork; new ratchet wheel on main drum; new spur wheel on backing drum; crank shaft of steam pump renewed; forward spud repaired and rebolted.

Derrick No. 6.—Deck caulked all fore and aft; new stern spud. ened in several places; new ratchet wheel on hoisting drum; two new sheaves for hoisting chain; malleable iron elbows put in steam pipes instead of those of cast iron. In the sinking and raising of the dredge, which occurred in October, many of the more exposed and lighter parts were damaged or destroyed. Repairs were fully made, amongst which were: Caulking of hull in dry dock; renewal of the upper deck and nearly half the housing; A frame and stays repaired; new forward spud; new turntable; steam pipes partly renewed; engine and machinery generally overhauled.

Dredge No. 7.—New ratchet wheel on hoisting drum; new sprocket sheave at head of mast; heavy repairs to both long and short bucket handles; new stern spud and repairs to other spuds; renewed deck planking of after end, and deck caulked all over.

Derrick No. 3.—Wintered in dry dock, and hull caulked; forward spud repaired.

Derrick No. 4.—Two new bevel wheels for spud gear; new segment put in turntable; stay rods of boom repaired; planking of stern partly renewed; deck caulked all fore and aft.

Derrick No. 5.—New deck plate for steam capstan; deck caulked all fore and aft.

Derrick No. 6.—Deck caulked all fore and aft; new stern spud.

Derricks Nos. 4, 5 and 6, in common.—Two clam shells fitted with new lips; a spare spud made for each derrick.

Tug St. Peter.—Old wooden rudder replaced by a new single-plate steel rudder; deck caulked all fore and aft; docked during summer, and planking all caulked and iron sheathing renewed.

Tug St. Louis.—Heavy repairs to steam pump; deck caulked all over.

Tug Aberdeen.—Valve motion of steering engine remodelled; set of patent New England roller grate bars put in place of ordinary bars; new set of propeller blades to replace a set broken by accident in working; cabin and forecabin fitted with hot water heating coils.

Drill Boat.—One steam drill almost entirely renewed; new piston rings, rifle ratchets and general repairs to three drills; new telescope steam pipe to each of the three drills; new three-way valve for hydraulic ram for traversing the drill frames; suction pipes of water pumps altered and made independent; boilers repaired.

New Testing Boat.—The scow fitted with a bar beneath it, which has been used for many years for testing the clear depth of water for navigation in the harbour, had become so much decayed and otherwise worn out as to be inefficient. A new testing-boat was therefore built at the Commissioners' shops, having two scows of 73 feet 3 inches long, 14 feet wide and 3 feet 1 inch deep over all, placed at 16 feet apart and decked over all. Athwart beneath each scow is a bar 30 feet long, supported and stayed fore and aft by wire ropes, worked by steam winch barrels in such a way that each bar may be set at any required depth, hoisted aboard, or lowered, at pleasure. The two bars, when in use for testing, are held end to end at the required depth, and they therefore test a breadth of bottom of 60 feet at each trip. A steering and chart room, 11 feet by 7 feet 9 inches, is placed with its floor 14 feet 3 inches above deck so as to give a clear view for observations, and in it

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are four indexes showing the height of any rise of the bars on striking an obstruction. The testing-boat is propelled and steered by a tug, the bow of which is firmly held in a recess in the after end of the space between the scows. Steam for working the winch barrels is taken from the tug boiler by hose. Cost, \$3,621.71.

The boiler of the tug "Emma Muncon," built in 1873, had become so much deteriorated as to be unfit for use after 1896. The engine was in good order, but old in type and of small power. The wooden hull was much decayed and expensive to maintain. It was therefore decided that the boat be sold as she was, which was done by public auction on 20th August, and she was bought by the Sincennes-McNaughton Line for \$1,335.

The dredging fleet was served throughout the summer by the tugs "St. Peter," "St. Louis" and "Aberdeen."

Dredge No. 3 commenced work on 21st April, No. 1 commenced on the 22nd, No. 2 on the 23rd, No. 4 on the 24th, and Nos. 6 and 7 on the 27th.

Dredge No. 6 was accidentally sunk in the Current St. Mary, opposite section 37, on 16th September, and before she was ready for work again the stoppage of the three small dredges for the season was authorized by the Board. Dredge No. 6 therefore stopped her season's work on 16th September. No. 4 was stopped on 22nd September, and No. 7, which was required for work at Longue Pointe, was stopped on 30th October. The three large dredges, Nos. 1, 2 and 3, were stopped on 24th November. The three large derricks were employed throughout the summer, but the two small-derricks were used only part of the season.

At the close of navigation the small dredges Nos. 4, 6 and 7, the small derricks Nos. 2 and 3, the drill-boat, pile-driver and six scows, all of which are of light draft, were laid up for the winter of 1897-98 in the larger basin of the Lachine Canal, below Black's Bridge, and the remainder of the fleet, consisting of the large dredges Nos. 1, 2 and 3, large derricks Nos. 4, 5 and 6, tugs "St. Peter," "St. Louis" and "Aberdeen," the testing-boat, floating shop, and twenty scows were laid up in the harbour near the canal entrance.

The aggregate number of days during which the dredges were on duty, reckoning every day except Sundays, from their commencing in spring, was:—

	Montreal Harbour, work Days.	Other work Days.	Total days.
Dredge No. 1.....	142	42	184
do No. 2.....	183	.....	183
do No. 3.....	184	.....	184
do No. 4.....	125	15½	140½
do No. 6.....	119½	1½	121
do No. 7.....	100	50	150
Totals.....	853½	109	962½

The drill-boat commenced work on 24th April, was stopped on 11th August, and laid up until 27th August, and worked again from the latter date until 25th November. Of the working time, including all except Sundays, there were 153 days spent on the harbour works and 15½ days under charter elsewhere, making in all 168½ days' service of 11 hours per day.

The dredges worked by day only, on a nominal working day of ten hours per day. This, for the 509 days aggregate of the three large dredges on harbour duty, gives them a total of 5,098 hours nominal service: but the actual working time, after deducting that lost for repairs, changing positions, detention by vessels, waiting for scows, and from all other causes, was reduced to 4,125¼ hours, or an average of 81.05 per cent of the nominal hours of service. Included in the 509 days of the larger dredges' time of duty are 3¾ days of No. 2 dredge and 3¾ of

No. 3 dredge, while engaged lifting sunken dredge No. 6, the cost of which is included in the year's expenses of the latter dredge. The three smaller dredges had 344½ days aggregate harbour service, and their aggregate nominal time was 3,445 hours. Their actual working time was 2,834 hours, or an average of 82·27 per cent of the nominal time of service.

The total outlay for working the whole fleet, except the drill-boat, was \$68,210.95, and this, as usual, represents the entire cost of working the plant and machinery, including repairs, outfit, fuel, wages, salaries, management charges, insurances, and all other outlays except interest on capital and depreciation of plant.

The cost of maintaining and working the three large dredges, with their portion of maintaining and working the tugs and scows, was \$32,185.38, or an average of \$64.18 per day each, and the like cost for the smaller dredges was \$18,925.61, or an average of \$54.93 per day each.

The cost of maintaining and working the six floating derricks was \$17,099.56.

The following are the comparative costs and quantities of dredging for 1897, and for previous years:—

Years.	Cubic yards Dredged.	Total cost, Dollars.	Cost per Cubic yard, Cents.	Remarks.
1875	151,719	68,979	45	
1876	156,082	55,462	35 $\frac{5}{100}$	
1877	173,499	45,103	26	
1878	211,731	48,748	23	
1879	189,609	41,006	21 $\frac{6}{100}$	
1880	186,430	46,914	25 $\frac{1}{100}$	
1881	170,764	54,128	31 $\frac{8}{100}$	
1882	187,339	53,598	28 $\frac{6}{100}$	Spoon dredges and stone-lifters. Elevator dredges.
	9,429	13,254	\$1.40 $\frac{6}{100}$	
1883	196,768	66,852	33 $\frac{1}{100}$	Totals and average.
	36,358	17,956	49 $\frac{3}{100}$	
1884	6,990	19,385	\$2.77 $\frac{3}{100}$	Spoon dredges and stone-lifters. Elevator dredges lifting rock and boulders and clearing up.
	43,348	37,341	86 $\frac{1}{100}$	
1885	125,648	49,468	39 $\frac{3}{100}$	Spoon dredges and stone-lifters.
1886	69,494	28,563	41 $\frac{1}{100}$	" " "
1887	57,728	25,772	44	" " "
1888	36,993	23,259	62	" " "
1888	73,150	36,690	50 $\frac{1}{100}$	" " "
	2,077	1,333	64 $\frac{1}{100}$	
1889	75,227	38,023	50 $\frac{1}{100}$	Totals and average.
	205,283	54,574	26 $\frac{7}{100}$	
1889	9,420	2,996	31 $\frac{5}{100}$	Spoon dredges and stone-lifter. Elevator dredge.
	214,703	57,570	26 $\frac{1}{100}$	
1890	186,670	53,674	28 $\frac{9}{100}$	Spoon dredges and stone-lifter.
1891	259,267	49,571	19 $\frac{1}{100}$	Spoon dredges. Elevator dredge.
	43,290	14,222	32 $\frac{1}{100}$	
1892	302,557	63,803	21 $\frac{1}{100}$	Totals and average.
	361,947	93,595	25 $\frac{8}{100}$	
1893	235,280	93,050	39 $\frac{1}{100}$	Spoon dredges.
1894	312,430	98,858	31 $\frac{1}{100}$	" "
1895	496,528	99,400	20 $\frac{1}{100}$	" "
1896	401,938	103,317	25 $\frac{1}{100}$	" "
1897	284,844	68,211	23 $\frac{1}{100}$	" "

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The general results of the dredging in 1897 are good. The total quantity dredged was smaller than usual, because the plant in use was less than usual, and because the material was largely rock; much of the dredging was on small shoals, where the cut was shallow and moving frequent; a considerable part was the cleaning up of former dredging. The expenses were, however, correspondingly small, and the average cost of the year's dredging per yard, as will be seen by the foregoing table, compares favourably with previous years.

The cost and character of the dredging in different parts of the harbour in 1897 are given below. All the quantities are either scow measurements from the tallied number of flat-deck scow loads of measured average capacity, or box measurements from the tallied number of boxes placed on scows, and containing four cubic yards per box. The cost of dredging includes the cost of tug and scow service, but not the cost of unloading scows by derricks, which is separately given.

Sections 5 to 10, Windmill Point Basin.—The dredging consisted mainly of compact Utica shale, holding trap in veins and beds, and of compact Utica shale alone. Another, and considerable portion, consisted of loose rock left from the dredging of former years, which required to be cleaned out in order to finish the basin and give the required clear depth for navigation. The remainder, comparatively insignificant in quantity, was of hard-pan sewage deposit and rubbish mixed with the loose rock. Where the trap and shale occurred together, the indications are that the trap was mainly the outcrop of beds lying at low angles in the shale, and of various thicknesses up to 3 or 4 feet. Beds less than 3 feet thick, and in favourable positions, can be dredged directly with the large dredges, but where unfavourably situated as to depth or dip, and of 3 feet thickness or over, they are more economically taken out by being blasted first.

The whole quantity blasted in 1897 was 18,146 cubic yards, measured in the solid, out of a total quantity dredged of 105,291 cubic yards, measured in the loose by tally of the dredge boxes, or, say 52,695 yards solid measurement; or, in other words, 34 per cent of all the rock taken out was blasted before being dredged. No distinction could be made in the unblasted rock, between that which was taken directly out of the solid by the dredges, and that which had been more or less loosened before and was merely cleaned up in 1897.

The total quantity of rock of all sorts thus dredged was 105,291 cubic yards, box measurement, all by large dredges, in depths of water of 34 to 28 feet to bottom of cut, at an average cost of $17\frac{9}{10}$ cents per yard, exclusive of blasting and of unloading the scows by derricks. The quantity unloaded by floating derricks at Windmill Point, part of which was from the dredging of the basin and part from elsewhere, cost $5\frac{7}{8}$ cents per cubic yard, scow and box measurement.

Section 11, Approach to Windmill Point Basin.—Deepening the channel 32 to 28 feet deep to bottom of cut; shale rock, not blasted, boulders and hard-pan; by a large dredge; 2,020 cubic yards; cost, 27 cents per cubic yard, box measurement. Unloading by floating derricks, $5\frac{7}{8}$ cents per cubic yard.

Sections 15 to 17.—Clearing out ships' berths at different times; 28 to 34 feet depth; sand, stones, ashes, mud, &c.; 947 cubic yards, by large dredges, cost, $35\frac{1}{10}$ cents per yard; 652 cubic yards, by small dredges, cost, $30\frac{1}{5}$ cents per yard; all box and scow measurement. Unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Sections 16 and 17.—Dredging off small shoal spots in the basin, between the ship channel and the ships' berths; 32 to 35 feet depth; 6,416 cubic yards; sand, by a large dredge, cost $8\frac{7}{10}$ cents per yard; 7,675 cubic yards sand and hard-pan, by a small dredge, cost, $25\frac{1}{2}$ cents per yard; all box and scow measurement. Unloading by floating derrick, $5\frac{7}{8}$ cents per yard.

Section 19.—Deepening the basin in several places; sand, gravel and mud; 30 to 34 feet depth; 2,396 cubic yards, by a large dredge, cost, $15\frac{7}{10}$ cents per yard; 517 cubic yards, by a small dredge, cost, 27 cents per yard; all box and scow measurement. Unloading by floating derrick, $5\frac{7}{8}$ cents per yard.

Sections 22 and 23.—Cleaning out ships' berths; gravel and sand, 30 to 34 feet depth; by a large dredge; 944 cubic yards; scow measurement; cost, $11\frac{1}{2}$ cents per yard. Unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Section 25.—Deepening ships' berths; sand and stones; 30 to 34 feet depth; by a large dredge; 492 cubic yards; scow measurement; cost, $12\frac{1}{4}$ cents per yard. Unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Section 27.—Dredging away part of upper end of Molson Shoal, 30 to 33 feet deep; gravel and stones; by a small dredge; 6,172 cubic yards; cost, $32\frac{1}{4}$ cents per yard. Unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Sections 27 to 32.—Deepening the shoals between the 10-foot water wharfs and the ship channel, 12 to 15 feet depth; strong current and much delay and difficulty in moving the dredge and scows; gravel, sand and boulders; by a small dredge; 12,062 cubic yards, scow measurement; cost, $39\frac{1}{2}$ cents per yard; unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Sections 34 and 35.—Deepening small isolated shoals between the ships' berths and the ship channel; 32 to 34 feet depth; hard-pan, gravel and stones; by a large dredge; 3,530 cubic yards, box and scow measurement; cost, 23^{10} cents per yard; unloading by floating derricks, $5\frac{7}{8}$ cents per yard.

Sections 37 to 40.—Deepening isolated shoals between the ships' berths and the ship channel; 32 to 35 feet depth; gravel, sand and stones; 21,438 cubic yards, by a large dredge; cost, 15 cents per yard; 1,200 cubic yards, by a small dredge; cost, $49\frac{3}{4}$ cents per yard; all box and scow measurement; unloading by derricks, $5\frac{7}{8}$ cents per yard.

Sections 40 to 44.—Deepening shoal spots about the pier; 32 to 35 feet depth; gravel, sand and stones; by a large dredge; 7,517 cubic yards; cost, $28\frac{3}{5}$ cents per yard; unloading by derrick, $5\frac{7}{8}$ cents per yard.

Section 43.—Deepening and enlarging the basin at the pier 30 to 33 feet depth; sand and stones; by a small dredge; 9,922 cubic yards, box and scow measurement; cost, 36 cents per yard; unloading by derrick, $5\frac{7}{8}$ cents per yard.

Sections 44 and 45.—Deepening and enlarging the basin; 30 to 34 feet depth; sand and stones; by a large dredge; 5,167 cubic yards, scow measurement; cost, $11\frac{1}{2}$ cents per yard; unloading by derrick, $5\frac{7}{8}$ cents per yard.

Ship Channel through the Harbour.—Widening and deepening the channel 30 to 35 feet depth; 52,488 cubic yards, hard-pan and stones, by large dredges, cost $8\frac{5}{8}$ cents per yard; 37,323 cubic yards, hard and soft silt and sand, by small dredges, cost $14\frac{1}{2}$ cents per yard; all box and scow measurement; unloading by derricks, $5\frac{7}{8}$ cents per yard.

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Rock Ballasting, Windmill Point Basin.—By drill boat; about one-third shale and two-thirds trap rock, seamy and difficult to drill; grade line of finished bottom, 34 feet to 27 feet below water surface:

Working days, April 24th to August 11th.....	92 days.
Working days, August 27th to November 6th.....	61 days.
Total.....	153 days.
Working time per day.....	11 hours.
Number of holes drilled and blasted.....	5,074 holes.
Average depth of each hole, in rock.....	5'63 feet.
Average depth of each hole from surface of water..	29½ feet.
Total quantity of rock drilled and efficiently blasted, measured in solid to 6 inches below finished bottom.....	18,146 cub. yds.
Cost per cubic yard, measured in solid.....	78 ₁₀ cents.

Appended are tables giving additional particulars regarding the dredging and dredging plant in 1897.

Yours respectfully,

JOHN KENNEDY,
Chief Engineer.

HARBOUR DREDGING.—Abstract of work done by each Dredge for the Harbour of Montreal in 1897.

Vessels.	Places at which Dredging was done.	Time of Service.		Quantities Dredged.		Character of Soil.	
		Days.	Total.	Cubic Yds.	Total Yds.		
Dredge No. 1.	Sections 5 to 10, Windmill Point.	14½	142	2,812	52,685	Trap rock and shale.	
	Section 11, approach to Windmill Point.	8		2,020		Rock, hardpan and stones.	
	Section 14, ship channel in harbour.	9½		7,008		Hardpan and stones.	
	Sections 15 and 16, cleaning berths.	4½		797		Sand and stones.	
	Section 19, Bonsecours Basin.	5½		2,896		Gravel and sand.	
	Sections 34 and 35, shoal spots.	12½		3,580		Hardpan, gravel and stones.	
	Sections 37 to 40, shoal spots.	47½		21,438		Gravel, sand and stones.	
	Sections 40 to 44, shoal spots.	31½		7,517		Gravel, sand and stones.	
	Sections 44 and 45, deepening.	8½		5,167		Sand and stones.	
Dredge No. 2.	Sections 5 to 10, Windmill Point.	167½	183	64,621	72,473	Trap rock and shale.	
	Section 16, deepening basin.	9½		6,416		Sand.	
	Sections 22 and 23, cleaning berths.	1½		944		Gravel and sand.	
	Section 25, shoal spots.	1		492		Sand and stones.	
	Raising Dredge No. 6.	3½	
Dredge No. 3.	Sections 5 to 10, Windmill Point.	119½	184	37,858	83,488	Trap rock and shale.	
	Section 17, cleaning berths.	5		150		Sand.	
	Ship channel in harbour.	60		45,480		Hardpan, gravel and stones.	
	Raising Dredge No. 6.	3½	
Dredge No. 4.	Section 16, cleaning berths.	2	125	450	38,616	Sand and mud.	
	Section 17, deepening berths.	42		7,675		Hardpan and sand.	
	Section 19, Bonsecours Basin.	3		517		Gravel and mud.	
	Ship channel in harbour.	78		29,974		Hard and soft sand.	
Dredge No. 6.	Section 27, Molson shoal.	30	119½	6,172	24,043	Gravel and stones.	
	Section 37, shoal spots.	9		1,200		Gravel, stones and sand.	
	Section 43, deepening.	54		9,922		Sand and stones.	
	Ship channel in harbour.	26½		7,349		Hard silt and sand.	
Dredge No. 7.	Section 17, cleaning berths.	2	100	202	12,989	Ashes and deposit.	
	Sections 27 to 32, deepening.	92		12,062		Gravel, sand and boulders.	
	Longue Pointe wharf.	6		675		Quicksand.	
	Totals	.....	853½	.....	284,844	

Harbours and Shipping.

HARBOUR DREDGING.—Statement showing the number of days worked by each Dredge and the quantity dredged at each place for the Harbour of Montreal in 1897.

Places where Dredges worked.	Vessel.	Time of Service.		Quantities Dredged.		Character of Soil.
		Days.	Totals.	Cubic Yds.	Total Yds.	
Sections 5 to 10, Windmill Point.....	Dredge No. 1.....	14 $\frac{1}{2}$		2,812		Trap rock and shale, and some hardpan.
do do do.....	do do do.....	167 $\frac{1}{2}$		64,621		do do do
do do do.....	do No. 3.....	119 $\frac{1}{2}$	301 $\frac{1}{2}$	37,868	165,291	do do do
Section 11, approach to Windmill Point.....	Dredge No. 1.....	8		2,020		Rock, hardpan and stones.
Sections 15 to 17, cleaning ships' berths.....	Dredge No. 1.....	4 $\frac{1}{2}$		797		Sand and stones.
do do do.....	do No. 3.....	3		150		Sand.
do do do.....	do do do.....	2		450		Sand and mud.
do do do.....	do No. 4.....	2		202		Ashes and deposit.
Sections 16 and 17, deepening basin.....	Dredge No. 2.....	9 $\frac{1}{2}$		6,416		Sand.
do do do.....	do No. 4.....	42		7,675		Hardpan and sand.
Section 19, deepening basin.....	Dredge No. 1.....	5 $\frac{1}{2}$		2,306		Gravel and sand.
do do do.....	do No. 4.....	3	51 $\frac{1}{2}$	517	14,091	(Gravel and mud.
Sections 22 and 23, cleaning ships' berths.....	Dredge No. 2.....	1 $\frac{1}{2}$		944		Gravel and sand.
Section 25, deepening ships' berths.....	Dredge No. 2.....	1 $\frac{1}{2}$		492		Sand and stones.
Section 27, cutting away Molson shoal.....	Dredge No. 6.....	30		6,172		Gravel and stones.
Sections 27 to 32, deepening shallow berths.....	Dredge No. 7.....	92		12,062		Gravel, sand and boulders.
Sections 34 and 35, deepening shoal spots.....	Dredge No. 1.....	12 $\frac{1}{2}$		3,530		Hardpan, gravel and stones.
Sections 37 to 40, deepening shoal spots.....	Dredge No. 1.....	47 $\frac{1}{2}$		21,438		(Gravel, sand and stones.
do do do.....	do No. 6.....	9	56 $\frac{1}{2}$	1,200		do do do
do do do.....	do do do.....	30	30			
do do do.....	do do do.....	9	56 $\frac{1}{2}$			
do do do.....	do do do.....	30	30			
do do do.....	do do do.....	9	56 $\frac{1}{2}$			
do do do.....	do do do.....	30	30			
do do do.....	do do do.....	9	56 $\frac{1}{2}$			
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do do do.....	do do do.....	9	56 $\frac{1}{2}$			
do do do.....	do do do.....	30	30			
do do do.....	do do do.....	9	56 $\frac{1}{2}$			
do do do.....	do do do.....	30	30			
do do do.....	do do do.....					

HARBOUR DREDGING.—Statement of quantities dredged at each place in 1897—Continued.

Places where Dredges worked.	Vessel.	Time of Service.		Quantities Dredged.		Character of Soil.
		Days.	Totals.	Cubic Yds.	Total Yds.	
	Brought forward.....		411½		133,522	
Sections 40 to 44, deepening shoal spots...	Dredge No. 1.....	31½	31½	7,517	7,517	Gravel, sand and stones.
Section 43, deepening basin	Dredge No. 6.....	54	54	9,922	9,922	Sand and stones.
Sections 44 and 45, deepening basin.....	Dredge No. 1.....	8½	8½	5,167	5,167	Sand and stones.
Ship channel through Montreal harbour..	Dredge No. 1.....	9½		7,008		Hardpan and stones.
do do	do No. 3.....	60		45,480		Hardpan, gravel and stones.
do do	do No. 4.....	78		29,974		Hard and soft sand.
do do	do No. 6.....	28½		7,349		Hard silt and sand.
Longue Point, upper wharf.....	Dredge No. 7.....	6	174	675	89,811	Quicksand.
Raising dredges No. 6.....	Dredge No. 2.....	3½	6		675	
do do	do No. 3.....	3½	7½			
	Totals		853½		284,844	

Harbours and Shipping.

HARBOUR DREDGING.—Statement showing particulars of Cost of working the different Vessels employed in Harbour Dredging in 1897.

Vessels.	Repairs, Maintenance and Stores.		Fuel.		Wages.		Proportion of Salaries of Staff.		Grand Totals.		Service.		Cost per Day.
	Cost.	\$ cts.	Cost.	\$ cts.	Cost.	\$ cts.	Cost.	\$ cts.	Crest.	\$ cts.	Total.	Days.		$ cts.
Spoon dredge No. 1.....	3,228 29	1,013 30	2,119 72	469 99	6,831 30	142	48 11						
do No. 2.....	2,629 92	1,386 45	2,813 22	504 60	7,334 19	183	40 08						
do No. 3.....	3,441 38	1,393 30	2,814 05	565 21	8,213 94	184	44 64						
do No. 4.....	618 26	465 57	1,996 19	227 60	3,307 64	125	26 46						
do No. 6.....	2,124 92	414 22	2,160 17	347 67	5,046 98	119½	42 23						
do No. 7.....	627 03	318 37	1,785 64	216 51	3,147 55	100	31 48						
Dredges—totals.....	12,869 82	4,991 21	13,688 99	2,331 58	33,881 00	853½	39 62						
Floating derrick No. 2.....	167 00	309 80	1,599 97	153 44	2,230 21	152	14 67						
do No. 3.....	304 38	123 24	723 23	85 01	1,235 86	55	22 47						
do No. 4.....	562 69	647 00	2,572 29	279 48	4,061 46	179	22 69						
do No. 5.....	696 75	684 67	3,328 12	347 99	5,057 53	190	26 62						
do No. 6.....	753 24	571 70	2,879 31	310 65	4,514 90	140	32 25						
Derricks—totals.....	2,484 06	2,336 41	11,102 92	1,176 57	17,060 96	716	23 88						
Tag "Aberdeen".....	1,030 42	1,588 15	1,912 64	334 83	4,866 04	196	24 63						
do "St. Peter".....	662 47	1,927 64	1,927 19	307 41	4,467 71	198	23 57						
do "St. Louis".....	308 94	886 83	1,662 38	211 21	3,069 36	188	16 33						
Tugs—totals.....	2,001 83	4,045 62	5,502 21	853 45	12,403 11	582	21 31						
Scows and boxes—totals.....	4,826 28	.....	.....	.....	4,826 28	.....	.....				
Grand totals.....	22,181 99	11,373 24	30,204 12	4,361 60	68,210 95	.....	.....				

HARBOUR DREDGING.—Statement showing Cost of Harbour Commissioners' Dredging by the different Dredges, with their proportion of Tug and Scow Service for 1897.

Vessels.	Dredge Service.		Tug Service.		Scow and Box Service.		Dredge with Tug and Scow Service added.		Time of Service. Days.	Cost per Working Day of Dredge. \$ cts.	Quantity Dredged. Cubic Yards.	Average cost per Cubic Yard. Cents.	Additional cost for unloading by Dericks. Cents.	Proportions of Materials Dredged.	
	Cost. \$ cts.	Proportion of Cost.	Cost. \$ cts.	Proportion of Cost.	Cost. \$ cts.	Proportion of Cost.	Earth. p.c.	Rock. p.c.							
Spoon dredge No. 1.	6,831 30	2,063 55	802 98	802 98	9,697 83	142	68 20½	52,685	1847	5½	90½	94			
do No. 2.	7,334 19	2,659 37	1,034 80	1,034 80	11,028 36	183	60 26½	72,473	1491	5½	11	89			
do No. 3.	8,213 94	2,673 90	1,040 45	1,040 45	11,928 29	184	64 82½	83,488	1400	5½	54½	49½			
Totals.	22,379 43	7,396 82	2,878 23	2,878 23	32,654 48	509									
Less work of Nos. 2 and 3, raising No. 6 dredge.	469 10				469 10	7½									
Totals and averages.	21,910 33	7,396 82	2,878 23	2,878 23	32,185 38	501½									
Spoon dredge No. 4.	3,307 64	1,816 51	706 84	706 84	5,830 99	125									
do No. 6.	5,046 98				7,459 30										
Add cost of Nos. 2 and 3 raising No. 6 dredge.	469 10				469 10										
Total cost No. 6 dredge.	5,516 08	1,736 58	675 74	675 74	7,928 40	119½									
Spoon dredge No. 7.	3,147 55	1,453 20	565 47	565 47	5,166 22	100									
Totals and averages.	11,971 27	5,006 29	1,948 05	1,948 05	18,925 61	344½									
Grand totals.	33,881 60	12,403 11	4,826 28	4,826 28	51,110 99	853½									

For full description of materials dredged at the different places by the various dredges see detailed statements and Engineer's Report for 1897.

Harbours and Shipping.

HARBOUR Commissioners' Dredging Plant Employed in the Harbour of Montreal in 1897.

Description of Vessel.	HULL.			When Built.	ENGINES.				Depth to which Dredge can work.	Remarks.	
	Length over all.	Breadth of Beam.	Depth over all.		Kind of Engine.	Number of Cylinders.	Diameter of Cylinders.	Length of Stroke.			Pressure of Steam.
	Ft. in.	Ft. in.	Ft. in.		Inches.	Inches.	Inches.	Ft.			
DREDGES.											
Room spoon dredge No. 1.....	90 0	36 0	9 6	1890-1	{ Horizontal, non- condensing. }	2	16	18	110	41	Wooden hull.
do do do No. 2.....	90 0	36 0	10 3	1892		2	16	18	128	41	do do
do do do No. 3.....	90 0	36 0	10 3	1894		2	16	18	120	41	do do
do do do No. 4.....	77 3	27 0	6 6	1872		1	14	16	85	25	Rebuilt and altered, 1890.
do do do No. 6.....	77 0	27 0	7 6	1874		1	14	16	85	25	do do
do do do No. 7.....	77 3	27 0	7 0	1874		1	14	16	85	11	Rebuilt in 1889.
Crane do do	77 3	27 0	7 0	1874		1	14	16	85	11	Rebuilt in 1889.
DERRICKS.											
Clam shell derrick No. 2.....	57 0	23 6	5 9	1872	{ Horizontal, non- condensing. }	2	7	12	85	..	Wooden hull.
do do do No. 3.....	61 9	24 0	5 9	1875		1	10	12	85	..	do do
do do do No. 4.....	75 0	26 10	7 6	1892		2	12	14	110	..	do do
do do do No. 5.....	75 0	26 10	7 6	1892		2	12	14	110	..	do do
do do do No. 6.....	75 0	26 10	7 6	1892		2	12	14	110	..	do do
do do do No. 6.....	75 0	26 10	7 6	1892		2	12	14	110	..	do do
Pair of land derricks.....	42 0	40 0	.....	1892-3	2	12	14	110	..	..	Wooden framing.
Drilling and blasting boat.....	80 0	27 0	5 6	1895	2	12	14	110	..	..	Three 5-inch steam drills.
TUG BOATS.											
Tug St. Louis.....	67 0	15 0	8 7	1875	{ Vertical, non- condensing. Vertical condensing. }	1	16	20	85	..	Wooden hull / rebuilt
do St. Peter.....	71 6	16 6	8 6	1875		1	20	22	85	..	do do (in 1891.
do M. P. Davis.....	40 5	10 7	5 3	1879		1	10	12	..	..	Wooden hull.
do Aberdeen.....	79 3	18 3	9 0	1895		1	16	24	125	..	Steel hull.
do Aberdeen.....	73 3	14 0	3 1	1897		1	32	..	..	..	(Two wooden scows, braced 16 ft. apart.
Testing boat.....	73 3	14 0	3 1	1897	..	..	..	..	..	..	Wooden hull.
Floating shop.....	135 0	29 0	10 0	..	..	..	..	..	..	..	..

HARBOUR Commissioners' Dredging Plant Employed in the Harbour of Montreal in 1897—Concluded.

Description of Vessel.	HULL.			When Built.	Kind of Engine.	ENGINES.			Depth to which Dredge can work.	Remarks.	
	Length over all.	Breadth of Beam.	Depth over all.			Number of Cylinders.	Diameter of Cylinders.	Length of Stroke.			Pressure of Steam.
	Ft. in.	Ft. in.	Ft. in.			Inches.	Inches.	Inches.			Yds.
SCOWS.					Capacity.						
1 sounding scow	70 6	18 0	5 0	1873	45 cubic yds.				All wood.		
1 flat-deck scow	70 5	18 0	5 0	1873	45 do				do		
1 do	70 0	18 3	5 1	1874	45 do				do		
1 do	69 5	18 4	5 0	1875	45 do				do		
1 do	70 4	18 2	5 0	1875	45 do				do		
1 do	70 4	18 3	5 6	1875	45 do				do		
1 do	75 0	20 2	6 0	1876	67½ do				do		
1 do	75 4	20 4	6 3	1876	67½ do				do		
1 do	75 6	20 3	6 5	1878	67½ do				do		
1 do	75 6	20 3	6 3	1878	67½ do				do		
1 do	85 0	25 0	7 5	1891	150 do				do		
2 do	85 0	25 0	6 9	1891	150 do				do		
6 do	85 0	25 0	6 9	1892	150 do				do		
5 do	85 0	25 0	6 9	1893	150 do				do		

* The tug "M. P. Davis" was used by the government throughout the summer of 1897.

Harbours and Shipping.

HARBOUR COMMISSIONERS OF MONTREAL,
SECRETARY'S OFFICE,

MONTREAL, 23rd February, 1898.

SIR,—By direction of the Harbour Commissioners of Montreal, I transmit herewith, for the information of the Honourable the Minister of Marine and Fisheries, a copy of the report of the Harbour Master of Montreal for the year 1897, with six statements showing the tonnage and other particulars of the vessels which arrived.

I have the honour to be, sir,
Your obedient servant,

ALEXANDER ROBERTSON,
Secretary.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

REPORT OF THE HARBOUR MASTER OF MONTREAL, FOR THE YEAR 1897.

HARBOUR MASTER'S OFFICE,
MONTREAL, 11th January, 1898.

ALEXANDER ROBERTSON, Esq.,
Secretary, Harbour Commissioners of Montreal.

DEAR SIR,—For the information of the Board of Harbour Commissioners, I beg to submit the following as my annual report for the year ended 31st December, 1897, with four comparative statements, showing for the past ten years the number, tonnage, classification, greatest number in port at one time of vessels, sea-going and inland, dates of the opening and closing of navigation, and two statements showing the nationality, and number and tonnage of sea-going vessels consigned to the different shipping firms during the year 1897.

Seven hundred and ninety-six (796) sea-going vessels arrived in port during the season, of the aggregate tonnage of 1,379,002 tons, showing an increase in ocean tonnage of 162,534 tons over the previous year.

Of these vessels seven hundred and fifty (750) were built of iron or steel, of an aggregate tonnage of 1,368,948 tons, and forty-six (46) of wood, of an aggregate tonnage of 10,054 tons.

Of inland vessels there arrived in port six thousand three hundred and eighty-four (6,384) of an aggregate tonnage of 1,134,346, showing an increase in inland tonnage of 130,229 tons, and making a total of seven thousand one hundred and eighty (7,180) vessels of all classes and 2,513,348 tons, and an increase in tonnage of vessels of all classes of 292,763 tons. Some of the principal items of exports and imports (as obtained from the best sources of information) were :

EXPORTS.

Lumber.—There were shipped during the season of lumber, square and wane timber, to the United Kingdom and continental ports, 320,802,733 feet, board

measure, showing an increase over 1896 of 101,770,555 feet, and to the River Plate, 417,505 feet, a decrease of 7,372,661 feet from the previous year.

Grain.—There were shipped during the season 9,899,308 bushels of wheat, 9,210,222 bushels of corn, 1,779,777 bushels of pease, 5,122,074 bushels of oats, 179,044 bushels of barley, 855,135 bushels of rye, making a grand total of 27,045,560 bushels, and an increase of 8,143,513 bushels as compared with 1896.

Flour.—There were shipped 585,813 barrels, a decrease of 186,313 barrels from the previous year.

Meal.—There were shipped during the season 37,350 barrels, a decrease of 2,671 barrels in 1897.

Eggs.—Exportation of eggs is still increasing, there were shipped 167,120 cases, an increase of 25,267 cases over the previous year.

Cheese.—This year cheese shows a large increase, there were shipped 2,078,719 boxes, an increase of 356,668 boxes.

Butter.—There were shipped 222,923 packages, being an increase of 65,281 packages as compared with 1896.

Apples.—There was a large falling off in shipments of apples, there were shipped 170,784 barrels, being a decrease of 554,232 barrels in 1897.

Cattle.—There were shipped from Montreal 117,247 head of cattle, showing an increase of 20,799 head over 1896.

Sheep.—There were shipped from Montreal 60,638 sheep, a decrease of 15,882 head as compared with 1896.

Horses.—There were shipped from Montreal 10,051 horses, showing a decrease of 370 as compared with 1896.

Hay.—There were shipped during the season 36,325 tons, showing an increase of 23,818 tons over 1896.

IMPORTS.

Coal.—We received from Great Britain 48,754 tons, showing an increase of 6,156 tons; from the United States 277,256 tons, showing an increase of 71,277 tons; from the maritime provinces 698,740 tons, showing an increase of 29,354 tons; and a total increase of 106,787 tons during 1897.

Of this coal 737,610 tons were discharged in the harbour, and 287,140 tons in the canal.

Cement.—We had from all sources 302,204 barrels, an increase of 148,813 barrels.

Scrap Iron.—We had 14,191 tons, showing a decrease of 183,099 tons as compared with 1896.

REMARKS.

Last season was the first on record during which there were no full-rigged ships in port. H.M.S. "Talbot," a second-class cruiser, visited the harbour last summer, arriving on 17th June to take part in the Queen's Diamond Jubilee celebrations, Captain E. Gamble being in command.

The Government steamer "Druid" arrived on 30th August from Quebec with the Premier, the Right Hon. Sir Wilfrid Laurier on board.

The American frigate "Yantic" arrived on 30th October, Captain Moore commanding, and after a short stay, went on to Detroit.

Tracks for both the Grand Trunk and Canadian Pacific Railways were laid early in the summer on the new pier at Hochelaga and connected with the main lines, and were found a great convenience, especially by the lumber merchants.

A new siding was also laid at Windmill Point for the use of the Grand Trunk Railway.

Harbours and Shipping.

Part of the harbour dredging fleet is being wintered afloat in the lower basin of the Lachine Canal, and part opposite the harbour building.

The wharfs and roads were kept in good repair throughout the season.

Yours respectfully,

THOMAS HOWARD,

Harbour Master.

PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the Number, Tonnage and Classification of Sea-going Vessels that arrived in Port the past ten years, with the dates of the greatest number in Port at one time.

Years.	Steamships.	Tonnage.	Ships.	Tonnage.	Barques.	Tonnage.	Brigs.	Tonnage.	Brigantines.	Tonnage.	Schooners.	Tonnage.	Total Number of Vessels.	Tonnage.	Number in Port.
1888.	532	742,276	7	9,634	32	20,208	..	..	10	2,631	74	7,714	655	782,473	36, June 27
1889.	522	763,783	8	11,923	49	33,982	4	1,239	11	2,356	101	9,882	695	823,163	39, Aug. 14
1890.	624	889,189	9	13,127	33	19,442	2	590	8	1,323	70	6,671	746	930,332	37, Sept. 3
1891.	631	903,043	11	16,113	15	11,054	1	149	9	2,127	58	6,171	725	938,657	46, Aug. 19
1892.	658	1,004,396	8	11,705	21	15,405	1	149	4	809	43	4,243	735	1,036,707	39, July 12
1893.	737	1,128,658	3	4,014	11	8,893	..	..	5	1,856	48	8,356	804	1,151,777	42, July 19
1894.	684	1,079,313	3	4,324	14	9,609	..	..	5	901	28	2,762	734	1,096,909	32, May 23
1895.	592	1,055,611	1	1,545	9	7,714	..	..	7	1,689	31	2,827	640	1,069,386	25, June 18
1896.	669	1,200,543	5	7,350	6	4,003	..	..	9	2,052	20	2,520	709	1,216,468	37, July 29
1897.	752	1,368,395	..	..	8	3,958	..	..	7	1,745	29	4,904	796	1,379,002	40, July 28

THOMAS HOWARD,

Harbour Master.

PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the Number, Tonnage and Classification of Sea-going Vessels that arrived in Port from the Maritime Provinces the past ten years.

Years.	Steamships.	Tonnage.	Ships.	Tonnage.	Barques.	Tonnage.	Brigs.	Tonnage.	Brigantines.	Tonnage.	Schooners.	Tonnage.	Total Number of Vessels.	Total Tonnage.
1888.	213	195,598	1	1,199	4	3,097	..	..	3	701	35	3,375	256	203,952
1889.	184	174,076	..	..	1	998	..	..	3	441	52	4,668	240	179,183
1890.	252	235,722	..	..	..	..	..	..	1	170	42	3,714	295	239,606
1891.	272	260,702	..	..	2	1,462	..	..	2	520	29	3,067	305	266,751
1892.	289	275,040	..	..	3	2,215	1	149	2	340	36	2,214	331	280,958
1893.	333	324,188	..	..	..	..	1	169	..	..	34	2,577	368	326,934
1894.	349	362,945	..	..	3	2,323	..	..	4	609	23	2,230	379	368,107
1895.	256	296,256	..	..	..	..	..	..	5	1,070	30	2,734	291	300,060
1896.	252	292,881	..	..	1	178	..	..	4	734	15	1,188	272	294,981
1897.	298	364,936	..	..	..	..	..	..	2	376	11	1,051	311	366,363

THOMAS HOWARD,

Harbour Master.

PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the Number and Tonnage of Inland Vessels that arrived in Port the past ten years, with the greatest number in Port at one time.

Years.	Number of Vessels.	Tonnage.	Greatest Number in Port at one time.
1888.....	5,500	863,014	163—14 Aug.
1889.....	5,847	1,009,709	187—15 do
1890.....	5,162	966,959	167—20 Oct.
1891.....	5,268	1,119,484	151— 7 Sept.
1892.....	5,200	1,049,600	159— 6 Aug.
1893.....	5,244	1,153,600	158—25 July.
1894.....	4,666	979,809	172—20 May.
1895.....	4,498	943,717	165—20 July.
1896.....	4,832	1,004,117	160—11 June.
1897.....	6,334	1,134,346	200—20 July.

THOMAS HOWARD,
Harbour Master.

PORT OF MONTREAL.

COMPARATIVE STATEMENT showing the dates of the Opening and Closing of Navigation, first arrival from Sea, and the last departure for Sea, the past ten years.

Years.	Opening of Navigation.	Closing of Navigation.	First Arrival from Sea.	Last Departure for Sea.
1888.....	29 April.....	14 December....	4 May.....	22 November....
1889.....	14 do.....	29 do.....	27 April.....	23 do.....
1890.....	14 do.....	3 do.....	30 do.....	24 do.....
1891.....	17 do.....	17 do.....	27 do.....	21 do.....
1892.....	13 do.....	23 do.....	23 do.....	27 do.....
1893.....	24 do.....	4 do.....	13 May.....	23 do.....
1894.....	12 do.....	26 do.....	27 April.....	24 do.....
1895.....	20 do.....	6 do.....	27 do.....	25 do.....
1896.....	22 do.....	19 do.....	28 do.....	23 do.....
1897.....	17 do.....	19 do.....	30 do.....	24 do.....

THOMAS HOWARD,
Harbour Master.

Harbours and Shipping.

PORT OF MONTREAL.

STATEMENT showing the Nationality and Tonnage of Sea-going Vessels that arrived in Port during the Season of 1897, that were navigated by 27,610 Seamen.

Nationality.	Number of Vessels.	Tonnage.
British	739	1,288,958
Norwegian	39	48,705
German	10	33,631
Danish	2	4,484
American	6	3,224
Total	796	1,379,002

THOMAS HOWARD,
Harbour Master.

PORT OF MONTREAL.

NUMBER and Tonnage of Sea-going Vessels that were consigned to the following Merchants during the Season of 1897.

No.	Name of Firms.	Steam	Tonnage.	Sail	Tonnage.	Total Vessels.	Total Tonnage.
1	Kingman, Brown & Co.	192	235,983			192	235,983
2	H. A. Allan	95	234,717			95	234,717
3	R. Reford & Co.	94	190,246			94	190,246
4	Elder, Dempster & Co.	59	152,819	1	285	60	153,104
5	McLean, Kennedy & Co.	65	125,880	2	911	67	126,791
6	D. Torrance & Co.	43	110,789			43	110,789
7	Wm. Johnston & Co.	26	67,769			26	67,769
8	D. W. Campbell	25	64,510	1	491	26	65,001
9	Carbray, Routh & Co.	31	36,507			31	36,507
10	James Thom.	10	33,631	1	163	11	33,794
11	Hy. Dobell & Co.	36	26,508			36	26,508
12	J. G. Brock	17	19,431	7	536	24	19,967
13	Munderloh & Co.	7	15,629			7	15,629
14	Intercolonial Coal Co.	16	15,298			16	15,298
15	Petersen, Tate & Co.	10	14,936			10	14,936
16	Dobell, Beckett & Co.	6	10,008			6	10,008
17	Anderson, Mackenzie & Co.	1	1,904	17	5,759	18	7,663
18	Imperial Government	1	5,600			1	5,600
19	John Hope & Co.	2	3,362			2	3,362
20	Four others	16	2,868	15	2,462	31	5,330
	Total	752	1,368,395	44	10,607	796	1,379,002

THOMAS HOWARD,
Harbour Master.

APPENDIX No. 3.

REPORT OF THE HARBOUR COMMISSIONERS OF TORONTO FOR
THE YEAR ENDED 31ST DECEMBER, 1897.

FORTY-SEVENTH ANNUAL REPORT.

To the Commissioners of the Harbour of Toronto:

GENTLEMEN,—I have the honour to submit the annual report for the year 1897.

The harbour was clear of ice on the 17th March, having been frozen over for 85 days. The ice again formed on the 24th December and bore skaters on Christmas day.

The first arrival with freight was the SS. "Lakeside," Captain Wygle, from St. Catharines, on the 24th March, and the last to arrive was the schooner "P. E. Young," with a load of stone from Frenchman's Bay on the 22nd December.

The number of arrivals at this port during the season was 2,988 as against 2,820 in 1896.

	1896.	1897.	Increase.	Decrease.	Tonnage 1896.	Tonnage 1897.
Propellers, loaded.....	231	270	39		88,512	92,118
" light.....	51	34		17		
Steamers, loaded.....	1,852	1,944	92		750,893	796,059
" light.....	12	4		8		
Sailing vessels, loaded.....	635	707	52		69,741	66,402
" light.....	19	29	10			
	<u>2,820</u>	<u>2,988</u>			<u>909,146</u>	<u>954,579</u>

The total trade of this port is therefore close upon 2,000,000 tons register.

The number of vessels wintering here is 72, viz., 21 steamers, 22 schooners, 10 propellers, 9 steam launches, 6 sailing yachts, 2 steam tugs and 2 barges, also 4 dredges with their scows, in all about 13,921 tons register.

Cash receipts from all sources, including balance from last year, amount to \$19,465.90.

Expenses of all kinds, including the payment of \$5,000 for five bonds, which matured on 1st July, 1897, amount to \$18,933.90, leaving a cash balance of \$532.

The receipts of coal this year by water are 128,217 tons, as against 153,094 tons in 1896. This falling off in coal receipts is almost entirely attributable to the difficulty experienced in getting railway cars to bring the coal from the pit's mouth to the lake side. Soft coal brought by vessels this year amounts to 6,972 tons. The total quantity of coal per water and rail, per returns from the custom-house, are 320,489 tons of anthracite and 213,840 tons of bituminous coal, in all 534,329 tons.

The abundant fruit season of 1897 increased the number of packages carried by water from 252,185, in 1896, to 570,669 in 1897, an increase of 319,484 packages. This trade has no doubt been encouraged by the reduction in harbour dues made by the Commissioners during the summer, competition in the fruit carrying trade being particularly keen.

Dredging this year has cost the large sum of \$8,479.56—\$400 less than the total amount collected for harbour dues, and over \$5,000 more than last year. This increase was, to some extent, caused by the storm of 25th and 26th July, which re-

Harbours and shipping.

sulted in a flood in the River Don, bringing down sand and clay and filling up the approach to Princess Street dock to the depth of 9 feet, directly after a uniform depth of 14 feet had been dredged. This necessitated the return of the dredge and an extra cost of \$889.81. The cost of dredging the Princess Street dock and approaches is \$2,105.15, and the total cost of dredging east of Yonge Street is \$3,592.81. At the close of 1896 there was good water all along the eastern front of the harbour, and the amount of deposit represented by this sum has all been brought down the River Don since the summer of 1896. Had the agreement made by the city in 1891 to divert the River Don into Ashbridge Bay been carried out, this heavy annual expenditure, averaging \$3,000 per year, would be avoided. It is a constant and ruinous drain upon the small resources of the Trust, and a hindrance to the Commissioners in their desire to improve other portions of the harbour.

The highest water for the year was $9\frac{1}{2}$ inches above zero on July 27th. The lowest water was 23 inches below zero on January 18th. The average for the year is 5 inches below zero, being $3\frac{3}{4}$ inches higher than for last year.

The Government engineer in charge of the harbour works at the eastern entrance reports as follows:—

“The bar that had formed south of the east pier was removed, and some dredging done in the channel to the depth of 17 feet below zero on the city gauge.

“The severe gales of last winter caused a settlement of the north end of the east pier. This was straightened and repaired. The work of protecting the breakwater on the south shore of the island was continued.

“Three groynes, constructed of layers of brush mattresses, were placed on the south side of the island, and before close of navigation had made considerable beach.”

The fog horn was sounded on 23 days, viz., 3 in April, 2 in May, 5 in June, 1 in October, 7 in November and 2 in December. This service has been satisfactorily rendered.

The dwelling house at the Queen's wharf has been put into good shape. The boat-house has been removed, and the lighthouses have been furnished with new and up-to-date burners and lenses. Some slight repairs were done to the west end of the dock, and this portion of the wharf is in good repair and affords a neat and pleasing spectacle to the visitor. Some of the timbers at the east end of the dock are falling into decay and will need renewing ere long.

The lamps were lighted for the first time for the season on the evening of the 8th April, and were discontinued on the 14th December.

The following disasters have attended the Toronto fleet during the recent season:—The “W. Y. Emory” twice got out of her course and grounded on the sand bar opposite Ashbridge Bay. The propeller “Shickluna” collided with the S.S. “Tecumseh” on the 29th May off Long Point in Lake Erie, and sank in deep water, being a total loss. The schooner “Augusta,” loaded with coal, struck some obstruction outside the harbour limits on the 20th October, causing a slight damage, which was repaired in dry dock. The S.S. “Rosedale” took the bottom on a bar near the Charity Shoal on the 5th December, and was abandoned by the owners. The underwriters had her hauled off with difficulty, and she is now in the Kingston harbour. The stone hooker “Zebra,” being in a shaky condition, foundered during an autumn gale off Victoria Park. In no case was there any loss of life.

I am, gentlemen,
Your obedient servant,

COLIN W. POSTLETHWAITE,

Harbour Master.

TORONTO HARBOUR WORKS.

TORONTO, 6th January, 1898.

SIR,—I have the honour to report that after due advertisement, tenders were received for the dredging required in the harbour during the last season, the lowest being that of Messrs. McNamee & Simpson, at the following prices:—

On range course and north side of western channel, dumped at water works, 6 cents per cubic yard, in deep water, 12 cents; at wharfs and slips dumped in deep water, 11 cents per cubic yard.

The quantities dredged were as follows:—

	Cubic Yards.
On range course and north side of western channel, dumped at water works, at 6c. per cubic yard.....	7,906
On range course and north side of western channel, dumped in deep water, at 12c. per cubic yard.....	30,100
Elias Rogers & Co.'s Wharf, at 11c. per cubic yard.....	13,315
Yonge St. Wharf, west side, at 11c. per cubic yard.....	558
Grand Trunk Elevator No. 2, at 11c. per cubic yard....	1,234
Medler & Arnot's Wharf, at 11c. per cubic yard.....	880
Adamson's Wharf, at 11c. per cubic yard.....	3,750
Dickson & Eddy's Wharf, at 11c. per cubic yard.....	449
Polson & Co.'s Wharf, at 11c. per cubic yard.....	4,479
Princess St. Wharf (26 yards dumped at water works), at 11c. per cubic yard.....	4,932
Total.....	67,603

Several large boulders were also removed from the range course. The total amount paid to the contractor was \$7,805.32, including \$645.61 which should be paid by the City Council for dredging caused by deposits from the Yonge and Bathurst Street sewers.

As the water level of Lake Ontario is still low, the dredging at the western channel and range course, which was not completed last year, should be continued during the ensuing season.

The repairs to the light-keeper's house and Queen's wharf, including the building of a new boat-house, were completed last season.

I remain,

Your obedient servant,

KIVAS TULLY,
Engineer.

A. B. LEE, Esq.,

Chairman, Toronto Harbour Commissioners.

Harbours and Shipping.

SECRETARY of the Toronto Harbour Trust in account with the Commissioners for
the year ended 31st December, 1897.

DR.

GENERAL BALANCE SHEET.

CR.

	\$	cts.		\$	cts.
Wharf property.....	43,073	72	Debentures (not matured).....	15,000	00
Elevator.....	10,250	00	Profit and loss.....	39,447	63
Office furniture.....	591	91			
Cash in bank.....	517	09			
Cash in till.....	14	91			
	54,447	63		54,447	63

We have examined the books and vouchers and have compared the Balance Sheet, as above, with the said books, &c., and we certify the same to be correct, and to represent a true statement of the affairs of the Trust at this date, the 31st December, 1897.

W. R. HARRIS,
S. BRUCE HARMAN,
Auditors.

ARTHUR B. LEE, *Chairman.*
J. J. GRAHAM,
F. S. SPENCE,
W. A. GEDDES,
WM. GALBRAITH,
Commissioners.

Toronto, January 4th, 1898.

COLIN W. POSTLETHWAITE,
Harbour Master and Secretary.

RECEIPTS and Expenditure of the Toronto Harbour Trust for the year 1897.

RECEIPTS.	\$	cts.	EXPENDITURE.	\$	cts.
Cash in bank.....	5,425	11	Charges.....	286	50
Cash on hand.....	7	23	Premium and interest.....	875	00
City corporation water works.....	66	67	Lights, buoys and beacons.....	179	08
Canadian Pacific Railway Co.....	5,000	00	Insurance.....	101	40
Interest on deposit.....	79	10	Salaries.....	1,770	00
Harbour dues.....	8,883	79	General repairs.....	288	80
Sale of old material.....	4	00	Special repairs to Q. wharf house.....	1,099	36
			Printing and stationery.....	45	86
			Office expenses and rent.....	777	15
			Dredging.....	8,479	56
			Interest on overdraft.....	30	20
			Tools.....	25	39
			Engineer's fees.....	45	00
			Solicitor's fees.....	20	00
			Bonds matured.....	5,000	00
			Office furniture.....	10	60
			Cash in bank.....	517	09
			Cash on hand.....	14	91
	19,465	90		19,465	90

Audited and found correct,

W. R. HARRIS,
S. BRUCE HARMAN,
Auditors.

TORONTO, 4th January, 1898.

DR.	PROFIT AND LOSS.		CR.		
	\$	cts.	\$ cts.		
Charges.....	286	50	Balance per ledger	39,337	37
Premium and interest.....	875	00	Harbour dues.....	8,883	79
Lights, buoys and beacons.....	108	41	Interest on deposits.....	79	10
Insurance.....	101	40	Canadian Pacific Railway Co.....	5,000	00
Salaries.....	1,770	00			
General repairs.....	188	80			
Special repairs.....	1,099	36			
Printing and stationery.....	45	86			
Office expenses and rent.....	777	15			
Dredging.....	8,479	56			
Interest on overdraft.....	30	20			
Tools.....	25	39			
Engineer's fees.....	45	00			
Solicitor's fees.....	20	00			
Balance to Cr. of Profit and Loss....	39,447	63			
	53,300	26		53,300	26

Audited and found correct,

W. R. HARRIS,
S. BRUCE HARMAN,
Auditors.

TORONTO, 4th January, 1898.

STATEMENT OF ACCOUNTS IN DETAIL.

1897.	FURNITURE ACCOUNT.	\$	cts.	\$	cts.
Jan. 1.....	Amount per ledger folio 464	581	31		
Feb. 18.....	1 Chart case for 4 maps.....	10	60		
					591 91
	PROPERTY ACCOUNT.				
Jan. 1	Amount per ledger folio 408.....				43,073 72
	ELEVATOR ACCOUNT.				
Jan. 1.....	Amount per ledger folio 408.....				10,250 00
	GENERAL REPAIR ACCOUNT.				
Jan. 1)	Repairs to Queen's wharf.....	161	30		
Feb. 7)	do lighthouses.....	5	00		
Mar. 23.....	New flag pole.....	15	00		
May 27.....	3 Signboards for breakwater.....	7	50		
Aug. 10.....					188 80
	SPECIAL REPAIR ACCOUNT.				
	Rebuilding house at Queen's wharf.....				1,099 36
	CHARGES ACCOUNT.				
	Commissioners' and Auditors' fees for 1896.....				286 50
	LIGHTS, BUOYS AND BEACONS.				
April —.....	Repairing and painting buoys.....	46	52		
April-Dec	Placing out and taking up buoys.....	47	00		
May 3.....	Notice to mariners and posting.....	9	60		
do 21.....	New lights and burners for lighthouses.....	28	00		
Dec. —.....	Gas account for season.....	43	56		
	Sounding in channels.....	2	40		
May 20	Removing logs.....	2	00		
					179 08

Harbours and Shipping.

STATEMENT OF ACCOUNTS IN DETAIL—*Concluded.*

<i>Credit Account.</i>		\$ cts.	cts.
June 13....	Amount paid by city, per agreement.....	\$ 66 67	
May 12....	Sale of old material.....	4 00	
		70 67	
	INSURANCE ACCOUNT.		108 41
Jan. 20 ...	Premium on elevator and lighthouses, &c.....		101 40
	SALARIES.		
Dec. 31....	C. W. Postlethwaite, harbour master.....	1,020 00	
	Capt. William Hall, deputy harbour master.....	600 00	
	Captain Archibald Taylor, balance of bonus.....	150 00	
			1,770 00
	PRINTING AND STATIONERY.		
Jan. 18....	Arcade Printing Co., annual statement.....	18 50	
	do 1000 manifests.....	3 50	
April 9....	Brown Bros., letter paper.....	2 25	
do 10....	Grand & Toy, ream foolscap.....	3 50	
Oct. 1....	Arcade Printing Co., bill heads.....	1 00	
do 12....	Davies & Co., box steel pens.....	1 50	
Dec. 31....	Petty cash, postage, &c.....	15 61	
			45 86
	DREDGING ACCOUNT.		
	McNamee & Simpson, per contract.....	7,805 32	
	Kivas Tully, engineer's fees.....	390 24	
	Wm. Hamilton, check clerk.....	242 00	
	Advertising for tenders.....	32 00	
	Cost of drawing contract.....	10 00	
			8,479 56
	OFFICE EXPENSES.		
Jan. 25....	City directory.....	5 00	
do 25....	Diaries, head office and Queen's wharf.....	2 50	
Feb. 4....	Repairing book-case.....	2 00	
Mar. 1....	Mounting charts.....	1 50	
do 13....	1 guard book for vouchers.....	0 75	
April 7....	1 map stand.....	1 75	
Oct. —....	Subscription to "Globe".....	5 00	
June 1....	Water rate at Queen's wharf.....	5 60	
July 5....	J. E. Ellis & Co., repairing office clock.....	2 25	
Sept. 22....	Brown Bros., letter copy book.....	2 80	
Oct. —....	Telephones, head office and Queen's wharf.....	90 00	
Nov. —....	Rent of offices for 1 year.....	650 00	
Dec. —....	Petty cash disbursements.....	8 00	
			777 15
	ENGINEER'S FEES.		
Jan. 12....	Report on dredging required for season.....	30 00	
June 18....	Superintending rebuilding at Queen's wharf.....	15 00	
			45 00
	SOLICITOR'S FEES.		
Feb. 19....	Professional advice <i>re</i> pending suit.....		20 00
	DEBENTURE ACCOUNT.		
July 1....	Taking up 5 Commissioners' bonds.....		5,000 00
	PREMIUM AND INTEREST ACCOUNT.		
July 2....	To half-year's interest on 20 bonds.....	500 00	
Dec. 31....	do do 15 do.....	375 00	
			875 00
	INTEREST ACCOUNT.		
June 20....	By interest on deposit at bank.....	68 40	
Nov. 30....	do do.....	10 70	
			79 10
	Debit Account.		
July to Oct.	To interest on overdraft at bank.....	30 20	
			48 90

COMPARATIVE STATEMENT—Goods arrived per steamer and vessel for the years
1896 and 1897.

Description of Goods.	1896.	1897.	Description of Goods.	1896.	1897.
General merchandise...tons.	13,768 $\frac{3}{4}$	14,198 $\frac{1}{2}$	Fruit.....bags.	313	15
Coal.....do	153,094	128,217	Fire bricks.....	47,000	23,400
Lake stone.....toise.	1,565 $\frac{1}{2}$	1,847 $\frac{1}{2}$	Common bricks.....	237,000	150,000
Building stone.....tons.	6		Lumber.....	1,005,000	255,000
Moulding sand.....do		349	Grain.....	121,800	100,040
Fruit.....barrels.	4,979	2,658	Sheep and hogs.....		27
do.....boxes.	7,807	12,908	Horses, cattle and vehicles.	176	176
do.....baskets.	239,086	555,088			

COLIN W. POSTLETHWAITE,

Harbour Master.

TORONTO, 1st January, 1898.

Harbours and Shipping.

APPENDIX No. 4.

REPORT OF THE QUEBEC HARBOUR COMMISSIONERS FOR THE
YEAR ENDED 31ST DECEMBER, 1897.

(Under 38 Victoria, Chapter 55, Section 14.)

QUEBEC, 3rd January, 1898.

To the Honourable Sir L. H. DAVIES, M.P.,
Minister of Marine and Fisheries, &c.,
Ottawa.

SIR,—In compliance with the requirements of the 38th Victoria, chapter 55, section 14, I have the honour to report as follows on the doings of the Quebec Harbour Commissioners for the year 1897.

CHIEF ENGINEER'S REPORT.

The annexed report (marked A) from the chief engineer, Mr. St. George Boswell, conveys all the usual information in relation to the harbour works, and the various additions and repairs made to them, and to the other properties of the Commissioners during the year.

WHARFINGER'S REPORT.

The annexed report (marked B) from the wharfinger, Mr. Jas. F. Golden, gives all the usual information regarding the number of vessels using the Louise docks, cargoes loaded and discharged, passengers landed at Immigration Department, and the surface traffic over this portion of the Commissioners' property during the year 1897.

HARBOUR MASTER'S REPORT.

The report (marked C) from the harbour master, Mr. James C. Sullivan, gives information regarding the opening and closing of navigation, formation of ice, disposal of ballast, &c. The Commissioners are pleased to have again to record that during the past season no ballast has been allowed to be dumped into the harbour, all of it having been utilized in the Commissioners' properties.

PREMISES LEASED.

The only change of any importance that has taken place in the premises leased by the Commissioners is, that as it was found a hindrance and injurious to the passenger and steamship traffic of the docks to have a large coal depot occupying one-half of breakwater at which all the ocean mail and immigrant steamers touch to land their inward cargoes and passengers, it was decided not to renew the lease of Messrs. Geo. M. Webster Company who were using it for the purpose mentioned, but they were allotted two hundred and fifty feet of the quay frontage at the western extremity of the inner basin that equally suits their purpose.

Store No. 11 on Dalhousie Street, formerly occupied by Mr. Wm. Carrier, has been leased to Mr. Geo. Tanguay

ELECTION BY THE SHIPPING INTEREST.

At the meeting of the Commissioners held on the 11th January, a certificate was received from the shipping interest informing that the Honourable John Sharples, M.L.C., had been elected as their representative on the Commission in the place of and to complete the unexpired term of the late Mr. William Rae.

ACTING CHAIRMAN.

During the absence in Europe of the Chairman (Mr. J. B. Laliberté) Mr. Narc. Rioux was the presiding officer, having been unanimously elected by the board as acting chairman.

VISIT FROM THE HONOURABLE THE MINISTER OF PUBLIC WORKS.

On the 27th of July the Honourable the Minister of Public Works with his chief engineer, Mr. Louis Coste, and accompanied by the chairman and a large delegation of the Quebec Harbour Commissioners, visited and made a thorough inspection of the Louise docks, breakwater and Point-à-Carcy wharf, when the opportunity was taken to bring before and impress on the Honourable the Minister the further requirements needed to complete those works. The party then proceeded to Point Lévis to inspect the graving dock, and it was then strongly pressed upon the Minister the urgency of increased docking accommodation being given, and the necessity of the south shore having better wharfage accommodation so as to meet the requirements of its large and increasing deal trade.

REVISION AND CODIFICATION OF LAWS AND BY-LAWS.

The laws and by-laws of the Commissioners now in force having through lapse of time, change of trade and repeated amendments become obscure and insufficient for the purposes for which they were framed, it has been decided to revise and consolidate them, retaining what is useful and repealing those provisions that have become obsolete and embodying the whole in one Act that will be known as "The Quebec Harbour Commissioners Act." This work of revision and codification is now considerably advanced, and it is hoped that it will be ready in time to be put through during the next session of Parliament.

REPAIRS TO PROPERTIES.

Careful attention has been given to the work of repairing, maintaining and bringing up the various properties of the Commissioners to a first-class condition. This year the expenditure for this purpose has been higher than usual, as quite extensive repairs were made to some of the wharfs and stores. The details of this expenditure are as follows:—

Point-à-Carcy wharf	\$5,078	33
East India wharf	1,091	93
Grand Trunk wharf	548	72
Wellington wharf	289	91
Atkinson's wharf	296	31
Reynar's wharf	466	02
	<hr/>	
	\$7,771	22

Explanations as to the nature of those repairs will be found in the chief engineer's report.

Harbours and Shipping.

POINT-A-CARCY EXTENSION.

This extension is now finished, the fenders and chocks having been fitted to the crib-work and the work of filling completed. The total expenditure to the 1st of January, 1898, has been \$86,275.36.

REVENUE AND EXPENDITURE.

The Commissioners' revenue for 1897 was seventy-five thousand two hundred and eighty-one dollars and nine cents (\$75,281.09)—an increase over that of 1896 of \$5,146.05—and the working expenses forty-three thousand and sixty eight dollars and ninety-five cents (\$43,068.95), thus leaving a surplus of thirty-two thousand two hundred and twelve dollars and fourteen cents (\$32,212.14) on the year's operations.

Included in this surplus of \$32,212.14 is the charge of thirteen thousand eight hundred and forty-five dollars and forty-eight cents (\$13,845.48) for rent of ground occupied by the immigrant buildings.

CAPITAL ACCOUNT.

The following has been the expenditure on capital account:—

Breakwater wharf	\$ 47 25
Harbour improvements	713 28
Hopper barge	478 00
Point-à-Carcy deepening	3,125 59
Steam crane dredger	4,297 10
	<hr/>
	<u>\$8,661 22</u>

ICE CUTTING.

Forty-three thousand and forty (43,040) blocks of ice, all for local use, have been cut during the winter of 1896-97, a decrease of nine thousand two hundred and sixty-one (9,261) blocks, as compared with the cut of the previous year.

To this report are annexed the various statements conveying the information yearly forwarded to your department in connection with the harbour, as also a complete statement of Commissioners' accounts for the year.

I have the honour to be, sir,

Your most obedient servant,

JAS. WOODS,
Secretary-Treasurer.

A.

HARBOUR ENGINEER'S OFFICE,
QUEBEC, 3rd January, 1898.

JAMES WOODS, Esq.,
Secretary-Treasurer, Harbour Commission.

SIR,—I have the honour to submit herewith the following with reference to the various works executed during the working season of 1897.

PRINCESS LOUISE DOCKS.

The quay wall, forming the southern side of the tidal harbour, is now completed. The balance of the fenders and chocks having been fitted to the crib-work

during the past season, and the filling of the space between the new crib-work and the old Point-à-Carcy wharf brought up to coping level and trimmed off, five thousand tons of materials taken from ships' ballast having been used for this purpose, a coal platform three hundred by fifty (300 x 50) feet has been laid down on the area obtained by filling the space between the new crib-work and the Point-à-Carcy wharf.

Soundings were taken during the winter of 1896-97, extending over one hundred feet out from the faces of the quay walls in the tidal harbour and wet docks, and a new plan showing the depths of water prepared.

Five cast-iron mooring posts were substituted for the remaining wooden posts in the quay wall of the tidal harbour; also three cast-iron mooring posts were placed in advantageous positions on the breakwater. A number of the wooden mooring posts along the northern crib-work have been renewed during the past season.

The repairs to the railway tracks consisted in repacking the railway cross-ties throughout the entire length of railway lines, replacing 700 defective ties and renewing a number of the rails.

Four new chain ladders were placed on the breakwater and the planking of the wharf in front of the old immigration building renewed and the space beneath it filled with ships' ballast, four hundred and fifty tons of ships' ballast having been used for this purpose and for levelling off portions of the Louise Embankment. The cross-wall freight sheds were put into good order and painted, as well also the cross-wall engine house, bridge and entrance gates, and the planked roadway between the bridge tracks renewed. The valves for regulating the depth of water in the inner basin have been repaired and are now in good order. The grab dredge worked in the tidal basin from 16th August to 8th November, and removed during that time 10,000 cubic yards of materials, chiefly consisting of silt.

POINT-A-CARCY WHARF.

The northern face of this wharf, contiguous to the Q. H. C. Store No. 1, for a length of 150 feet has been taken down and rebuilt, and a considerable quantity of ships' ballast used for levelling the surface of the wharf at its eastern end.

The faces of the Point-à-Carcy and other wharfs inclosing the Commissioners' pond, have been replanked and the fenders when defective renewed.

EAST INDIA WHARF.

The foundation sill along the south side of the Q. H. C. Store No. 6 was renewed, as were also the frame posts up to the first flat; the sill supporting the middle set of posts was levelled and in places renewed, and the posts on ground flat replaced by larger ones. All the broken joists were replaced and the store generally strengthened. The surface of the wharf, between the stores Nos. 5 and 6, has been raised up to the same level as the front portion of the wharf, filled in and planked. A new foundation has also been placed under the weigh-house on this wharf and the scale put into good order.

A part of the foundation sill and a number of the posts and joists in the store No. 4 were renewed, and the south and west sides of the roof covered with galvanized iron.

GRAND TRUNK AND WELLINGTON WHARFS.

The surface area in front of the freight shed on Wellington wharf has been macadamized, and the wharf surface between the shed and the river planked. The

Harbours and Shipping.

roadway leading to the Grand Trunk wharf has also been macadamized, and the part of the wharf at the head of the slip filled in and planked. A number of the fenders on the faces of both wharfs have been renewed and the property generally put into good order.

ATKINSON'S WHARF.

The defective fenders on this wharf were replaced and a new sidewalk laid down in Dalhousie street, along the Atkinson and Marmette wharf frontages.

REYNAR'S WHARF.

The foundation to the weigh-house on this wharf has been repaired and the building sheeted with Canada plate. A new planked approach to the wharf has been constructed, the coal sheds repaired, and a sidewalk laid down along the Champlain street frontage. The face of the wharf has also been put into good condition.

The Commissioners buildings, when required, have been painted, including the offices in the building No. 4, occupied by Messrs. Verret, Stewart & Company.

The offices occupied by the Commissioners have been remodelled and modernized, painted and papered throughout, and much needed fire-proof vaults and other requirements provided.

The cross-wall draw bridge was operated for the first time on 14th April.

The entrance gates were shut for the first time on 10th May, and remained in operation until 21st November.

The draw bridge was operated for the last time on 1st December, on which date the inner basin was frozen over.

The entrance gates were not opened for the morning tide of 21st August, the evening tide of 23rd August, and the morning tide of 18th October, the tide on the above dates not having risen sufficiently high for the purpose.

I have the honour to be, sir,
Your obedient servant,

ST. GEORGE BOSWELL,
Chief Engineer.

B.

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 3rd January, 1898.

JAMES WOODS, Esq.,
Secretary-Treasurer, Harbour Commission,
Quebec.

SIR,—I have the honour to submit the following with reference to the traffic of the Louise docks and wharfs.

During the past season fifty-one (51) ocean mail steamships, of one hundred and fifty-two thousand four hundred and eighty-one (152,481) tons register, used the docks for landing immigrants, baggage, &c., and four thousand three hundred and ninety-seven (4,397) tons of Quebec and western freight.

Twenty-seven (27) steamships, of eighty-two thousand one hundred and eight (82,108) tons register, lightered one thousand two hundred and one (1,201) tons of Quebec freight and landed their immigrants.

Twenty-three (23) ocean steamships, of fifty-one thousand eight hundred and nine (51,809) tons register, landed fifteen thousand five hundred and sixty (15,560) tons of freight.

Twenty-three (23) steamships, of twenty-five thousand four hundred and ten (25,410) tons register, have used the docks, discharging their full cargoes of forty-four thousand seven hundred and twelve (44,712) tons coal.

Eight (8) sailing ships, of six thousand six hundred and sixty-four (6,664) tons register, have used the docks, discharging their full cargoes of six thousand six hundred and twenty-four (6,624) tons coal, and forty-four (44) barges and schooners of four thousand eight hundred and sixty-nine (4,869) tons register, discharged six thousand nine hundred and fifty-three (6,953) tons coal.

Eight (8) sailing vessels, of one thousand seven hundred and eighty-six (1,786) tons register, landed one thousand nine hundred and sixty-seven (1,967) tons of molasses.

Three (3) sailing vessels, of two thousand and one (2,001) tons register, landed one thousand eight hundred (1,800) tons of salt.

Sixteen (16) gulf port steamships, of one thousand five hundred and sixty-eight (1,568) tons register, landed two hundred and ninety-four (294) tons goods.

Eighteen (18) sailing ships, of sixteen thousand four hundred and eighty-eight (16,488) tons register, have used the docks, loading full cargoes of timber, deals, &c.

Thirteen (13) steamships, of twenty-three thousand and sixty-six (23,066) tons register, have used the docks, loading full cargoes of timber, deals, &c.

Forty-three (43) steamships, of one hundred and four thousand one hundred and forty-four (104,144) tons register, have used the docks, loading part cargoes of timber, deals, &c.

Five (5) steamships, of fourteen thousand and thirty-four (14,034) tons register, have used the docks, loading two thousand two hundred and forty-two (2,242) head of cattle, completing cargoes with deals, &c.

Sixteen (16) Gulf port steamships, of one thousand five hundred and sixty-eight (1,568) tons register, also used the docks, loading five hundred and twenty-eight (528) tons of outward freight.

The surface traffic has required the employment of four thousand and thirteen (4,013) railway cars.

IMMIGRATION TRAFFIC.

During the past season the different ocean mail steamships landed seven thousand six hundred and fifty-four (7,654) steerage passengers at the immigration station, Louise docks, who were forwarded to their future homes by the Canadian Pacific Railway Company.

No record has been kept of cabin passengers.

The following vessels who had suffered accidents on their outward trips were accommodated in the Louise basin, where they in some cases, having discharged the whole or a portion of their cargoes, and after repairs were made, re-loaded and proceeded to sea:—

SS. "Arcadia," SS. "Strathgarry," SS. "Derwent Holme," SS. "Simonside," SS. "Eveline," SS. "Arabia."

The SS. "Turret Cape," having grounded on St Vallier's shoal, after being floated, was towed into Louise basin and discharged the larger portion of her cargo; she was afterwards placed in the graving dock, Lévis, where she now lies.

Harbours and Shipping.

The freight sheds on the cross-wall are utilized during the winter months for storing grain, salt, &c., which the owners are obliged to remove before the opening of navigation.

The docks are used, from the 20th of November, for wintering a large number of vessels of various tonnages, where they find safe quarters to the opening of navigation.

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

JAS. F. GOLDEN,
Wharfinger.

C.

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 6th January, 1898.

JAMES WOODS, Esq.,
Secretary-Treasurer, Harbour Commission,
Quebec.

SIR,—I beg to report that during the past season twenty (20) sailing vessels discharged five thousand eight hundred and ninety-five (5,895) tons of ballast into the Commissioners' properties subdivided as follows :—

	Tons.
Point-à-Carcy wharf	5,115
Breakwater wharf	630
Inside basin	150
	5,895

The cost of obtaining this ballast has been four hundred and thirty-nine dollars and ten cents (\$439.10), or say an average of seven and one-half (7½) cents per ton. There has been a decrease of nine (9) ballast vessels, and two thousand seven hundred and forty-one (2,741) tons of ballast this year as compared with that of 1896.

Four hundred copies of harbour rules and regulations have been distributed to vessels entering the harbour during the season of navigation and the carrying of them out carefully attended to, one action having been taken for an infringement of the by-law concerning the clear water space.

Notices have been posted up in suitable localities warning parties from discharging rubbish of any kind into the harbour, and every possible precaution is being taken to prevent any violation of this regulation of the Commissioners.

In addition to the routine work of the office one hundred and ninety-seven (197) steamers and thirty-six (36) sailing vessels have been berthed in the Louise docks.

The following is a memorandum regarding the opening and closing of navigation and the formation of the ice in the harbour of Quebec for the year 1897.

On the 7th April three (3) schooners arrived from the lower parishes loaded with firewood.

The ice in the tidal basin and wet dock broke upon the 20th April, five (5) days earlier than last year.

The River St. Charles cleared on the 24th April, as also the Orleans ice bridge.

The Cape Rouge ice passed down on the 16th April.

The lake ice passed down on the 21st of April, the SS. "Polino" passing up to Montreal on the same day.

The steamer "Montreal," of the Richelieu and Ontario Navigation Company, arrived on the 25th April, five days earlier than last year.

The SS. "Montezuma" was the first ocean steamer to arrive from sea, on the 29th April; the first sailing vessel to arrive from sea to this port was the ship "Hoveding" on the 22nd May.

The last ocean mail steamer to leave port was the SS. "State of California," on the 22nd of November.

The last freight steamer was the SS. "Loango" on the 27th November.

The last sailing vessel to leave port was the bk. "Stratford," which left on the 17th November.

The Louise basins were frozen over on the 17th December, and the St. Charles on the 22nd December, and the bridge to the Island of Orleans on the 5th January.

I remain, sir,

Your obedient servant,

JAS. C. SULLIVAN,
Harbour Master.

Harbours and Shipping.

STATEMENT showing the Movement of the Coasting Trade of the Harbour for the Season of Navigation of 1897 (as reported at this office).

Cargoes by schooners.....	460
do bateaux.....	492
do barges.....	74
do steamboats.....	314
Tonnage.....	390,347
Crews, men.....	17,770
Passengers.....	99,377

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 31st December, 1897.

QUEBEC HARBOUR COMMISSION.

COMPARATIVE STATEMENT of the Revenue of the Commissioners for the years 1896-97.

	1896.		1897.		Difference in 1897.		
	\$	cts.	\$	cts.	\$	cts.	
Tonnage dues.....	12,558	17	14,352	87	1,794	70	Increase.
Import do.....	3,547	43	3,246	78	300	65	Decrease.
Export do.....	4,515	70	5,631	69	1,115	99	Increase.
Harbour do.....	2,392	10	2,406	17	14	07	do
Property receipts.....	45,347	73	47,789	22	2,441	49	do
Interest.....	360	33	450	21	89	88	do
Beach and deep water lots.....	1,406	11	1,397	90	8	21	Decrease.
Sundries.....	7	47	6	25	1	22	do
	\$70,135	04	\$75,281	09	\$5,146	05	Increase.

CR.

REVENUE AND EXPENDITURE.

DR.

1897.		\$	cts.
Dec. 31 To	Tonnage dues.....	14,352	87
	Import do.....	3,246	78
	Export do.....	5,631	69
	Harbour do.....	2,406	17
	Property receipts.....	47,789	22
	Beach and deep water lots.....	1,397	90
	Interest.....	450	21
	Sundries.....	6	25
		\$75,281	09
Dec. 31 By	Office salaries.....	8,249	80
	Reporters' salaries.....	396	50
	Legal expenditure.....	925	83
	Nocarial expenditure.....	141	80
	Property do.....	28,975	53
	Commissioners' attendance.....	2,075	00
	Range lights.....	80	00
	Reports and annexures for 1896.....	416	00
	Auditors for 1896.....	200	00
	Painting and papering offices.....	554	44
	Plastering offices.....	213	65
	Building vault.....	372	00
	Plumbing.....	129	70
	Repairing roof.....	71	34
	Furnishing.....	442	11
	Office telephones.....	60	50
	Covering awnings.....	33	00
	Bell Telephone Company.....	125	00
	Removing snow.....	75	00
	Lumber, general use.....	60	00
	Hardware, do.....	183	70
	T. Gendreau, "St. Thomas," reporting ballast vessels.....	50	00
	Harbour master's service, in Quebec.....	180	50
	Sundries.....	2,067	55
	Surplus over the working expenses.....	32,212	14
		\$75,281	09

MEMO.—Included in this surplus of \$32,212.14 is the unsettled annual charge of \$13,845.48 against the Department of the Interior for the rent of the ground occupied by the immigration buildings.

JAS. WOODS,
Secretary-Treasurer.

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 3rd January, 1898.

Harbours and Shipping.

BALANCE SHEET OF 31ST DECEMBER, 1897.

DR.

CR.

	\$	cts.	\$	cts.
To Office furniture				
Amount at debit of grantees of beach and deep water lots		3,591 97		
Amount at debit " sundries " for rents, wharf- age, &c		42,438 35		
Unsettled claims against Dominion Government		8,013 88		
Breakwater wharf		167,801 59		
Pointe-a-Carey wharf		223,563 08		
East India do		288,907 40		
Grand Trunk do		15,740 32		
Wellington do		86,541 85		
Atkinson's do		51,103 20		
Reynar's do		3,918 29		
Pointe-a-Carey extension		86,275 36		
Harbour Improvements— River St. Charles		3,116,918 15		
Cash on hand	748 98			
Cash deposited	25,527 08			
Hopper barge and steam crane		26,276 06		
Jackscrews account		9,955 68		
Anchor do		394 87		
Tools do		264 38		
Bills receivable		2,418 30		
Suspense account— Rents for November and December	1,924 93			
Arrears on grants, 24th June to 24th Dec	984 24			
		2,909 17		
		4,194,099 44		
By Beach and deep water lots				
Receiver General			56,530 64	
Outstanding accounts			43,380 00	
Quebec Harbour debentures			576 16	
Profit and loss			3,612,802 42	
			480,801 22	
			4,194,099 44	

JAS. WOODS, *Secretary-Treasurer.*

We hereby certify that we have examined the books and vouchers of the Quebec Harbour Commission on the 31st December, 1897, and that this balance sheet is correct.

A. J. MESSERVEY, } *Auditors.*
NAP. MATTE, }

QUEBEC, 27th January, 1898.

STATEMENT of Assets and Liabilities, as per Balance Sheet.

1897.	ASSETS.	\$	cts.	1897.	LIABILITIES.	\$	cts.	\$	cts.
Dec. 31.	Real estate— Breakwater wharf..... Point-à-Carey wharf..... East India do..... Grand Trunk do..... Wellington do..... Atkinson's do..... Reynar's do.....	225,563 08 288,907 40 48,552 99 15,740 32 86,541 85 51,103 20 9,918 29		Dec. 31.	Quebec Harbour debentures..... Receiver General..... Outstanding accounts.....	3,612,802 42 43,380 00 576 16		3,656,758 58	
	Harbour Improvements— River St. Charles..... Point-à-Carey wharf..... Deepening inside face.....		736,327 13		Surplus, composed as follows— Beach and deep water lots..... Profit and loss.....	56,539 64 480,801 22		537,340 86	
	Cash— On hand..... On deposit.....	748 98 25,527 08							
	In re beach and deep water lots— Capital at debit "sundries"..... Arrears of interest to 24th June..... do 24th December.....	36,690 27 5,748 08 984 24							
	Rents, wharfage, &c.— Due by sundries "per balance sheet"..... Rentals for November and December.....	8,013 88 1,924 93							
	Dominion Government for unsettled claims..... Hopper barge and dredger..... Jackscrews on hand..... Anchors do..... Tools do..... Bills receivable..... Office furniture.....	9,938 81 167,801 69 9,356 68 394 87 264 38 2,418 30 514 55 3,591 97						4,194,099 44	
			4,194,099 44						

JAS. WOODS, *Secretary-Treasurer.*

We hereby certify that we have examined the books and statement of assets and liabilities of the Quebec Harbour Commission for the year 1897, and that we have found the same in all particulars the true position of the Trust at that date.

A. J. MESSERVEY, } *Auditors.*
NAP. MATTE, }

QUEBEC, 27th January, 1898.

Harbours and Shipping.

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 27th January, 1898.

To the Chairman and Commissioners,
Quebec Harbour Commission.

GENTLEMEN,—We beg respectfully to report that we have audited the books and vouchers of the Commission for the year 1897, and we are pleased to state that we have found everything in order.

We have to thank the secretary for having given us all the facilities possible.

We have the honour to be, gentlemen,
Your obedient servants,

A. J. MESSERVEY,
NAP. MATTE,
Auditors.

APPENDIX No. 5.

REPORT OF THE HARBOUR COMMISSIONERS OF BELLEVILLE
FOR THE YEAR ENDED 31ST DECEMBER, 1897.

BELLEVILLE, 12th January, 1898.

To the Honourable
The Minister of Marine and Fisheries,
Ottawa, Ont.

SIR,—The Harbour Commissioners of the city of Belleville beg to submit herewith a statement of the receipts and expenditures in connection with the harbour for the year ending 31st December, 1897.

The report of the harbour master for the year is also inclosed.

The amount expended for harbour improvement was for work done on the west bank of the river in connection with the river wall and embankment. The work was of a very substantial and permanent character, and included the removal of 860 cubic yards of old dock, some 200 cubic yards of boulders, the blasting and removing of 377 cubic yards of rock from the river bed, excavating for and building of 404 lineal feet of new wall. The wall is finished with a very heavy coping of a minimum thickness of 12 inches, and a minimum width of three feet.

There is now 700 feet of completed wall along the west bank of the river, which will no doubt prevent the overflowing of the river and the flooding of that part of the city, by confining the river within its banks.

I have the honour to be, sir,
Your obedient servant,

GEO. WALLBRIDGE,
Chairman, Board of Harbour Commissioners City of Belleville.

Dominion of Canada, Province of Ontario, County of Hastings, To Wit	}	IN the matter of the Report of the Harbour Commissioners of the city of Belleville for the year ending 31st December, 1897.
------------------------------------------------------------------------------	---	-----------------------------------------------------------------------------------------------------------------------------

I, George Wallbridge, of the city of Belleville, in the county of Hastings, merchant, do solemnly declare that :

1. I am chairman of the Harbour Commissioners of Belleville.
2. That annexed hereto is a statement of the receipts and expenditures of the Harbour Commissioners of Belleville for the year ending 31st December, 1897.
3. That the said statement is true and correct as therein set forth.
4. That nothing is wilfully omitted therefrom which should be stated therein, or improperly inserted therein, to the best of my knowledge, information or belief.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of "The Canada Evidence Act, 1893."

GEO. WALLBRIDGE.

Declared before me at the city of Belleville,
in the county of Hastings, this 12th day
of January, A.D. 1898.

GEO. DENMARK,
A Commissioner, &c.

Harbours and Shipping.

STATEMENT of the Receipts and Expenditure of the Harbour Commissioners of Belleville, Ont., for the year ending 31st December, 1897.

DR.

CR.

	\$	cts.		\$	cts.
<i>Receipts.</i>			<i>Expenditure.</i>		
Harbour dues collected for the year, as per harbour master's report.....	2,240	10	Piers—Repairing and replacing.....	124	45
Rent of small house on river bank.....	30	00	Buoys—Placing, removing and painting.....	13	49
			Booms—Swinging and removing.....	100	00
			Harbour improvement—		
			Construction of wall and embankment on west side of river.....	1,257	35
			Salaries—		
			Harbour master.....	\$600	00
			Tally clerk.....	54	00
			Office expenses—	654	00
			Rents.....	\$18	00
			Postage and stationery.....	6	25
			Fuel.....	4	15
Balance on hand Jan. 1st, 1897.....	2,005	96	Balance on hand and in bank.....	28	40
				2,177	69
				2,098	37
				4,276	06

BELLEVILLE, 11th January, 1898.

To the Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—The undersigned harbour master of the city of Belleville begs to submit the following report for the year 1897.

Navigation opened in Belleville harbour on the 13th day of April and closed on the 1st day of December.

Import dues on 12,347 tons coal.....	\$1,234 70
do 261,563 feet lumber	13 08
do 111½ tons salt	11 15
do 100,000 lath	1 25
do 62 tons cement	6 20
do 323 cords wood	16 15
do 325 tons coal dust	32 50
do 226 tons potters' clay	13 56
do 5 tons charcoal	0 50
do 4,000 shingles	0 10
do 1,026 tons mdse.....	102 60

\$1,431 79

Export dues on logs and timber	\$656 46
do 253,000 feet lumber	12 65
do 6,000 shingles	1 80
do 31½ tons coal oil.....	3 15
do 29,500 bushels rye	36 84
do 23,093 bushels pease	28 79
do 8,412 bushels oats	10 52
do 581 tons mdse.....	58 10

\$808 31

Dues collected during the season are as follows:—

Total amount derived from imports.....	\$1,431 79
Total amount derived from exports	808 31

\$2,240 10

The amount of dues from imports show a slight increase over last year.

The dues from exports are less than last year owing to a smaller number of logs and timber having been brought down the river Moira than in former years.

Owing to the water being higher, less trouble was experienced this season in reaching this port, but a good deal of dredging is required to be done to improve the harbour.

All of which is respectfully submitted.

I have the honour to be, sir,
Your obedient servant,

D. COLLINS,
Harbour Master.

Harbours and Shipping.

Dominion of Canada,
Province of Ontario,
County of Hastings,
To Wit: } IN the matter of the Report of the Harbour Master of
the city of Belleville for the year ending 31st Decem-
ber, 1897.

I, Daniel Collins, of the city of Belleville, in the county of Hastings, harbour master, do solemnly declare that:

I am harbour master at the city of Belleville.

That my report hereunto annexed contains a true, correct and full statement of the revenue from the harbour at the city of Belleville for the year ending on the 31st day of December, 1897.

That the said report is in all other respects true and correct to the best of my knowledge, information and belief.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of "The Canada Evidence Act, 1893."

D. COLLINS,
Harbour Master.

Declared before me at the city of Belleville,
in the county of Hastings, this 12th day
of January, A.D. 1898.

GEO. DENMARK,
A Commissioner, &c.

APPENDIX No. 6.

REPORT OF THE HARBOUR COMMISSIONERS OF THREE RIVERS
FOR THE YEAR ENDED 31ST DECEMBER, 1897.

THREE RIVERS, QUE., 15th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by the direction of the Harbour Commissioners of Three Rivers, to forward herewith for the information of the Honourable the Minister of Marine, statements of receipts and disbursements of the commission for the year ended 31st December, 1897. Also a statement of navigation of the port during the same year.

I have the honour to be, sir,
Yours very respectfully,

GEORGE BALCER,
Secretary.

Harbours and Shipping.

STATEMENT of Number and Tonnage of Sailing Vessels and Steamers entered
Inward and Outward at the Port and Outport of Three Rivers for the year
1897.

OCEAN TRAFFIC.					
Return of Vessels Inwards.			Return of Vessels Outwards.		
	No.	Tons.		No.	Tons.
Total arrivals.....	49	79,689	Total departures.....	49	79,689
Steamers.....	42	72,930	British and Canadian.....	44	74,425
Sailing vessels.....	7	6,759	Norwegian.....	5	5,264
	49	79,689		49	79,689

PORT OF THREE RIVERS.					
Arrived.			Cleared for.		
	No.	Tons.		No.	Tons.
Steamers.....	33	56,825	Gulf ports.....	2	2,364
Sailing vessels.....	3	3,226	Inland ports.....	4	2,570
	36	60,051	Great Britain.....	29	53,606
			Australia.....	1	1,511
				36	60,051

OUTPORTS—BATISCAN.					
	No.	Tons.		No.	Tons.
Steamers.....	3	4,680	Great Britain.....	5	6,788
Sailing vessels.....	2	2,108			
	5	6,788		5	6,788

LAKE ST. PETER—PIERREVILLE, LOUISEVILLE.					
	No.	Tons.		No.	Tons.
Steamers.....	6	11,425	Great Britain.....	7	12,562
Sailing vessels.....	2	1,425	France.....	1	288
	8	12,850		8	12,850

UNITED STATES TRAFFIC.			
	Number.	Tonnage.	
United States canal boats.....	561	52,742	
Canadian barges.....	5	535	
Total.....	566	53,277	

INLAND TRAFFIC.			
	Number.	Tonnage.	
Bateaux, not registered.....	140	.....
Schooners.....	9	786	
Barges.....	62	6,424	
Steamboats and tugs.....	200	20,660	
Total.....	411	27,870	

STATEMENT of Number and Tonnage of Sailing Vessels and Steamers entered
Inward and Outward at the Port and Outport of Three Rivers for the year
1897—*Concluded.*

RECAPITULATION.

	Number.	Tonnage.
Port of Three Rivers, sea-going vessels.....	36	60,051
Outports--Batiscan, ".....	5	6,788
" Lake St. Pierre, ".....	8	12,850
American barges.....	566	53,277
Coasting traders.....	411	27,870
Total.....	1,026	160,836

RECEIPTS and Disbursements of Harbour Commission of Three Rivers, &c.—*Concluded.*
DISBURSEMENTS.

MONTHS.	EXPENSES FOR ADMINISTRATION.						DISBURSEMENTS CHARGEABLE TO					
	Current expenses.	Salaries and commissions.	Rent.	Printing and stationery.	Travelling and other expenses.	Refunds.	Engineer's Office.	Repairs.	Construction account.	Property account.	Interest account.	Divers.
January	\$ 40 94	\$ 123 33	\$ cts.	\$ 6 00	\$ 8 50	\$ L	\$ 4 65	\$ 27 35	\$ cts.	\$ cts.	\$ 1,012 50	\$ 405 00
February	15 00	123 33	100 00	22 80	68 70		2 75	31 70	102 75			
March	48 80	123 33			10 80			36 04	275 84			
April	18 87	123 33		43 85	45 70	L	2 25	27 95				
May	29 74	123 33			59 35			45 57	505 36			
June	15 55	123 33		6 00				39 30	662 42			202 50
July	42 58	123 33	61 00					61 25				
August	16 54	123 33				33 78		68 26				
September	20 85	123 33	36 00			2 64		91 53				
October	31 73	123 33				3 15		47 70				
November	19 10	123 33				7 42		113 11				
December	61 88	293 68		34 37								
	361 58	1,650 31	197 00	113 02	193 05	47 01	9 05	590 36	1,546 37		2,025 00	607 50

RECAPITULATION.

ADMINISTRATION—	
Current expenses	\$ 361 58
Salaries and commissions	1,650 31
Rent	197 00
Printing and stationery	113 02
Travelling and other expenses	193 05
Refunds	47 01
	\$ 2,561 97
DISBURSEMENTS—	
Engineer's office	\$ 9 65
Repairs and general harbour works	590 36
Construction account	1,516 37
	2,146 38
Interest on debentures	\$ 2,025 00
Sinking fund	607 50
	2,632 50
Deposit in bank and cash	7,340 85
	7,148 23
	\$ 14,489 08

Harbours and Shipping.

APPENDIX No. 7.

REPORT OF THE HARBOUR COMMISSIONERS OF NORTH SYDNEY FOR THE YEAR ENDED 31ST DECEMBER, 1897.

NORTH SYDNEY, C.B., 12th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—The Harbour Commissioners, port of North Sydney, beg to submit herewith a report of the shipping entering this harbour during the year ending 31st December, 1897. The present Commissioners are responsible for the figures relating to the last month only.

The coal shipments show a considerable increase over preceding years, and are as follows:—

	Tons.
Dominion Coal Company	1,111,953
General Mining Association	233,000
N. S. Min. and Trans. Company.....	7,500
Total.....	1,352,453

		Tonnage.
Number of ocean steamers	421	448,579
do coasting steamers	107	28,481
do ships	2	3,011
do barques	60	43,453
do brigantines	29	6,475
do schooners	952	84,355
	1,571	614,354
Number of men, 16,201.		

WM. HACKETT,
Secretary, Harbour Commission.

APPENDIX No. 8.

REPORT OF THE HARBOUR COMMISSIONERS OF PICTOU FOR THE YEAR ENDED 31ST DECEMBER, 1897.

PICOU, N.S., 18th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

DEAR SIR,—I have the honour to inclose you accounts of the Harbour Commissioners, port of Pictou, for the year ending 31st December, 1897, with a memo. of liabilities and assets.

I also inclose statement from collector of customs for this port.

Yours truly,

D. SUTHERLAND,
Secretary.

MEMORANDUM of Receipts and Disbursements on account of Harbour Dues, Port of Pictou, N.S., during the year ending 31st December, 1897.

1897.	RECEIPTS.	\$ cts.	\$ cts.
Jan. 1..	By Balance in Bank of Nova Scotia.....	66 54	
Dec. 31..	Harbour dues collected during 1897.....	990 18	1,056 72
	DISBURSEMENTS.		
Dec. 31..	Paid Harbour Master's salary for year 1897.....	200 00	
do 31..	Paid Harbour Commissioners during 1897.....	782 00	
do 31..	Balance in Bank, reserved to pay Harbour Master's salary, winter of 1898, and for blank receipt books.....	74 72	1,056 72
Dec. 31..	Balance in Bank of Nova Scotia.....		74 72

Certified correct.

D. McDONALD,
Collector.

CUSTOM HOUSE,
PICOU, N.S., 31st December, 1897.

Harbours and Shipping.

HARBOUR COMMISSIONERS, Port of Pictou, in account with D. Sutherland,
Secretary.

1897.		\$ cts.	1896.		\$ cts.
Feb. 26	To Paid for wharf at Trenton..	185 93	Dec. 31	By Balance	160 16
May 25	John McRae, bushing W. River.	8 00	1897.		
	W. McLean, work at buoys	5 00	Dec. 31	Amount placed to credit of Commissioners by Col- lector of Customs for the year 1897.	782 00
June 4	Pumping buoys	1 00		Balance due Secretary.	10 82
	John McLennan.	0 50			
	D. Munro.	4 10			
	R. McKay, bushing W. River.	8 00			
July 10	John Dunbar, bushing E. River.	12 00			
	Robt. Dunbar, bushing E. River.	4 00			
do 20	SS. <i>Elsie</i> , 1896 acct	37 00			
	SS. "Elsie"	28 00			
	Pumping buoys	1 00			
Sept. 8	Bushing East River	6 00			
Oct. 13	D. Munro	1 75			
	SS. "Bessie"	3 00			
Nov. 3	Dan Smith	10 00			
do 15	Interest on mortgage.	23 52			
	C. E. Fanner	116 50			
	Expenses going to North Glasgow.	3 50			
	C. Dwyer & Co.	3 20			
	Est. J. Kitchin on acct. mortgage.	200 00			
	Wm. Carson.	2 46			
Dec. 31	Secretary per year.	100 00			
	Amount to credit of Com- missioners in Bank of Nova Scotia.	188 52			
		\$ 952 98			\$ 952 98
	<i>Liabilities.</i>				
	Mortgage est. J. Kitchin.	176 00	Dec. 31	Amount to credit of Commis- sioners in Bank Nova Scotia.	188 52
	R. G. Murray, balance on Tren- ton wharf	195 41			
	Due D. Sutherland, Secy.	10 82			
		\$ 382 23			

D. SUTHERLAND,
Secretary.

Pictou, 31st December, 1897.

APPENDIX No. 9.

REPORT OF THE PILOTAGE AUTHORITY OF MONTREAL FOR THE
YEAR ENDED 31st DECEMBER, 1897.HARBOUR COMMISSIONERS OF MONTREAL,
SECRETARY'S OFFICE,
MONTREAL, 22nd February, 1898.F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by direction of the Harbour Commissioners of Montreal, as the pilotage authority, to transmit for the information of the Honourable the Minister of Marine and Fisheries, the following report of the pilotage district of Montreal for the year ended 31st December, 1897.

The accompanying statement gives the names, earnings, &c., of all the pilots for the past season, and shows an increase of \$3,205.70, or about 5 per cent as compared with 1896, and, had it not been for the pilotage fees lost by the licensed pilots on about 30 vessels during the time of the strike in June, would have shown a total of about \$71,485, or about \$2,000 more than in 1893, in which year the earnings were the largest on record, viz., \$69,307.86.

The total amount of pilotage dues, as therein shown, was received from the following services, namely:—

BRITISH.

Steamships	\$64,240 34	
Sailing vessels	781 40	
	<hr/>	\$65,021 74

FOREIGN.

Steamships	\$ 3,610 70	
Sailing vessels	109 25	
	<hr/>	3,719 95
Total		<hr/>
		\$68,741 69

The past year has been an exceptionally busy and anxious one for the pilotage authority. During the session of Parliament the proposed incorporation of the pilots, followed by their strike on the 18th of June, required much careful deliberation on the part of the Commissioners. After due consideration at several meetings during the months of April and May, it was decided to oppose the proposed Bill of incorporation, as being unnecessary and contrary to the interests of trade and navigation. In this the Commissioners followed the same action as was taken in 1884, when the pilots had previously sought incorporation. The Commissioners' interests were placed in the hands of their solicitors, and were also carefully watched by their president and other members when the Bill was before the Private

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Bills Committee of the House of Commons and Senate respectively. The Bill, after considerable amendment, was reported by the Private Bills Committee of the House of Commons, and passed its third reading there, but was thrown out by the Private Bills Committee of the Senate.

On the same day, the 18th of June, the 52 pilots in active service went on strike, and after six o'clock that evening not one could be provided for the many vessels requiring them until Saturday afternoon, the 26th of June. During this week the Commissioners held almost daily sessions to deal with the difficulty and to try pilots for the refusal of their duty. The shipping interest considered the situation so grave that they pressed upon the Commissioners the repeal of certain of their by-laws by which they were hampered in the matter of examining and licensing their pilots. These representations met with the approval of the Commissioners. The by-laws were repealed, and amended by-laws forwarded for the approval of the Governor General in Council, which has not yet, however, been given. Requests were also made that more buoys should be placed at certain points recommended by the Commissioners' chief engineer, more especially below the Platon. These recommendations were also forwarded to the Department of Marine and Fisheries, which, during the autumn, gave its concurrence therein.

The result of the trials held was that eight pilots were found guilty of refusing service. Four of these were dismissed as pilots, and, at the request of the Minister, sentence was suspended on the other four. A writ of certiorari was applied for in each of these cases, and the conviction of six of them was quashed by the Superior Court, on the ground that the bailiff's return of the service of the summons was irregular. In the other two cases the conviction was maintained, namely, those of Messrs. Philippe Belanger, of Lotbinière, and Prudent Beaudet, of Quebec, while the six whose conviction was quashed, were Messrs. Alexis Perrault, Jean Arcand, Joseph Sauvageau, Elzear Bellisle, all of Deschambault; Louis Mayrand, of Ste. Anne de la Pérade, and Honoré Dussault, of Ste. Petronille.

Joseph Pleau, of Ste. Anne de la Pérade, was also tried on the same charge, but acquitted; while complaints were laid against several other pilots on the same ground, but, owing to the Minister's request, summonses were not issued.

The experience gained by these circumstances shows that by the by-laws, as they existed at the time of the strike, and as they still exist, the hands of the Commissioners are completely tied, and it becomes impossible for them to deal with such a crisis as arose last summer in a way to give security and satisfaction to the numerous interests involved in the navigation of the St. Lawrence. Had it been in the power of the Commissioners to examine and license competent men, the number of whom is, with good reason, believed to be very large, it is more than likely that the strike would not have occurred, or at least would not have lasted for any time. It has also brought out very prominently the difficulty the Commissioners have always found in dealing with the trials of pilots. Such trials must, of necessity, be held promptly and disposed of speedily, otherwise it would be impossible to secure, in many cases, the evidence of essential witnesses. These necessities frequently cause trifling irregularities in procedure which often do not affect the merits of the case. They, however, furnish the grounds for a writ of certiorari, and these writs are almost invariably maintained. At the time the Commissioners' Acts were consolidated in 1894, it was thought that this difficulty had been overcome by providing that these trials should be governed by part 58 of the Criminal Code as an appeal is provided by that part of the Act, which really gives a right to a new trial, and, as an appeal is provided it was supposed the writ of certiorari would not lie. The judges of the Superior Court, however, have interpreted the law differently, and still issue writs of certiorari in these cases. The result is that the Commissioners find themselves where they were before their present Act was passed, and the part of it concerning this procedure is a dead letter. This state of

affairs tends very largely to diminish the disciplinary powers of the Commissioners over the pilots, and it has become almost impossible for the Commissioners to inflict and enforce punishment even for grave offences. In view of the foregoing the Commissioners would respectfully request that the Government will so amend the by-laws and statutes which now govern the Montreal pilotage district as to give the Commissioners fuller control over the pilots, or, failing this, relieve them from all responsibility in the matter of pilotage jurisdiction.

With reference to the better distribution of the pilotage work, which had been a cause of grievance to the tour de role, or general service pilots, for three years back, the Commissioners, after much consideration, passed early in the season the following by-law, which was forwarded for the approval of the Governor General in Council, the third and fourth clauses being an addition to the by-law in force respecting pilots taking special service. The amendment was designed to give the tour de role pilots some increase of fees, and more especially keep them familiar with the navigation by passing more frequently and regularly up and down the river:—

“109. Any pilot may, subject to the Commissioners approval, agree with not more than one agent of transatlantic line vessels for special service for a season of navigation on any vessels of such line for not exceeding thirty trips between Montreal and Quebec, either up or down or with the agent of any gulf port line vessels for similar service on any vessels of such line for not more than the proportionate number of trips which would fall to such pilot if such line employed two pilots for each three vessels.

“No pilot making such engagement shall, during the season of navigation to which the same is intended to apply, be entitled to any duty as pilot by turn or in rotation.

“And on every third upwards trip from the commencement of the season of navigation, both of transatlantic and Gulf port liners, the special service pilot shall take with him, both upwards and downwards, the first tour de role pilot in turn, and the former, while in charge of the steamer and responsible for her safety, may receive such assistance from the said tour de role pilot as the former may require from the latter, while the special service pilot shall share the pilotage fees for such trip both upwards and downwards with the said tour de role pilot in the proportion of two-thirds and one-third respectively.

“Nevertheless, any pilot may be allowed to serve a single gulf port vessel or two transatlantic vessels throughout the season without being obliged to take a tour de role pilot on each third trip, as above mentioned, and without having any right to duty as pilot by turn or in rotation.”

Approval thereof was, however, not given, pending the outcome of the proposed incorporation, the Bill for which was then before Parliament, and under which it was proposed to pool all the pilots' earnings and divide them equally amongst the members.

The Bill having failed to become law, the Commissioners by-laws on pilotage again governed the distribution of the work during the season, but were not so strictly enforced as they would have been had the pilots' strike not occurred. On account of this the tour de role pilots appealed to the Minister during the autumn, who asked for a report on the matter. This was made to the effect that there was comparatively small ground for complaint, the earnings showing that, with three exceptions, no pilot earned less than from \$800 to \$900, which was considered a fair amount for the tour de role men, while the few who earned only from \$650 to \$700 must have lost a share of their work through sickness or other causes. Had the proposed new by-law, however, been put in operation, it is believed, there would have been no reasonable cause for dissatisfaction last year.

Harbours and Shipping.

On 7th April, pilot Zephirin Bouillé, 68 years of age, was examined and granted a renewal of his license for another year.

In May, pilot François Desjordy submitted a Montreal oculist's certificate, as well as one from his own doctor at Lavaltrie, stating that his eyesight was impaired to such an extent that it would not be safe for him to continue his duties at that time, in view of which he was placed on the pension list for one year from 1st May.

In September, pilot Liboire Perrault applied for superannuation on account of failing health, but the medical certificates submitted were not considered sufficient to warrant this, especially in view of his having worked throughout two-thirds of the season and earned \$669. On a renewal of his application through the Minister, a full report was made on the facts, and Mr. Perrault was promised that his appeal would receive due consideration in April next.

On 7th, 8th and 9th April, an examination of apprentice pilots was held, and, of four candidates who presented themselves, Messrs. Arthur Bellisle, Théodule Hamelin and Cyrille Bellisle were found competent, and were granted a permit under by-law 96 to make fifteen double trips between Quebec and Montreal with various branch pilots.

On 26th and 30th June, apprentice pilot Alberic Angers was examined, and, having been found competent, was granted a permit. The names of these four apprentice pilots have now been placed at the head of the following list as qualified to receive their license when additional pilots become necessary, the last mentioned having been ordered to be placed first on the lists in view of circumstances connected with the pilots' strike, at the time of which, it may also be here noted, the Commissioners cancelled a resolution of 5th March, 1895, by which the number of 55 pilots allowed by by-law 99 was to be gradually reduced to 50.

LIST OF APPRENTICE PILOTS.

No.	Name.	Age.	Residence.
1	Angers, Alberic	23	Ste. Anne de la Pérade.
2	Bellisle, Arthur	36	Deschambault.
3	Hamelin, Théodule	23	Grondines.
4	Bellisle, Cyrille	29	Deschambault.
5	Pleau, J. E.	28	Ste. Anne de la Pérade.
6	Perrault, Anthyme	29	Deschambault.
7	Raymond, J. N.	27	Deschambault.
8	Veillet, George	26	Ste. Anne de la Pérade.
9	Labranche, Melville	23	Portneuf.
10	Gagnon, Albert	22	Three Rivers.
11	Paquin, Azarias	24	Deschambault.
12	Gignac, Arthur	24	Portneuf.
13	Belanger, Achille	24	Lotbinière.
14	Paquet, Damien	24	Deschambault.
15	Bourassa, Henri	24	Deschambault.
16	Angers, Alfred	21	Ste. Anne de la Pérade.
17	Gariepy, J. Arthur W.	18	St. Alban.

The committee of pilots have expressed the opinion that the number of apprentices should be limited to 12 or 15, while the number of names on the list has generally been from 20 to 25.

Five apprentices returned in last year's list have been struck off on account of having failed to report any service during the past two seasons ; while applications are on file from the following for a license as apprentice pilot, to whom the reply was returned that their applications would be recorded in the order of their receipt, and would be dealt with when it was considered necessary to license more apprentices. Most of these, it is believed, are endeavouring to learn the river, and some are also making ocean voyages as required of regular apprentices.

LIST of Applicants for License as Apprentice Pilots.

No.	Name.	Residence.	Date of Application.
1	Gariepy, A. J. P.	Lachevrotière	16th January, 1894.
2	Frenette, Oswald	Portneuf	1st March, 1894.
3	Hamelin, Chas. B.	Champlain	17th November, 1896.
4	Perron, Tancrede	Deschambault	28th November, 1896.
5	Patoine, J. B., jr.	Sydney, C. B.	3rd December, 1896.
6	Frenette, De-voie	Portneuf	28th January, 1897.
7	Gauthier, Laurent J.	Deschambault	26th March, 1897.
8	Perrault, David, fils	do	8th April, 1897.
9	Hamelin, Fortunat	do	19th April, 1897.
10	Gauthier, Adélar	do	6th May, 1897.
11	Arcand, J. Emilien	do	7th May, 1897.
12	Gauthier, Cyriac	do	9th May, 1897.
13	Rover, fils	306 Valier st., Quebec	23rd May, 1897.
14	Gariepy, Emilien	Lachevrotiere	24th May, 1897.
15	Gariepy, Henri	do	24th May, 1897.
16	Perrault, Jean	Deschambault	25th May, 1897.

The amounts received and expended by the Harbour Commissioners, as pilotage authority of the district, apart from their receipts and disbursements in trust for the Montreal Decayed Pilots' Fund, of which the annual report and statements have been sent you, certified by Messrs. Riddell and Common, auditors, were as follows :—

RECEIVED.

Surplus carried over from 1896.....	\$250 42
From Elder, Dempster & Co., expenses of Capt. Chatard, piloting SS. "Memnon" during pilots' strike	4 00
Wm. Johnston & Co., Ltd., pilotages made during strike.....	155 83
Pilot Onésime Naud, fine for violation of by-law 81	20 00
U. S. Navy Department, copy of evidence re "Yantic"—"LaCanadienne" Inquiry.....	28 70
Hamburg-American Packet Co., two copies of evidence re Arabia Inquiry	45 40
E. L. Bond, copy of evidence re Arabia Inquiry	22 70
Petersen, Tate & Co., copy of evidence re Turret Cape-State of California Inquiry....	20 63
H. & A. Allan, copy of evidence re Turret Cape-State of California Inquiry.....	20 63
H. & A. Allan, expenses of pilot Alexis Perrault in this case	10 00
H. & A. Allan, copy of evidence re Iona-Grecian Inquiry	28 79
The R. Reford Co., Ltd., copy of evidence re Iona-Grecian Inquiry	28 79
Pilots, 2 per cent of the pilotage dues on sundry vessels	6 63
Collector of Customs, Three Rivers, 2 per cent of the pilotage dues on vessels to and from Three Rivers	37 76

Harbours and Shipping.

Collector of Customs, Sorel, 2 per cent of the pilotage dues on vessels to and from Sorel.	\$ 10 67
Collector of Customs, Montreal, 2 per cent of the pilotage dues on vessels to and from Montreal	1,391 24
Damase Naud, fee for apprentice pilot's license..	5 00
Total.....	\$2,087 19

EXPENDED.

By Abbotts, Campbell & Meredith, for legal services in connection with pilotage matters during 1896	\$135 00
Geoffrion, Dorion & Allan, for legal services in connection with pilotage matters during 1897.	846 88
Angers, DeLorimier & Godin, for costs of six pilots' certioraris	315 40
Urquhart & Wright, stenographers' fees at pilot inquiries, and copies of evidence	410 85
George Smart, stenographers' fees at pilotage inquiries	60 00
Committee of pilots, expenses in connection with examination of apprentices	194 00
Augustin Naud, allowance as examiner at apprentice examinations	5 00
Joseph Hurteau, allowance as examiner at apprentice examinations	10 00
George Raymond, allowance as examiner at apprentice examinations	5 00
Célestin Brunet, allowance as examiner at apprentice examinations	5 00
Joseph Thibaudeau, salary as Montreal pilot agent at Quebec	600 00
Joseph Thibaudeau, expenses in <i>re</i> trial of P. Beaudet	11 00
Joseph Thibaudeau, allowance for postage, stationery and books	29 32
Hector Fiset, expenses as witness at Turret Cape-State of California Inquiry	12 60
Alexis Perrault, expenses as witness at Turret Cape-State of California Inquiry.....	10 00
Captain Chatard, expenses during strike.....	4 00
John Kennedy, expenses during strike.....	14 80
W. L. Scott, expenses during strike	98 45
Captain Beaudet, allowance for services during strike	30 00
Captain Chatard, allowance for services during strike	10 00
Lemieux & Lane, Quebec, legal services rendered in connection with strike	15 00
Refund of percentages of 2 per cent collected during strike but afterwards repaid.....	55 60

By Telegrams.....	\$ 19 74
Bailiffs' fees	12 75
Printing, advertising, stationery, &c.....	48 96
<hr/>	
Total	\$2,959 35

The deficiency of \$872.16 has been carried forward at the debit of pilotage expenses of 1898, and it is expected that under normal conditions, the receipts from the 2 per cent of all pilotage fees will hereafter cover the necessary yearly expenses as well as pay off the very exceptional ones incurred during 1897.

The tariff of pilotage dues was the same as has been in force since March, 1877, and is as follows:—

From the Harbour of Quebec to Three Rivers and the opposite side of the River St. Lawrence, or any place above Portneuf and below Three Rivers.

For the pilotage of any vessel in tow, or propelled by steam (except as hereinafter mentioned), for each foot of draught of water—

Upwards	\$1 50
Downwards	1 50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water—

Upwards.....	\$1 75
Downwards	1 75

For the pilotage of any vessel under sail, for each foot of draught of water—

Upwards.....	\$2 60
Downwards	1 90

From the Harbour of Quebec to Sorel and the opposite side of the River St. Lawrence, or any place above Three Rivers and below Sorel.

For the pilotage of any vessel in tow, or propelled by steam (except as hereinafter mentioned), for each foot of draught of water—

Upwards.....	\$1 50
Downwards	1 50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water—

Upwards.....	\$1 87½
Downwards	1 87½

For the pilotage of any vessel under sail, for each foot of draught of water—

Upwards.....	\$3 15
Downwards	2 10

From the Harbour of Quebec to the Harbour of Montreal, or to any place above Sorel and below the Harbour of Montreal.

For the pilotage of any vessel in tow, or propelled by steam (except as hereinafter mentioned), for each foot of draught of water—

Upwards.....	\$2 00
Downwards	2 00

For the pilotage of any sea-going vessel propelled by steam, for each foot of draught of water—

Upwards.....	\$2 50
Downwards	2 50

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For the pilotage of any vessel under sail, for each foot of draught of water—

Upwards.....	\$4 20
Downwards	2 80

From the Harbour of Montreal to Sorel, or to any place above Sorel and below Hochelaga, and from Sorel, or any place above Sorel and below Hochelaga, to the Harbour of Montreal, for each foot of draught of water for each such pilotage—

Upwards.....	\$1 00
Downwards	1 00

For the removal of any vessel from one wharf to another, within the limits of the harbour, or from any of the wharfs into the Lachine Canal; or out of the said Canal to any of the wharfs in the harbour; or from the foot of the Current; or from Longueuil into the harbour; or from the harbour to the foot of the Current or to Longueuil; for each such service..... 5 00

The following is a list, with particulars, of accidents which occurred to vessels while on their passage between Quebec and Montreal, and vice versa, during the past season of navigation:—

Towards evening of the 26th September the SS. "Arabia," drawing 25 to 25½ feet, while passing down through the Cap à la Roche channel, at dead low water, struck heavily, and had to be run aground a little further down the channel, where she remained for several days, and was then floated and taken to the dry dock at Quebec.

A lengthy inquiry was held into this accident, with the result that the pilot, Sévère Perron was found to have acted imprudently in passing through this difficult part of the channel with such a large and deep draught vessel at the time of dead low water, and a full report was made to the Government with reference to the great care which should be exercised in examining this and other parts of the channel, where boulder obstructions might arise through the action of the ice, &c., and also as to the great need of the buoys being carefully placed to mark the exact edge of the channel and examined frequently to see that they were in proper position.

On September 16th, the SS. "Iona," downwards, and the SS. "Grecian," upwards, met at the bend opposite the upper part of the Three Rivers wharfs, and, as the "Iona" touched the bottom and sustained damage, a complaint was lodged by the master and agents against the pilot of the "Grecian" for having violated the Commissioners' by-law No. 81, which requires that an upcoming vessel at this point should remain below until a downward vessel has passed.

After a full inquiry the Commissioners found Pilot Onésime Naud, of the "Grecian," guilty of violating the by-law, and fined him twenty dollars, but without costs, in view of his long previous good record as a pilot.

About 5 a.m., on 29th October, the United States SS. "Yantic" and the Dominion Government SS. "La Canadienne," the former on her way upwards and the latter downwards, came into collision off Pointe à Pizeau, Quebec Harbour. The former, at the time, was in charge of Pilot Sévère Perron and the latter of Apprentice Pilot Alberic Angers. The former, having been put on his trial and a lengthy inquiry made into all the facts of the collision, was found guilty and suspended from 23rd November, 1897, to 1st July, 1898.

On 11th September, just below No. 2 lightship, in Lake St. Peter, the SS. "State of California," downwards, and the SS. "Turret Cape," upwards, had a slight collision.

After a long inquiry into the circumstances thereof, the Commissioners found that Pilot Zéphirin Bouillé, who was in charge of the former vessel was not to blame, but no action was taken against Mr. Joseph Sauvageau, who was in charge of the "Turret Cape," he being one of the four pilots who were then under suspended sentence in connection with the pilots' strike.

The SS. "Vancouver," upwards, in charge of Pilot George Arcand, ran aground on the south side of the channel at the Bellmouth Curve, Contrecoeur, on 11th September. After inquiry, the pilot was considered not to blame for the grounding, which only necessitated some little lightening to the vessel without any damage to the ship.

The same vessel, drawing 23 feet, in coming up through the Cap à la Roche channel on 17th October, touched, it is supposed, the south side of the channel, quite close to the black buoy opposite St. Jean des Chaillons church, while in charge of the same pilot, against whom a complaint was lodged. The finding come to was that, while not guilty of the charge of breach and neglect of duty, nevertheless he should be strongly censured for having passed the said black buoy at a distance not compatible with safe navigation, especially in view of the conditions of wind and tide at the time of his passage and of his knowledge of the steering of the said steamship from experience on previous voyages during the past season. Shortly afterwards, a writ of certiorari was applied for by this pilot and granted, and the case is now before the Superior Court.

The SS. "Strathgarry," in charge of Pilot Constant Toupin, touched opposite Cap Santé, and also on the Ste. Croix bar, on 1st August. The Commissioners, at the inquiry, found that this vessel had gone down the channel with a heavy list to port, and, being a very flat-bottomed ship, probably drew from 2 to 3 feet more than the draught with which she was cleared, namely, 24 feet 9 inches. They accordingly censured the pilot for want of care, and took occasion to call the attention of the Port Warden to the circumstances of her touching, with the result that this officer made a full explanation as to her clearance by him, but he also decided that thereafter no vessel should be allowed to leave the harbour with a greater list than five degrees.

On 1st October, the SS. "Kildona," while coming upwards, in charge of Pilot Barthélemi Arcand, ran aground on the south side of the channel at the bend opposite Cap Levrard, but, after trial, the complaint against the pilot was dismissed.

The SS. "Madura," on 27th October, while in charge of Pilot George Dufresne, ran aground lightly, but without sustaining damage, on the south side of the Windmill Point Basin, in Montreal Harbour, and on inquiry into the matter, it was found that the black spar buoy marking the south side of the Basin (which has not yet been dredged to its full width), was considerably out of place, and also that another steamship lay at the wharf on the north-west side of the Basin, with an elevator and two barges all abreast, thus narrowing the channel very much. The pilot was accordingly acquitted, and the attention of the buoy contractors and the harbour master called to the need of guarding against the difficulties caused to vessels through these errors.

The brig "R. L. T.," in tow of the tug "Dauntless," having anchored over night a little below No. 2 lightship, in Lake St. Peter, on the morning of 17th August grounded on the north bank of the channel, when the tow was starting, but came off the same afternoon. The inquiry asked for could not be completed, owing to the "Dauntless" being in the Lower St. Lawrence during the rest of the season, but, under all the circumstances, the pilot, Liboire Perrault, could hardly be blamed.

The SS. "Tyr," while in charge of Jean Arcand, grounded on the shoal just above Longue Pointe, on July 13th, but, after some lightening, came safely into port without having sustained damage. No action could be taken against the pilot,

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as he was then under dismissal for refusal to take duty during the time of the strike.

During the pilots' strike the steamship "Beechedene" grounded off St. Pierre des Becquets on 24th June. After some delay, she was floated and reached Montreal on 26th June, and, as far as is known, was not damaged.

The SS. "Turret Bay," on 26th June, was run aground on the Gentilly shoal, opposite Champlain, and, after considerable difficulty, was floated.

No action could, of course, be taken against the pilot in either of these cases, as each was an unlicensed pilot.

In addition to the foregoing accidents, into each of which an inquiry was held by the Commissioners, and of which a few only resulted in serious damage to the vessels concerned, it is thought well to mention the following groundings and touchings, as to which no complaint was made by the vessel agents, and no action thought necessary by the Commissioners, other than sending particulars of them to the Department of Public Works for attention, where it might be thought that there was some obstruction in the channel.

On the 15th August, the SS. "Cilurnum," in charge of Pilot Ulric Groleau, grounded above the Cap Charles bar through the wheel jamming to port.

The SS. "Milwaukee," drawing 27 feet 3 inches, in charge of Pilot L. A. Bouillé, touched in the channel at Champlain on 21st August.

The SS. "Queensmore," in charge of the same pilot, on 4th September, with a draught of 28 feet, touched lightly in the channel opposite Longueuil, and on the following day in Lake St. Peter, near No. 1 lightship, at Three Rivers, and at Champlain. This ship had also five degrees of list to starboard.

The SS. "Lake Huron," drawing 25 feet 2 inches, in charge of Pilot Joseph Chandonnet, touched opposite Champlain on 6th October, while the SS. "Lake Superior," drawing 25 feet, in charge of the same pilot, grounded in the middle of the channel at the same point on 20th October. Before this grounding occurred a dredge had been placed to remove a small sandbar which had formed diagonally across the channel and was found to have been the cause of the several recent touchings at this point.

In addition to the vessels above mentioned as having touched opposite Champlain, the SS. "Vancouver," on 18th September, with draught of 26 feet 3 inches, touched, as did also the SS. "Montcalm" on 16th October, drawing 25 feet, the dredge being then at work.

The SS. "Bjorgvin," while in charge of Pilot Ulric Groleau, on 7th October, grounded on the south side of the channel at Pointe aux Trembles, en haut, and, after considerable lightening, was enabled to come into port undamaged. The cause of the grounding was a sheer taken by the steamer.

On the 15th October, the steamship "Bengore Head," drawing 22 feet 5 inches, with Pilot Alfred Frenette, grounded near No. 2 lightship in Lake St. Peter in a dense fog, but, in so far as is known, sustained no damage.

The SS. "Turret Cape," in charge of Pilot Joseph Dussault, grounded lightly opposite No. 3 lightship in Lake St. Peter on the 15th October, on account of fog.

The SS. "Turret Bell," in charge of Pilot Edouard Perrault, grounded on the north side of the channel, some little distance below the Maisonneuve pier, Montreal harbour, on the 21st October, at 615 p.m., when trying to reach her berth after dark.

The SS. "Montevidean," drawing 23 feet, in charge of Pilot Tançrède Bouillé, grounded on the 26th September between lightships Nos. 1 and 2, in Lake St. Peter, owing to the breaking of the steering gear, and after considerable lightening was enabled to proceed to Quebec without having sustained damage.

The touching of the SS. "Queensmore" at Three Rivers on 5th September (mentioned above), as well as that of the SS. "Vancouver" at the same place on

the 18th of the same month, when drawing 26 feet 3 inches and in charge of Pilot George Arcand, and also the report sent in by Pilot Prudent Bellisle, to the effect that the SS. "Hurons" had, on 30th September, while drawing 26 feet and passing the black spar buoy opposite the mouth of the St. Maurice River, at a distance of about 125 feet therefrom, rolled on account of not having sufficient water underneath her, would appear to be accounted for by a report received from the buoy engineer on the 1st October, which stated that he had found the said buoy dragged about 900 feet below and 140 feet south of its proper position and replaced it. There is no doubt that these three pilots steered by the displaced buoy, rather than by the landmarks, and in consequence touched the point of the shoal which the buoy is placed to mark.

According to the captain of the SS. "Montezuma," that vessel, when passing through the Contrecoeur Traverse and channel, on 19th June, with a draught of 28 feet, was thought to be very close to the bottom, although at the time the channel should have had over 32 feet of water in it. In reference to this report, it should be noted that on the trip referred to, the "Montezuma" had no pilot on board, but was following a tug. On the circumstances being reported to the chief engineer of the Public Works Department, he replied that he was satisfied the depth shown by the Sorel gauge was available in that part of the channel, but that vessels with such a draught of water should pass through it at a very low rate of speed, owing the small depth of water on the banks on either side of the channel.

In connection with the foregoing accidents and mishaps, it is thought well to include herein a list of all the steamships which passed through the channel drawing 26 feet of water and over, with the depth of water in the channel as indicated by the Sorel gauge on the corresponding date, as it shows that with careful navigation very large vessels can pass with deep draughts, except during the last two months of autumn.

STATEMENT showing Draught of Steamships for season of 1897, drawing 26 feet and over.

Date.	Steamer.	Draught when stationary in Harbour by Pilot's report.		Depth of Water in Channel by Sorel Gauge.	
		ft.	in.	ft.	in.
May 7	Montezuma, down	27	4	36	8
do 8	Manitoban do	26	3	36	3
do 9	Tritonia do	26	3	36	
do 13	Arcadia do	27	2	34	3
do 21	Hurons do	26	6	34	5
do 24	Gerona up	26		34	7
do 29	Ottoman down	26	3	35	2
June 1	Alberta do	26	10	33	8
do 2	Gerona do	27		34	2
do 6	Arabia do	27	4	33	6
do 10	Tritonia do	26		32	6
do 12	Queensmore do	27	7	32	
do 13	Rossmore do	26	7	32	7
do 15	Norwegian do	26		32	10
do 19	Montezuma do	28		32	3
do 21	Sarnatian do	26		31	6
July 3	Ottoman do	26	4	30	11
do 3	Merrimac do	26		30	11
do 3	Armenia do	26	10	30	11
do 4	Milwaukee do	26		30	9
do 10	Laurentian do	26	6	29	11
do 25	Queensmore do	26	5	30	2

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STATEMENT showing Draught of Steamships for season of 1897—*Concluded.*

Date.	Steamer.	Draught when stationary in Harbour by Pilot's report.		Depth of Water in Channel by Sorel Gauge.	
		ft.	in.	ft.	in.
Aug. 1	Montezuma down	27	4	30	1
do 3	Arabia do	26	2	29	8
do 5	Merrimac do	26	3	29	5
do 14	Vancouver do	26		29	4
do 14	Laurentian do	26	1	29	4
do 17	Pomeranian do	26	3	29	6
do 19	Montcalm do	27	1	29	4
do 20	Hurona do	26		29	1
do 21	Rossmore do	26	1	28	9
do 21	Milwaukee do	27	3	28	10
do 28	Belgian King do	26	4	28	9
do 29	Armenia do	27	1	29	4
do 31	Norwegian do	26	3	29	4
Sept. 4	Queensmore do	28		28	10
do 7	Sarmatian do	26	6	28	4
do 11	Ottoman do	26	1	28	7
do 11	Merrimac do	26		28	7
do 12	Montezuma do	26	2	28	6
do 14	Sardinian do	26	5	28	6
do 18	Vancouver do	26	3	27	10
do 29	Hurona do	26		27	10

By information received from the Department of Public Works, it has been learned that several improvements were made in the channel during the season, in continuation of the work carried on during the previous years, while the Department of Marine also made improvements in the lighting and buoing. The semaphore, previously maintained at Lotbinière, was removed early in the summer to Cap Santé, and indicated throughout the remainder of the season each three inches of rise and fall of the tide on the Cap Santé shoal and Ste. Croix bar.

The Commissioners issued their annual edition of "tide tables and other information connected with the ship channel between Montreal and Quebec," embodying the tide tables for Quebec, and also one specially prepared for the Ste. Croix bar by the Tidal Survey Branch of the Department of Marine and Fisheries, which, as in the previous year, were kindly furnished to the Commissioners by the Department for that purpose. These tide tables were, as in previous years, much appreciated by the officers of vessels and the pilots, amongst whom they were freely distributed without any charge, while the set of twenty-two charts of the ship channel from Montreal to Quebec, also published by the Commissioners a few years ago, were in demand, especially by the shipping firms and river pilots, during the time of the strike of the licensed pilots.

The buoys marking the ship channel were maintained by the contractors, the Sincennes-McNaughton Line, as in other recent years. The placing of the buoys in spring was commenced on 21st April and was completed on 14th May. The taking up of the buoys at the close of the season of navigation was, by order of the Minister of Marine and Fisheries, commenced on the 25th November, which was immediately after the passage of the last steamship downwards, and was completed on the 30th November. An additional buoy was placed in September to mark the north-west point of the Three Rivers shoal. In compliance with representations by the Marine Underwriters' Association last September, authority was

given for the placing of fifteen additional buoys for the better marking out of the channel, especially below Grondines. The contractors prepared thirteen of the new as quickly as possible and placed them between the 25th and 31st of October. The other two of the desired number were required for the Richelieu Rapids, where only large steel cylinder buoys are suitable, and, as there were none in stock and they could not be built in time to be of service before the close of the season, they could not be placed.

I have the honour to be, sir,
Your obedient servant,

ALEXANDER ROBERTSON,
Secretary.

Harbours and Shipping.

STATEMENT

RESPECTING

BRANCH PILOTS

STATEMENT showing the number of Branch Pilots for and above the Harbour of Quebec, during the year of 1897, their Age, Residence, No. of Pilotages, Earnings, and whether employed on Special Service or Tour-de-Rôle.

No.	Names.	Age.	Residence.	Date of Branch.	Remarks.	No. of Trips to Montreal.		No. of Trips to Intermediate Places.		Total No. of Trips.	Earnings to Montreal.		Earnings to Intermediate Places.		Total Earnings.	Employed on Special Service, or on Tour-de-Rôle.
						IN.	OUT.	IN.	OUT.		\$	cts.	\$	cts.		
1	Bouillé, Zéphirin.	68	Deschambault	Mar. 1, 1855.	New license for 1897; see letter press.	15	16			31	1,730	96			1,730 96	Allan Line.
2	Naud, Onesime.	55	do	do	do	16	16			32	1,722	83			1,722 83	do
3	Chandonnet, Jos.	56	Lévis	Aug. 2, 1870.	Fined; see letter press.	15	12			27	1,545	40			1,545 40	Beaver Line.
4	Bouillé, Louis A.	60	Deschambault	Sept. 1, 1870.		13	15	1		29	1,514	28	30	35	1,544 63	Elder, Dempster & Co.
5	Beaudet, Prudent.	56	452 St. Joseph St., Quebec.	Oct. 10, 1870.	Member of Pilots' Committee; see letter press.	9	12	1	2	24	952	50	79	00	1,031 50	Hanbourg-Amér. P. Co.
6	Bellisle, Elzéar.	63	Deschambault.	do	do	9	6	2		18	594	66	81	63	676 29	Tour-de-Rôle.
7	Pleau, Joseph.	60	Ste. Anne de la Perade.	do	do	10	11			21	995	97			995 97	do
8	Brunet, Célestin.	53	No. 147 St. Paul St., Montreal.	Feb. 28, 1872.	See letter press.	20	21			41	1,747	89			1,747 89	Carbray, Routh & Co.
9	Bellisle, Louis.	51	Deschambault.	do	do	16	14			30	1,480	61			1,480 61	Elder, Dempster & Co.
10	Groleau, Ulric.	49	Grondines.	Oct. 30, 1872.	Secretary of Pilots' Committee.	10	9	1		21	837	95	52	50	890 45	Tour-de-Rôle.
11	Frenette, Alfred.	58	Portneuf	do	do	14	17	1		32	1,465	62	49	25	1,505 87	McLean, Kennedy & Co.
12	St. Amant, Alfred.	53	Deschambault	do	do	13	10			23	1,014	21			1,014 21	Tour-de-Rôle.
13	Béanger, Philippe.	58	Lotbinière	April 9, 1874.	See letter press.	8	9			17	846	42			846 42	do
14	Perrault, Narcisse.	60	Deschambault	do	do	17	17			34	1,777	23			1,777 23	Donaldson Line.
15	Auger, Cleophas.	51	Pointe Lévis	Sept. 22, 1874.	President of Pilots' Committee.	14	15			29	1,542	67			1,542 67	do
16	Labranche, Ferd.	50	Portneuf	April 8, 1875.	Member of Pilots' Committee.	18	14			32	1,680	05			1,680 05	Elder, Dempster & Co.
17	Bouillé, Louis Z.	47	Deschambault	Jan. 16, 1878.	do	15	15			30	1,683	25			1,683 25	Allan Line.
18	Gauthier, Laurent.	46	do	do	do	12	14			26	1,511	21			1,511 21	Dominion Line.
19	Arcand, Jean.	44	do	Dec. 10, 1879.	See letter press.	9	11	1	2	23	811	47	91	83	903 30	Tour-de-Rôle.
20	Nault, Delevoie.	44	do	do	do	20	21	2		43	1,545	27	32	13	1,577 40	Dominion Coal Co.
21	Gauthier, Wilbrod.	44	do	do	do	15	15			30	1,592	16			1,592 16	Allan Line.

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22 Mayrand, Louis	50 Ste. Anne de la Pérade	9, 1880	See letter press.	18	16	1	357	1,343 53	26 55	1,370 08	Dominion Coal Co.
23 Dufresne, George	48 Deschambault	do 10, 1880		10	6		16	652 85		652 85	Tour-de-Rôle.
24 Arcand, Norbert	44 Champlain	do 10, 1880		13	18	1	39	1,452 63	74 10	1,526 75	Dominion Coal Co.
25 Bouillé, Tancrède	43 Deschambault	do 11, 1880		18	16		29	1,583 31		1,583 31	Allan Line.
26 Arcand, Nestor	41 do	Feb. 20, 1884		17	15	2	36	1,256 37	117 95	1,374 32	Dominion Coal Co.
27 Nault, Jean	40 do	do 20, 1884		20	18		38	1,682 04	40 33	1,682 04	do
28 Dussault, Joseph	41 do	do 20, 1884		20	21		42	1,642 22		1,682 55	do
29 Groleau, Gédéon	45 Grondines	May 20, 1887		11	9	1	22	872 80	62 88	985 68	Tour-de-Rôle.
30 Bellisle, Néré	46 Deschambault	do 20, 1887		18	17		35	1,417 63		1,417 63	Dominion Coal Co.
31 Perrault, Liboire	51 147 St. Paul St., Montreal	April 20, 1888		7	8	1	17	618 84	50 32	669 16	Tour-de-Rôle.
32 Raymond, Wilfrid	42 Deschambault	do 20, 1888		13	11	1	16	1,193 73	54 35	1,248 08	Tour-de-Rôle.
33 Hurreau, Joseph	36 588 St. Denis St., Montreal	Mar. 20, 1889		15	16		31	1,673 51	50 12	1,673 51	A'l'an Line.
34 Perrault, Edouard	47 Deschambault	do 20, 1889		11	12	1	25	968 50		1,018 62	Dominion Coal Co.
35 Bouillé, C. Lydoric	40 do	do 20, 1889		12	13		25	1,109 29		1,469 29	Beaver Line.
36 Dussault, Honoré	44 St. Pétronille	July 16, 1889	See letter press.	14	12		26	1,005 91		1,005 91	Henry Dobell & Co.
37 Brière, Arthur	40 Portneuf	April 28, 1891		13	11	2	27	1,207 40	96 45	1,304 15	Thomson Line.
38 Labranche, J. Sifroi	43 do	do 28, 1891		9	9	3	23	747 94	123 05	870 99	Tour-de-Rôle.
39 Perrault, Alexis	34 Deschambault	do 23, 1891	See letter press.	18	16		34	1,402 43		1,402 43	Dominion Coal Co.
40 Dufresne, N. Come	36 do	June 23, 1891		11	16	1	28	1,123 98	26 25	1,150 23	Tour-de-Rôle.
41 Nadeau, Jean B.	38 Lévis	April 11, 1893		16	15		31	1,434 53		1,434 53	McLean, Kennedy & Co.
42 Naud, Aubert	44 Deschambault	July 11, 1893		15	14		29	1,346 40		1,546 40	Allan Line.
43 Sauvageau, Joseph	36 do	Oct. 10, 1893	See letter press.	18	14	1	34	1,278 27	60 38	1,338 65	Dominion Coal Co.
44 Dussault, Napoléon	35 do	April 3, 1894		14	13		27	1,353 36		1,353 36	Thomson Line.
45 Arcand, Barthelemi	35 do	do 3, 1894		11	12	2	25	1,084 86	66 25	1,151 11	Tour-de-Rôle.
46 Bellisle, Prudent	34 do	do 3, 1894		14	14	2	32	1,384 98	118 28	1,503 26	Dominion Coal Co.
47 Arcand, George	33 do	do 3, 1894	Censured; see letter press.	12	11	1	26	1,119 79	98 00	1,217 79	Dominion Line.
48 Toupin, Constant	31 Three Rivers	do 3, 1894	Censured; see letter press.	12	13		26	1,064 48	38 50	1,102 98	Tour-de-Rôle.
49 Perreault, George	32 Deschambault	Sept. 11, 1894		18	18		36	1,115 15		1,145 15	J. G. Brock.
50 Bouillé, Narcisse	38 do	Oct. 9, 1894		13	14		27	1,378 93		1,378 93	Johnston Line.
51 Leveillé, Joseph	34 Batiscan	June 18, 1895		18	16		35	1,459 55	28 50	1,488 05	Intercolonial Coal Co.
52 Perron, Sévère	30 Deschambault	April 14, 1896	Suspended from 23rd November until 1st July, 1898; see letter press.	11	11	2	24	1,027 47	76 13	1,103 60	Tour-de-Rôle.
Total								47,125 61	1,616 08	68,741 69	

ALEXANDER ROBERTSON,
Secretary.

HARBOUR COMMISSIONERS OFFICE,
MONTREAL, 18th January, 1898.

REPORT AND STATEMENTS OF THE MONTREAL DECAYED
PILOTS' FUND FOR THE YEAR 1897.

HARBOUR COMMISSIONERS OF MONTREAL,
SECRETARY'S OFFICE,
MONTREAL, 31st January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by direction of the Harbour Commissioners of Montreal, to transmit herewith, for the information of the Honourable the Minister of Marine and Fisheries, the usual statements of (1) Receipts and Disbursements of the Montreal Decayed Pilots' Fund for the year ending 31st December, 1897, and (2) Assets of the Fund at 31st December, 1897.

The following is an abstract of the former:—

RECEIPTS.

5 p. c. of pilotage dues, collected at Montreal.	\$3,478 13	
5 p. c. of pilotage dues, collected at Three Rivers and Batiscan.....	94 39	
5 p. c. of pilotage dues, collected at Sorel....	26 66	
From sundry percentages of pilotage dues on war vessels, &c.....	16 61	
From Messrs. R. Reford & Co., for violation of by-law 109 by Pilot Wilfrid Raymond with SS. "Fremona" in 1896.....	48 83	
		\$3,664 62
From interest on investments and on cash in bank.....	2,305 10	
Total		\$5,969 72

DISBURSEMENTS.

Pensions to old pilots and widows of pilots..	\$5,589 84	
Messrs. Riddell & Common, for audit of fund for 1896	25 00	
Postage stamps, stationery, &c.....	15 80	
Refund of percentages overpaid during the time of the pilots' strike in June.....	139 02	
Total		\$5,769 66
Showing a gain for the year of.....		\$ 200 06

In explanation of the considerable amount of percentages refunded to different shipping firms, it should be explained that, during the time of the pilots' strike at the end of June, some 30 vessels were piloted by others than licensed pilots, and although protests were made by the different shipping firms against the collection of the usual 5 per cent of the pilotage dues, it was only during the autumn that, on an opinion from their legal advisers, the Commissioners found that the percentage should not have been collected under the circumstances, and had to repay the total amount of \$137.22, which sum was accordingly lost to the fund through the refusal of the pilots to take duty for about ten days.

Harbours and Shipping.

The following deaths and superannuations took place during the year:—

On 8th February, Widow Edouard Boudreau, of Three Rivers, died. On the 10th of the same month, Widow Isaïe Beaudry, of Sorel, died. On the 6th March, old pilot Alexis Gauthier, of Deschambault, died, and on 31st July, old pilot Joseph Leveillé, of Montreal, died. In each of these cases, excepting the first mentioned, the full pension for the current quarter in which death occurred was paid to the heirs.

Widow Alexis Gauthier was placed on the list of pensioners as from 1st May at the rate of \$32 a quarter. Widow Joseph Leveillé was placed on the list of pensioners at the rate of \$37.33 quarterly from 1st August. In view of an oculist's certificate submitted by Pilot François Desjordy, of Lavaltrie, to the effect that his eyesight was considerably impaired and it would not be safe for him to continue his duties, he was placed on the pension list for one year from 1st May at the rate paid to all old pilots, namely, \$90 per quarter.

There were on the list of pensioners at the close of the year, 9 old pilots, all receiving \$90 per quarter, and 15 widows, of whom 11 receive \$37.33 quarterly, 3 receive \$32 quarterly, and one \$29.33 quarterly.

I have the honour to be, sir,
Your obedient servant,

ALEXANDER ROBERTSON,
Secretary.

DR. ALEXANDER ROBERTSON, Treasurer, in account with the Montreal Decayed Pilots' Fund. CR.

	1897.	1897.		1897.	\$	cts.
Jan. 1 To	Balance from December, 1896.		Widow	Isaie Beaudry, Sorel.	1,678	37
do 9	City of Montreal, six months interest to 1st January, on \$5,000 of 5 per cent City Stock	125	do	Sévère Bellisle, Quebec.	00	33
Feb. 4	Harbour of Montreal, coupons due 5th January— Series R, 20 and 102 = 2 x 15.		do	Edouard Boudreau, Three Rivers.		37
	do R, 42 and 117-119 = 4 x 30.		do	L. David Bouille, Deschambault.		29
	do R, 84 = 1 x 60.		do	Jos. Léandre Dessureau, Sorel.		37
	do D, 21 and 45-49 = 6 x 25.		do	Placide Gaillardet, St. Grégoire le Grand.		37
	do F, 164-172 = 9 x 20.		do	J. Octave Hamelin, Deschambault.		37
	do G, 289-290 = 2 x 20.		do	Hubert Lemay, Montreal.		37
	do H, 64 65 and 139-142 = 6 x 20.		do	Adolphe Lisé.		37
	do I, 231-246 = 16 x 20.		do	David Mathieu, Grondines.		32
May 31	Collector of Customs, Montreal, Trinity dues collected in May.	1,020	do	Zéphirin Mayrand, Contrecoeur.	00	33
June 30	Collector of Customs, Montreal, Trinity dues collected in June.	356	do	Edouard Naud, Sorel.	35	33
July 30	City of Montreal, six months interest to 1st July on \$5,000 of 5 per cent City Stock	505	do	Joseph Toupin, Champlain.	56	33
do 31	Collector of Customs, Montreal, Trinity dues collected in July.	125	do	Athanasie Dufresne, Deschambault.	00	37
Aug. 5	Pilot Sévère Perron, 5 per cent of the pilotage dues of H.M.S. "Talbot" from Quebec to Montreal and back, in June.	554	do	Victor Gagnon, Champlain.	25	33
do 7	Harbour of Montreal, coupons due 5th July— Series R, No. 20 and 102 = 2 x 15.		do	Old Pilot Cyrille Belleisle, Deschambault.		90
	do R, 42 and 117-119 = 4 x 30.		do	Danaos Cayen, Portneuf.		00
	do R, 84 = 1 x 60.		do	J. B. Dorval, Cap de la Madeleine.		90
	do D, 21 and 45-49 = 6 x 25.		do	Pierre Gagnon, Three Rivers.		00
	do F, 164-172 = 9 x 20.		do	Joseph Leveillé, Montreal.		90
	do G, 289-290 = 2 x 20.		do	Augustin Naud do		00
	do H, 64 65 and 139-142 = 6 x 20.		do	George Raymond, St. Casimir.		90
	do I, 231-246 = 16 x 20.		do	Trefle Toupin, Roberval.		00
Aug. 12	Pilot Napoléon Dussault, 5 per cent of the inwards pilotage dues on schooner "Helen M. Atwood," paid him on 5th July by Messrs. Goodhue & Co. and kept in an envelope by Secretary-Treasurer until it should be asked for when the said vessel was clearing (See contra for repayment)	5	do	Alexis Gauthier, Deschambault.	00	37
do 31	Collector of Customs, Montreal, Trinity dues collected in August	1,020	do	David Perreault do	00	33
Sept. 4	Pilot J. S. Labranche (per Joseph Thilbaudeau, Montreal Pilot Agent, Quebec) 5 per cent of his pilotage	575	do	Le Collinqueur, for printing pension receipts, &c. Riddell and Common, audit of this Fund for the year ending 31st December, 1896.	13	00
			do	Pensions paid to the following for three months ending 1st May— Widow		37
			do	Isaie Beaudry, heirs of		33
			do	Sévère Bellisle		29
			do	L. David Bouille		33
			do	Jos. Léandre Dessureau		37
			do	Placide Gaillardet		33
			do	J. Octave Hamelin		37
			do	Hubert Lemay		33
			do	Adolphe Lisé		37
			do	David Mathieu		32
			do	Zéphirin Mayrand		00
			do	Edouard Naud		37
			do	Joseph Toupin		33

Harbours and Shipping.

	do Athanase Dufresne	37 33
	do Victor Gagnon	37 33
	Old Pilot Cyrille Belleisle	90 00
	do Damase Cayen	90 00
	do J. B. Dorval	90 00
	do Pierre Gagnon	90 00
	do Joseph Leveillé	90 00
	do Augustin Naud	90 00
	do George Raymond	90 00
	do Trefflé Toupin	90 00
	do David Perreault	90 00
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	90 00
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	37 33
	do L. David Bouillé	29 33
	do J. Léandre Dessureau	37 33
	do Placide Gaillardet	37 33
	do J. Octave Hamelin	37 33
	do Hubert Lemay	37 33
	do Adolphe Lisé	37 33
	do David Mathieu	32 00
	do Zéphirin Mayrand	37 33
	do Edouard Naud	32 00
	do Joseph Toupin	37 33
	do Athanase Dufresne	37 33
	do Victor Gagnon	37 33
	do Alexis Gauthier	32 00
	Old Pilot Cyrille Belleisle	90 00
	do Damase Cayen	90 00
	do J. B. Dorval	90 00
	do Pierre Gagnon	90 00
	do Augustin Naud	90 00
	do George Raymond	90 00
	do Trefflé Toupin	90 00
	do David Perreault	90 00
	do François Desjardy	90 00
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	1 80
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	0 40
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	12 74
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	12 74
Aug. 7		
	do Athanase Dufresne	1 25
	do Victor Gagnon	596 84
	do J. B. Dorval	1 09
	do Pierre Gagnon	3 34
	do Augustin Naud	421 54
	do George Raymond	1 63
	do Trefflé Toupin	1 75
	do David Perreault	94 39
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	410 61
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	26 66
	do L. David Bouillé	57 85
	do J. Léandre Dessureau	15 10
	do Placide Gaillardet	48 83
	do J. Octave Hamelin	
	do Hubert Lemay	
	do Adolphe Lisé	
	do David Mathieu	
	do Zéphirin Mayrand	
	do Edouard Naud	
	do Joseph Toupin	
	do Athanase Dufresne	
	do Victor Gagnon	
	do Alexis Gauthier	
	Old Pilot Cyrille Belleisle	
	do Damase Cayen	
	do J. B. Dorval	
	do Pierre Gagnon	
	do Augustin Naud	
	do George Raymond	
	do Trefflé Toupin	
	do David Perreault	
	do François Desjardy	
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	
do 12		
	do Athanase Dufresne	1 25
	do Victor Gagnon	596 84
	do J. B. Dorval	1 09
	do Pierre Gagnon	3 34
	do Augustin Naud	421 54
	do George Raymond	1 63
	do Trefflé Toupin	1 75
	do David Perreault	94 39
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	410 61
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	26 66
	do L. David Bouillé	57 85
	do J. Léandre Dessureau	15 10
	do Placide Gaillardet	48 83
	do J. Octave Hamelin	
	do Hubert Lemay	
	do Adolphe Lisé	
	do David Mathieu	
	do Zéphirin Mayrand	
	do Edouard Naud	
	do Joseph Toupin	
	do Athanase Dufresne	
	do Victor Gagnon	
	do Alexis Gauthier	
	Old Pilot Cyrille Belleisle	
	do Damase Cayen	
	do J. B. Dorval	
	do Pierre Gagnon	
	do Augustin Naud	
	do George Raymond	
	do Trefflé Toupin	
	do David Perreault	
	do François Desjardy	
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	
do 16		
	do Athanase Dufresne	1 25
	do Victor Gagnon	596 84
	do J. B. Dorval	1 09
	do Pierre Gagnon	3 34
	do Augustin Naud	421 54
	do George Raymond	1 63
	do Trefflé Toupin	1 75
	do David Perreault	94 39
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	410 61
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	26 66
	do L. David Bouillé	57 85
	do J. Léandre Dessureau	15 10
	do Placide Gaillardet	48 83
	do J. Octave Hamelin	
	do Hubert Lemay	
	do Adolphe Lisé	
	do David Mathieu	
	do Zéphirin Mayrand	
	do Edouard Naud	
	do Joseph Toupin	
	do Athanase Dufresne	
	do Victor Gagnon	
	do Alexis Gauthier	
	Old Pilot Cyrille Belleisle	
	do Damase Cayen	
	do J. B. Dorval	
	do Pierre Gagnon	
	do Augustin Naud	
	do George Raymond	
	do Trefflé Toupin	
	do David Perreault	
	do François Desjardy	
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	
do 30		
	do Athanase Dufresne	1 25
	do Victor Gagnon	596 84
	do J. B. Dorval	1 09
	do Pierre Gagnon	3 34
	do Augustin Naud	421 54
	do George Raymond	1 63
	do Trefflé Toupin	1 75
	do David Perreault	94 39
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	410 61
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	26 66
	do L. David Bouillé	57 85
	do J. Léandre Dessureau	15 10
	do Placide Gaillardet	48 83
	do J. Octave Hamelin	
	do Hubert Lemay	
	do Adolphe Lisé	
	do David Mathieu	
	do Zéphirin Mayrand	
	do Edouard Naud	
	do Joseph Toupin	
	do Athanase Dufresne	
	do Victor Gagnon	
	do Alexis Gauthier	
	Old Pilot Cyrille Belleisle	
	do Damase Cayen	
	do J. B. Dorval	
	do Pierre Gagnon	
	do Augustin Naud	
	do George Raymond	
	do Trefflé Toupin	
	do David Perreault	
	do François Desjardy	
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	
Sept. 30		
	do Athanase Dufresne	1 25
	do Victor Gagnon	596 84
	do J. B. Dorval	1 09
	do Pierre Gagnon	3 34
	do Augustin Naud	421 54
	do George Raymond	1 63
	do Trefflé Toupin	1 75
	do David Perreault	94 39
	Widow Alexis Gauthier, amount which would have been due her husband, he having died on 6th March	410 61
	Pensions paid to the following for three months ending 1st August—	
	Widow Sévère Belleisle	26 66
	do L. David Bouillé	57 85
	do J. Léandre Dessureau	15 10
	do Placide Gaillardet	48 83
	do J. Octave Hamelin	
	do Hubert Lemay	
	do Adolphe Lisé	
	do David Mathieu	
	do Zéphirin Mayrand	
	do Edouard Naud	
	do Joseph Toupin	
	do Athanase Dufresne	
	do Victor Gagnon	
	do Alexis Gauthier	
	Old Pilot Cyrille Belleisle	
	do Damase Cayen	
	do J. B. Dorval	
	do Pierre Gagnon	
	do Augustin Naud	
	do George Raymond	
	do Trefflé Toupin	
	do David Perreault	
	do François Desjardy	
	C. A. Leveillé, executor of the late old pilot Joseph Leveillé, who died on 31st July, the amount of pension payable to the latter on 1st August	
	Anderson, McKenzie & Co., 5 per cent of the pilotage dues inwards on the schooner "Helen M. Atwood" received as per contra from Pilot Napoléon Dissault	
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.	
	McLean, Kennedy & Co., Trinity dues received on five steamships during the pilots' strike now refunded	

DR. ALEXANDER ROBERTSON, Treasurer, in account with the Montreal Decayed Pilots' Fund—Continued. CR.

1897.		\$	cts.
Nov. 6	By pensions paid to the following for three months ending 1st November:—		
	Widow Sévère Bellisle.....		37 33
	do L. David Bouillé.....		29 33
	do Jos. Léandre Dessureau.....		37 33
	do Placide Gallardet.....		37 33
	do J. Octave Hamelin.....		37 33
	do Hubert Lemay.....		37 33
	do Adolphe Lisé.....		37 33
	do David Mathieu.....		32 00
	do Zéphirin Mayrand.....		37 33
	do Edouard Naud.....		32 00
	do Joseph Toupin.....		37 33
	do Athanase Dufresne.....		37 33
	do Victor Gagnon.....		37 33
	do Alexis Gauthier.....		32 00
	do Joseph Lévillé.....		37 33
	Old Pilot Cyrille Bellisle.....		90 00
	do Damase Cayen.....		90 00
	do J. B. Dorval.....		90 00
	do Pierre Gagnon.....		90 00
	do Augustin Naud.....		90 00
	do George Raymond.....		90 00
	do Treffié Toupin.....		90 00
	do David Perreault.....		90 00
	do François Desjordy.....		90 00
	Cost of post office order to remit Dame Edouard Naud's pension to Suncook, N.H.....		0 40
Dec. 3	Kingman, Brown & Co., refund of Trinity dues collected from vessels in June during the pilots' strike, which were not piloted by licensed pilots and should not therefore have been collected, as per account of 1st October \$	35 25	
	Wm. Johnston & Co. Ltd.....	8 30	
	Henry Dobbell & Co.....	3 05	
	Hamburg American Packet Co.....	2 25	
	Dobell, Beckett & Co.....	2 43	
	J. G. Broek.....	1 40	
do 31	Carbray, Routh & Co.....	5 40	
	Intercolonial Coal Mining Co.....	3 45	
	Munderloh & Co.....	2 93	

Harbours and Shipping.

Elder, Dempster & Co.....	13 00	
David Torrance & Co..... do	5 27	
H. & A. Allan..... do	19 17	
The Beaver Line of Steamships..... do	3 00	
The Robert Reford Co., Ltd... do	18 98	124 48
<hr/>		
Stationery and postage on pensions remitted by registered letter during 1897.....	10 00	
Balance to January, 1898.....	1,878 43	
		7,648 09

7,648 09

ALEXANDER ROBERTSON, Treasurer, in account with the Montreal Decayed Pilots' Fund—*Continued.*

STATEMENT OF THE FUND.

Nos.	Series.		\$ cts.
Montreal Harbour Debentures—			
20 and 102	R	(Due 5th July, 1906); interest at 6 p. c. = 2 × 500	1,000 00
42 and 117-119	R	(do 5th do 1906); do 6 p. c. = 4 × 1,000	4,000 00
84	R	(do 5th do 1906); do 6 p. c. = 1 × 2,000	2,000 00
21 and 45-49	D	(do 5th do 1915); do 5 p. c. = 6 × 1,000	6,000 00
164-172	F	(do 5th do 1917); do 4 p. c. = 9 × 1,000	9,000 00
289-290	G	(do 5th do 1918); do 4 p. c. = 2 × 1,000	2,000 00
64-65	H	(do 5th do 1921); do 4 p. c. = 2 × 1,000	2,000 00
139-142	H	(do 5th do 1921); do 4 p. c. = 4 × 1,000	4,000 00
231-246	I	(do 5th Jan., 1924); do 4 p. c. = 16 × 1,000	16,000 00
City of Montreal Consolidated Fund—			
165		(Due 1st July, 1910); interest at 5 p. c. = 50 × 100	5,000 00
		Cash in Montreal City and District Savings Bank at 3 p. c.	1,829 60
		Cash in Commissioners' hands	48 83
		Total	52,878 43

ALEXANDER ROBERTSON,
Treasurer.

We hereby certify that we have examined the entries for the year 1897 as recorded on sheets hereunto annexed, and have found them to agree with vouchers on file, also that debentures and certificates to the amount of \$52,878.43, as described in above statement, have this day been submitted for our inspection.

RIDDELL & COMMON,
Auditors.

MONTREAL, 31st January, 1898.

Harbours and Shipping.

APPENDIX No. 10.

REPORT OF THE PILOTAGE AUTHORITY OF QUEBEC FOR THE YEAR ENDED 31ST DECEMBER, 1897.

(Under 36 Victoria, Chapter 54.)

QUEBEC, 3rd January, 1898.

To the Honourable Sir L. H. DAVIES, M.P.,
Minister of Marine and Fisheries, &c.,
Ottawa.

SIR,—In compliance with the requirements of the Pilotage Act, 36 Victoria, chapter 54, section 22, I have the honour to submit the following report from the Quebec Harbour Commissioners, as pilotage authority, for the year 1897.

SERVICE OF THE PILOT STATIONS.

Pilot schooner "La Vigie" left for the pilotage grounds on the 14th of April, with eight pilots on board.

On the 1st of May, the pilot schooner "La Mouette" was despatched with twelve pilots.

On the 7th, 14th, 19th, 20th, 22nd and 27th of May, forty-nine pilots were sent down by the Intercolonial Railway.

As usual, all the pilot stations have been provided with pilots during the season, through the Intercolonial Railway and the pilot schooners, and the service has been performed to the satisfaction of the Commissioners.

OLD PILOTS.

Previous to the opening of navigation, all the old pilots, nine in number, who had attained the age of sixty-five and over, were summoned before the Commissioners, under the 32nd section of the Pilotage Act, in order to establish whether they could continue in the exercise of their duties for the ensuing year. They were all found to be able to perform their duties, and their licenses were consequently renewed for one year.

PILOTS SUPERANNUATED.

There has been but one superannuation during the year, that of Mr. Régis Ménard, pilot No. 1 on the active list.

Mr. Ménard, who had attained the advanced age of eighty-two years, entered the pilotage service the 9th of August, 1836, and had thus been continuously employed for over sixty-one years, and the Commissioners have pleasure in recording that during this long and arduous term of service, not one casualty or complaint has been entered against Pilot Ménard.

DEATHS.

One pilot has died during the year. Mr. Annibal Baquet, pilot No. 11 on the list. Mr. Baquet had seen forty-two years of honourable service, in all of which there had been neither accident nor complaint.

TRIALS.

Five pilots have been brought before the pilotage authority during the season of navigation, all on complaints made by the masters of the vessels they had piloted. In three of these cases the pilots were found guilty, and in two of them a verdict of acquittal was given.

One of the statements annexed to this report conveys all the particulars as to the nature of the complaint and the result of the investigation in each case.

LEAVE OF ABSENCE.

One year's leave of absence, terminating on the 31st of March, 1898, was granted Mr. J. Emillio Couillard, pilot No. 68.

PILOTAGE ON RIVER SAGUENAY.

Application was made to the Commissioners by the Pilot Board to pass and submit for the approval of His Excellency the Governor General in Council, a tariff of pilotage for the River Saguenay. The Commissioners decided that, while the River Saguenay was within the pilotage district of Quebec, that under the present statutes, they had no power to frame such tariff or to interfere with the employment of unlicensed pilots by the masters of vessels in the River Saguenay.

TRAVERSE LIGHTS.

The Commissioners, being strongly impressed with the advisability of replacing the lightships in the Traverse by permanent lighthouses, have forwarded the following recommendation to the Honourable the Minister of Marine and Fisheries:—

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 28th December, 1897.

Honourable Sir L. H. DAVIES, M.P.,
Minister of Marine and Fisheries, &c.,
Ottawa.

SIR,—I have the honour to transmit you, herewith, a short report from Commissioners' chief engineer on the subject of replacing the Traverse lightships by permanent lighthouses.

The Commissioners have been considering the matter for some time, and they are of opinion that if the lightships at present in use in the Traverse were replaced by lighthouses built on piers, that it would be of great advantage to the navigation of the St. Lawrence, would extend the season for another month, and would be in this way of the greatest benefit to the ports of Quebec, Montreal and Three Rivers.

In connection with this subject, the Commissioners would respectfully call your attention to the recent case of the SS. "Boston City." This vessel, destined for the ports of Quebec and Montreal, with a full general cargo was reported off Cape Ray on the 28th of November, and put into Sydney for orders on the 29th November. She was then ordered to Quebec, but the captain, hearing that the lightships had been removed from the Traverse, would not take the responsibility of coming up, and after remaining at Sydney until the 2nd of December to see if some temporary arrangements could not be made, was ordered back to Halifax to discharge cargo, from which it would have to be sent by rail to its destination at a very greatly increased cost, and thus also accentuating the fact that, under present arrangements,

Harbours and Shipping.

when nearing the close of navigation, a few days' delay (a little longer in making a trip than was calculated on) might prevent any vessel from reaching Quebec or Montreal.

Had there been permanent lighthouses in the Traverse, the SS. "Boston City" could have got up to Quebec and might possibly be able to proceed to Montreal.

In regard to the cost of this proposed improvement, as compared to the present cost of equipping and maintaining the lightships, the Commissioners have no figures to go on, but it seems reasonable to think that, after construction, the lighthouses would entail but a slight expense, while as to the lightships, their equipment and maintenance must be a much larger charge.

The Commissioners would therefore strongly urge this improvement upon the Honourable the Minister, and trust that he will give it his most careful consideration.

I am, sir,
Your most obedient servant,

JAS. WOODS,
Secretary-Treasurer.

HARBOUR ENGINEER'S OFFICE,
QUEBEC, 29th July, 1897.

JAMES WOODS, Esq.,
Sec.-Treas., Harbour Commission.

SIR,—I have the honour to acknowledge the receipt of your letter of the 22nd instant, referring to the Traverse lightships, and beg leave to submit the following:

I find from an examination of the chart of the Traverse that a pier to replace the Lower Traverse lightship would be in about 24 feet of water at low tide, and that a pier to replace the Upper Traverse lightship would be situated in about 30 feet of water at low tide. I would anticipate no great difficulty in placing substantial piers in that part of the river. Mr. Gregory has no report on this subject, but considers, from his knowledge of the locality, that piers could be built. He is, however, of the opinion that a good channel for use with a rising tide can be marked out by fixed lights and ranges in the North Traverse between Madame Island and the Island of Orleans.

I have the honour to be, sir,
Your obedient servant,

ST. GEORGE BOSWELL,
Chief Engineer.

APPRENTICE PILOTS.

Application having been made to the Commissioners, permission was given to the Corporation of Pilots to indenture eighteen apprentices, fifteen of whom were received in April, and the other three in May.

These apprentices will have to serve an apprenticeship of seven years, make four voyages to Europe, and it is made a condition in their indentures that they are not to be admitted to pass their examination before the number of pilots on the active list is reduced to the requirements of the law.

The list of apprentices will now contain twenty-six names; but of these only twenty-four need to be counted, as Nolet and Dugal, through their long absence, are considered to be dead.

PILOTAGE EARNINGS.

According to a return received from the Secretary-Treasurer of the Corporation of Pilots for and below the Harbour of Quebec, their gross earnings for the season have been one hundred and thirty-three thousand five hundred and forty-five dollars and twenty-seven cents (\$133,545.27).

Out of this amount, one hundred and twenty-one thousand six hundred and sixty-three dollars and fifty-three cents (\$121,663.53) were received from eight hundred and eighty (880) British vessels, and the balance, eleven thousand eight hundred and eighty-one dollars and seventy-two cents (\$11,881.72) from one hundred and twenty-two (122) foreign craft.

The total expenses have been twenty-three thousand one hundred and sixty-eight dollars \$23,168.00), leaving a balance of one hundred and ten thousand three hundred and seventy-seven dollars and twenty-seven cents (\$110,377.27) to be divided among an average of one hundred and twenty-nine (129) pilots, giving them a net dividend of eight hundred and fifty-five dollars and sixty-four cents (\$855.64) each.

DIRECTORS OF THE CORPORATION OF PILOTS.

At their annual meeting, held on the tenth day of December last, the pilots elected the following directors to their corporation for the ensuing year:—

Messrs. F. X. Lamarre, Arbel Bernier, Paul Paquet, Edmond Larochelle, Léon Labrecque and Paul Gobeil; and, at a subsequent meeting of the new Board, Mr. F. X. Lamarre was re-elected president.

Annexed to the present report are the various statements not herein alluded to, which contain the information yearly conveyed to your Department by the Commissioners in their capacity of pilotage authority.

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

JAS. WOODS,
Secretary-Treasurer.

Harbours and Shipping.

STATEMENT showing the number of Pilots for and below the Harbour of Quebec, on the active list, on the 31st December, 1897, the number who retired, struck off the active list, or died during the year, the number temporarily suspended, the number who were unable to serve, the number in charge of Government steamers, &c.

Number.	Name.	Age.	Residence.	NUMBER OF PILOTAGES EFFECTED.			Casualties and Remarks.
				Inwards.	Outwards.	Movages.	
1	Régis Ménard.....	82	St. Valier	2	1	3	Pensioned in the month of July.
2	Jérémie Dufresne	81	Quebec.....	5	5	4	
3	Anouine Gobeil	69	St. Laurent, Orleans.....	14	13	0	Employed by the Allan Line.
4	Charles Francis Brown.....	70	Quebec.....	7	7	4	Employed by the Allan Line.
5	Paul Pâquet.....	66	St. John, Orleans.....	5	7	4	
6	Joseph Pouliot.....	71	do	6	5	5	Employed by the Allan Line.
7	Georges Normand.....	67	Crane Island.....	6	5	5	
8	David Damour.....	65	Trois Pistoles.....	0	0	0	One of the directors of the Corporation of Pilots. Not re-elected at last election.
9	Charles Vézina.....	63	St. Michel, Bellechasse.....	13	13	0	Employed by the Allan Line.
10	Numa Lachance.....	63	do	16	12	0	
11	Annibal Bacquet.....	62	Quebec	0	0	0	Sick part of the season. Died 30th May.
12	Joseph Gravel.....	71	do	6	5	4	Employed by the Black Diamond Line.
13	Auguste Couillard Després.....	61	Lauzon, Lévis	12	12	0	
14	Jean-Bte. Pouliot	56	St. John, Orleans.....	4	4	5	Sick since the month of September.
15	Jean Gobeil.....	61	do	4	2	3	
16	Joseph Pâquet.....	60	Quebec	5	5	4	Employed by the Thomson Line.
17	Louis Edmond Morn.....	59	do	16	20	1	
18	Moïse Lachance.....	60	St. John, Orleans.....	5	6	5	do Dominion Line.
19	Joseph S. Brown.....	63	Quebec	7	7	4	
20	Hubert Raymond.....	58	do	9	9	3	Sick all the season.
21	Achille Danour.....	58	St. Valier	5	4	4	
22	Joseph Pouliot.....	54	St. John, Orleans.....	0	0	0	Kingman, Brown Co.
23	Edmond Larochelle, sen.....	54	Quebec	9	9	3	
24	Ant. Thomas Chouinard.....	63	Pointe au Père.....	5	2	1	Sick since the month of September.
25	Laurent Godbout.....	54	Quebec	6	5	5	
26	Adelme Pouliot.....	58	St. Laurent, Orleans.....	12	11	1	Employed by the Dominion Line.
27	Bart. Pepin dit Lachance.....	52	St. John, Orleans.....	6	5	5	
28	Frs. Xav. Delisle.....	52	Quebec	5	5	4	Master of the Saguenay Station.
29	Jos. Pepin dit Lachance.....	63	do	0	0	4	
30	Damien Eugène Boulanger.....	54	Tadoussac	5	5	4	do
31	Cyprien Langlois.....	53	St. John, Orleans.....	7	7	5	
32	Jean Delisle.....	52	do	9	9	2	

STATEMENT showing the number of Pilots for and below the Harbour of Quebec, &c.—Continued.

Number.	Name.	Age.	Residence.	NUMBER OF PILOTAGES EFFECTED.			Casualties and Remarks.
				Inwards.	Outwards.	Movages.	
33	Nazaire Curodeau.....	50	Quebec.....	0	1	1	Sick all the season.
34	Charles Normand.....	51	do.....	6	5	4	
35	Napoleon Rioux.....	52	Ste. Petronille, Orleans	5	5	4	One of the directors of the Corporation of Pilots. Not re-elected at last election.
36	Jean-Bte. Tremblay.....	54	Quebec.....	0	0	0	Employed by the Beaver Line. President of the Corporation of Pilots. Re-elected at last election.
37	Ray. Baquet dit Lamontagne.....	52	Notre Dame, Levis.....	13	14	1	
38	Frs. Xav. Lamarre.....	51	St. Valier.....	0	0	0	Employed by the Dominion Line.
39	Moise Pouliot.....	49	St. John, Orleans.....	11	12	1	
40	Paul Gobeil.....	51	do.....	6	5	4	
41	Chs. Alarie Raymond.....	49	Château Richer.....	6	5	5	do Thompson Line.
42	Victor Vézina.....	52	Quebec.....	19	15	2	do Allan Line.
43	L. B. O. Goutron dit Larocheille.....	50	St. Michel, Bellechasse.....	16	13	1	
44	Chs. Hermie alias A. Bernier.....	52	do.....	0	0	0	One of the directors of the Corporation of Pilots. Re-elected at last election.
45	Louis Robert Demers.....	51	Quebec.....	16	16	1	Employed by the Quebec SS. Co.
46	Vital Ephrem Chamberland.....	57	St. Michel, Bellechasse.....	5	6	4	
47	Joseph G. Dupil.....	50	Quebec.....	12	15	0	do Allan Line.
48	Joseph Fortier.....	53	St. John, Orleans.....	9	9	3	do Black Diamond Line.
49	Nestor Lachance.....	52	do.....	5	5	5	
50	Cyrille Audet dit Lapointe.....	52	St. Michel, Bellechasse.....	5	5	4	
51	Joseph Lapointe.....	54	St. Laurent, Orleans.....	5	5	5	do do
52	Pierre Pepin dit Lachance.....	48	Montreal.....	15	15	2	do do
53	Theophile Gourdeau.....	53	Lauzon, Levis.....	9	9	1	
54	Isidore Noël.....	47	St. John, Orleans.....	8	5	4	
55	Jean Evariste Adam.....	53	Trois Saumons.....	5	6	5	
56	Alfred Larocheille.....	47	St. Michel, Bellechasse.....	13	11	1	do Beaver Line.
57	Theophile Corriveau.....	50	Quebec.....	7	8	3	
58	Elizear Godbout.....	49	do.....	11	11	1	do Black Diamond Line.
59	George Couillard Després.....	49	Bienville, Levis.....	5	5	4	
60	Pierre Gobeil.....	49	St. John, Orleans.....	10	11	1	do do
61	Théodule Pepin dit Lachance.....	52	Montreal.....	12	12	2	do do
62	Achille Treffé Simard.....	40	St. Joseph, Levis.....	21	20	0	do do
63	Jean-Bte. Patoiné.....	46	Montreal.....	10	9	2	do do
64	Narcisse Lavoie.....	48	Ste. Luce, Rimouski.....	6	5	5	Master of SS. "Greetlands."

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65	Joseph Emilio Couillard.	46	Quebec	7	6	3
66	Louis Albert Boyer	52	St. John, Orleans	5	4	4
67	Adélar Santeiro	47	St. Michel, Bellechasse.	15	17	1
68	Onésime Noël	45	St. John, Orleans	16	18	1
69	Napoléon Baillargeon	47	St. Pétronille, Orleans.	5	6	4
70	Jos. Frs. X. Bernier	45	Quebec	16	17	1
71	Frs. X. Demeule.	45	St. John, Orleans	0	0	0
72	Louis Honoré Lapiere.	47	Notre Dame, Lévis.	11	11	3
73	Jos. Eugène Lachance.	43	St. John, Orleans	4	6	5
74	David Arthur Bouffard.	43	St. Laurent do	5	6	4
75	Jean Theophile St. Laurent	46	Quebec	16	18	1
76	Jacques Georges Dugas	45	do	5	4	4
77	Joseph Victor Gourdeau.	50	St. Pétronille, Orleans.	8	8	1
78	Louis <i>alias</i> Trefflé Delisle.	43	Trois Pistoles	5	4	5
79	Jean-Bte. Couillard	46	Cap St. Ignace.	5	5	5
80	Chs. Pelletier.	47	St. Michel, Bellechasse.	6	6	4
81	Jos. <i>alias</i> Philéas Langlois.	51	St. John, Orleans	0	0	0
82	Nazaire Hélie	48	do	5	4	4
83	J. E. Bonaventure Lavote.	45	St. Luce, Rimouski	6	5	5
84	Ajutor Baillargeon	43	St. Pétronille, Orleans.	13	12	1
85	Samuel Rioux	44	Quebec	14	14	1
86	Chs. Octave Clavet.	43	St. Michel, Bellechasse	15	14	1
87	Paul Lachance.	41	Quebec	14	12	1
88	Arcadius Jovin.	39	St. Luce, Rimouski	6	5	4
89	Léon Lebreque.	47	St. Laurent, Orleans.	0	0	0
90	Paul Lachance	42	St. John	8	8	1
91	Joseph Pouliot.	41	do	5	5	4
92	Joseph Larochelle.	40	St. Michel, Bellechasse	6	4	4
93	Ajutor Lachance.	39	do	4	6	5
94	Frs. Gaudreau	46	Quebec	5	5	4
95	Arthur Kenig	46	L'Islet	12	11	1
96	Eugene Anctil	38	St. Jean Port Joli.	5	5	4
97	David Dumas.	44	Notre Dame, Lévis.	5	5	4
98	Jos. Lachance	43	St. Laurent, Orleans	0	0	0
99	Paul Paquet	39	St. John	0	0	0
100	Alphonse Pouliot	45	do	6	4	5
101	Elzéar Normand	38	L'Islet	6	5	4
102	Jean Bernier	38	do	18	15	1
103	Joseph Paquet	36	St. John, Orleans	5	6	5
104	Jean A. Lachance.	35	St. Henri, Lévis	4	5	4
105	Arthur Baillargeon.	40	St. Pétronille, Orleans.	5	5	5
106	Joseph Verina.	36	St. Laurent do	5	5	4
107	Herméguilde Guinard.	39	St. Thomas, Montmagny	5	5	5
108	Elzéar Desrosiers	44	Quebec	5	4	4
109	John J. A. Irvine.	41	Green Island.	0	0	0
110	Frederick Bouffard.	40	St. Laurent, Orleans	6	4	4
111	Jules Asselin	36	St. Michel, Bellechasse	7	7	2
112	Prudent Marnen	38	Beaufort.	4	5	4

Employed by the Allan Line.
do Thomson Line.

Employed by the Donaldson & Ross Line.
Master of pilot schooner No. 5.
Employed by the Black Diamond Line.

do Dominion Line.

do Black Diamond Line.

Master of pilot schooner No. 2.

Employed by the Black Diamond Line.
do Allan Line.
do Black Diamond Line.
do Johnston Line.

One of the directors of the Corporation of Pilots. Re-elected at last election.

Master of pilot schooner No. 1.
One of the directors of the corporation of Pilots. Re-elected at last election.

Employed by the Donaldson and Ross Line.

Master Red Island lightship.

STATEMENT showing the number of Pilots for and below the Harbour of Quebec, &c.—Concluded.

Number.	Name.	Age.	Residence.	NUMBER OF PILOTAGES EFFECTED.			Casualties and Remarks.
				Inwards.	Outwards.	Movages.	
113	Lucien Lachance.....	36	Notre Dame, Lévis.....	15	15	1	Employed by the Black Diamond Line. Dominion, Liverpool and Bristol Line. Employed by the London and Head Line. do do do do do do do do do do do
114	Alfred Dion.....	39	Green Island.....	5	4	5	
115	Caumille Bernier.....	39	St. Michel, Bellechasse.....	24	9	1	
116	Moise Blouin.....	46	St. John, Orleans.....	5	5	4	
117	Moise alias Laurent Godbout.....	37	Quebec.....	22	23	1	
118	Alfred Godreau.....	44	Cap St. Ignace.....	3	7	4	
119	Alfred Raymond.....	36	Kamouraska.....	4	6	4	
120	Philéas Lachance.....	37	St. John, Orleans.....	12	12	2	
121	Joseph H. Talbot.....	35	Berthier.....	14	14	1	
122	Moise Arthur Lachance.....	34	do.....	5	5	5	
123	Louis Frs. Thivierge.....	31	St. John, Orleans.....	5	4	5	
124	François alias Joseph N. Dallaire.....	36	St. Laurent do.....	4	6	3	
125	Joseph Emilien alias Emile Lachance.....	31	St. John do.....	5	6	4	
126	Alphonse Asselin.....	32	St. Michel, Bellechasse.....	12	13	2	
127	Edmond Larochele.....	31	do do.....	13	13	1	
128	Joseph Plante.....	31	St. Paul's Bay.....	5	4	4	
129	Alphonse Piquet.....	31	St. John, Orleans.....	6	6	4	
130	Paul alias Napoléon Pouliot.....	38	do do.....	6	5	5	
131	Arthur Dorion.....	41	St. Joseph, Lévis.....	4	9	4	
132	Adélaïd Bernier.....	36	Quebec.....	18	17	1	

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Certified.
JAS. WOODS,
Secretary-Treasurer.

HARBOUR COMMISSIONERS' OFFICE,
QUEBEC, 3rd January, 1898.

Harbours and Shipping.

TIDE Register for 1897 from a gauge at the Lévis Dry Dock, the zero of which is level with the sill of the dock, or 7 feet below low waterspring tide.

JANUARY.

Highest tide 27.40 feet on 21st, 8.15 p.m.
Lowest tide 6.75 feet on 31st.
West wind during 18 days.
East wind during 12 days.
South wind during 1 day.

FEBRUARY.

Highest tide 27.30 feet on 18th, 7.10 p.m.
Lowest tide 5.90 feet on 28th.
West wind during 18 days.
East wind during 8 days.
South wind during 2 days.

MARCH.

Highest tide 29.80 feet on 25th, 10.55 a.m.
Lowest tide 5.40 feet on 5th.
West wind during 17 days.
East wind during 13 days.
South wind during 1 day.

APRIL.

Highest tide 28.50 feet on 18th, 6.25 a.m.
Lowest tide 6.50 feet on 3rd.
West wind during 15 days.
East wind during 14 days.
South wind during 1 day.

MAY.

Highest tide 27.80 feet on 17th, 6.10 a.m.
Lowest tide 9.40 feet on 16th.
West wind during 12 days.
East wind during 19 days.

JUNE.

Highest tide 27.80 feet on 16th, 6.50 a.m.
Lowest tide 9.50 feet on 29th.
West wind during 16 days.
East wind during 14 days.

JULY.

Highest tide 27.30 feet on 14th, 6.00 a.m.
Lowest tide 9.10 feet on 8th.
West wind during 12 days.
East wind during 19 days.

AUGUST.

Highest tide 26·80 feet on 12th, 5.55 a.m.
Lowest tide 8·50 feet on 13th.
West wind during 21 days.
East wind during 10 days.

SEPTEMBER.

Highest tide 26·10 feet on 28th, 7.25 p.m.
Lowest tide 8·00 feet on 29th.
West wind during 24 days.
East wind during 6 days.

OCTOBER.

Highest tide 26·80 feet on 28th, 7.40 p.m.
Lowest tide 7·50 feet on 10th.
West wind during 22 days.
East wind during 7 days.
North wind during 2 days.

NOVEMBER.

Highest tide 27·40 feet on 26th, 7.40 p.m.
Lowest tide 7·40 feet.
West wind during 17 days.
East wind during 11 days.
South wind during 1 day.
North wind during 1 day.

DECEMBER.

Highest tide 27·80 feet on 11th, 7.45 p.m.
Lowest tide 6·70 feet on 25th.
West wind during 21 days.
East wind during 10 days.

U. VALIQUET,
Supt. Lévis Dry Dock.

Harbours and Shipping.

PILOTAGE TARIFF.

RATES of Pilotage for the Harbour of Quebec and below as per by-law passed by the Quebec Harbour Commissioners, on the 18th June, 1891, and sanctioned by His Excellency the Governor General in Council, on the 26th of June, 1891.

TABLE I.

RATES of Pilotage for the Harbour of Quebec and below, for each foot of draught of water.

From	To	From the 1st May to the 10th Nov.	From the 10th Nov. to the 19th Nov.	From 19th Nov. to the 1st March.	From the 1st March to the 1st May.
Bic Island or any place below the anchorage of Brandy Pots, off Hare Island	Anchorage or mooring ground in the Basin or Harbour of Quebec	\$3.87	\$4.95	\$6.02	\$4.41
The anchorage ground at the Brandy Pots off Hare Island or any place above the said anchorage ground and below St. Roch's Point.	do do	$\frac{2}{3}$ do	$\frac{2}{3}$ do	$\frac{2}{3}$ do	$\frac{2}{3}$ do
St. Roch's Point or any place above this Point and below the Point aux Pins, on Crane Island.	do do	$\frac{1}{3}$ do	$\frac{1}{3}$ do	$\frac{1}{3}$ do	$\frac{1}{3}$ do
Pointe-aux-Pins or Crane Island or any place below St. Patrick's Hole.	do do	$\frac{1}{4}$ do	$\frac{1}{4}$ do	$\frac{1}{4}$ do	$\frac{1}{4}$ do
The anchorage or mooring ground in the Basin or Harbour of Quebec.	Bic Island or the place where the pilot shall be discharged in the river below Quebec.	\$3.40	\$4.46	\$5.54	\$3.93

TABLE II.

RATES of Pilotage for the Harbour of Quebec and below.

From	To	\$ cts.
Any wharf in the Harbour of Quebec between Pointe-à-Carcy, below, and the west end of the Allans' wharf above, both inclusive.	Any other wharf within said limits.	2 50
Any place in the Harbour of Quebec not being a wharf within the above mentioned limits.	Any other place in the said harbour not being a wharf within the said limits.	5 00

Pilots taking charge of vessels at St. Patrick's Hole or above it, shall be entitled to no more than the sum allowed in Table II. for piloting vessels from one part of the harbour to another.

J. B. LALIBERTE, *Chairman.*
JAS. WOODS, *Secretary-Treasurer.*

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 3rd January, 1898.

QUEBEC HARBOUR COMMISSION.

STATEMENT of Trials held during the year 1897, before the Quebec Harbour Commissioners, under the authority of the Pilotage Act, 36 Vic., chap. 54, and 45 Vic., chap. 32, sec. 4.

Name of Pilot Tried.	Nature of Complaint.	Date of Trial.	Result.
Louis Honoré Lapierre.....	Causing bk. "India" to collide with the Cross Wall.	July 8....	Found guilty, condemned in \$40 and costs.
Alfred Godreau.....	Causing ss. "Derwent Holme" to run over the shoal at St. Jean Port Joli.	August 13.	Found guilty of an error of judgment in not ascertaining the proper distance when off the Pillars Lights, and condemned in costs of case.
Moise <i>alias</i> Laurent Godbout.	Causing ss. "Derwent Holme" to strike some obstruction while at anchor off White Island.	August 16.	Acquitted,
Charles Normand.....	Causing the bk. "P. Wickstrom, jr." to collide with the break-water.	October 1 and 6.	Acquitted.
George Couillard Després...	Causing the ss. "Turret Cape" to run ashore on St. Valier's Reef.	Dec. 6.	Found guilty of the charge lodged against him in so much that he did not exercise due care in verifying his course; but that in consideration of his long and clear record of twenty-seven years' service in which there has been neither accident or complaint, in place of suspending him condemns him in a fine of \$40 and the costs of the case.

Certified.

JAS. WOODS,
Secretary-Treasurer.

HARBOUR COMMISSIONERS OFFICE,
QUEBEC, 3rd January, 1898.

Harbours and Shipping.

QUEBEC HARBOUR COMMISSION.

List of Apprentice Pilots immediately under the Quebec Harbour Commissioners' Pilotage Authority on the 31st December, 1897.

Number	Names.	When Indentured.	Remarks.
1	George Duval	April 11, 1871.	Absent since the fall of 1877.
2	Ernest Nolet	Mar. 19, 1874.	
3	Adélaré Vézina	May 24, 1883.	Absent since the fall of 1878. It is stipulated in the indentures of those apprentices, that they will not be admitted to pass their examination before the number of pilots is reduced to 125 as provided for by the Act 45 Vic., chapter 32.
4	Jean-Baptiste Pouliot	do 24, 1883.	
5	Joseph Thivierge	do 24, 1883.	
6	Léonidas Lachance	do 24, 1883.	
7	Eudore Langlois	do 24, 1883.	
8	Frs. Xav. Eustache <i>alias</i> Wm. Doiron	July 12, 1883.	
Received.			
9	Joseph Delisle	April 26, 1877.	
10	Jules Lachance	do 26, 1877.	
11	Auguste Lansterre	do 26, 1877.	
12	Arthur Larochelle	do 26, 1877.	
13	Alexandre Larochelle	do 26, 1877.	
14	Raoul Lachance	do 26, 1877.	
15	Wm. Langlois	do 26, 1877.	
16	Arthur Paquette	do 26, 1877.	
17	Ernest Bernier	do 26, 1877.	
18	Joseph Dupil	do 26, 1877.	
19	Arthur Baquet	do 26, 1877.	
20	Jules Lamarre	do 26, 1877.	
21	George Larochelle	do 29, 1897.	
22	L. Eug. Lachance	do 29, 1897.	
23	Adelard Delisle	do 29, 1897.	
24	Paul Gobeil	May 25, 1897.	
25	Peter Laureat Lachance	do 25, 1897.	
26	Joseph Normand	do 25, 1897.	

Certified.

JAS. WOODS,
Secretary-Treasurer.

HARBOUR COMMISSIONERS' OFFICE,
QUEBEC, 3rd January, 1898.

QUEBEC, 31st December, 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to forward a detailed statement in duplicate of the moneys received and expended by the Decayed Pilot Fund of Quebec for the year 1897; also a statement of the moneys received and expended by the Corporation of Pilots, viz.:—

The total amount received by the Corporation of Pilots was	\$133,545 27
Total amount expended.....	23,168 00

Leaving a balance of..... \$110,377 27
to be distributed among 129 pilots, giving a net dividend to each of \$855.64.

One hundred and twenty-two foreign vessels paid \$11,881.72 and eight hundred and eighty British vessels paid \$121,663.55.

All of which is respectfully submitted.

F. X. DION,
Secretary-Treasurer.

Harbours and Shipping.

THE CORPORATION OF PILOTS.

STATEMENT of Moneys received and disbursed by the Corporation of Pilots for the Decayed Pilot Fund of Quebec, during the year 1897.

RECEIPTS.			
To balance of 1896	\$13,126 49		
The Corporation of Pilots' Capital Acc't.	600 00		
To fines	45 00		
To percentage or contribution of Pilots.	9,412 92		
Interest on investment	3,467 50		
Interest by Savings Bank	361 46		
	<u>\$27,013 37</u>		
EXPENDITURE.			
By pensions	\$ 7,763 55		
By relief	526 06		
General expenses	3 50		
Salaries	550 00		
Deposit in Savings Bank	17,900 58		
Balance on hand	269 68		
	<u>\$27,013 37</u>		
PENSIONERS RELIEVED BY THE FUND.			
Gobeil, Jean	\$ 129 51		
Chouinard, Thomas	66 64		
Pouliot, Joseph	182 64		
Curodeau, Nazaire	119 47		
Bâquet, Annibal	27 80		
	<u>\$ 526 06</u>		
PENSIONERS AT THE EXPENSE OF THE FUND.			
<i>Amount paid to each during the year, from the 1st November, 1896, to 1st November, 1897.</i>			
<i>Twelve Pilots, \$100 to \$125.</i>			
Chassé, Jean	\$ 115 00		
Bouffard, David	115 00		
Couillard, Jos. Ph.	115 00		
Demers, Victor	115 00		
Genest, Edouard	115 00		
Girard, Dominique, died 28th April, 1897	55 00		
Lapointe, Antoine	115 00		
Pouliot, Joseph	115 00		
Pouliot, Jean	115 00		
Talbot, J. Bte.	115 00		
Tremblay, Laurent	115 00		
Ménard, Régis, pensioned 1st August, 1897	30 00		
	<u>\$1,235 00</u>		
<i>One Pilot, at \$90 to \$110.</i>			
Verreault, Dominique	\$ 105 50		
	<u>\$ 105 50</u>		
<i>Three Pilots, at \$84 to \$100.</i>			
Desprus, Abraham	\$ 96 00		
St. Laurent, Amable	96 00		
Vézina, Alexis	96 00		
	<u>\$ 288 00</u>		
		<i>Two Pilots, at \$82 to \$98.</i>	
Dick, Ovide	\$ 94 00		
Lapointe, Cyrille, arrearages	20 50		
" " account	69 50		
	<u>\$ 184 00</u>		
		<i>Two Pilots, at \$80 to \$96.</i>	
Corriveau, F. X., died 5th March, 1897	\$ 21 10		
Pelletier, François	92 00		
	<u>\$ 113 10</u>		
		<i>Three Pilots, at \$73 to \$88.</i>	
Charest, Pierre	\$ 84 25		
Pouliot, Paul	84 25		
Raymond, Léandre	84 25		
	<u>\$ 252 75</u>		
		<i>Two Pilots at \$47 to \$57.</i>	
Forbes, James	\$ 54 50		
Larochelle, Lawrence	54 50		
" " died Dec. 10, 1897	10 66		
	<u>\$ 119 66</u>		
WIDOWS OF PILOTS.			
<i>Twenty-one Widows, at \$58 to \$70.</i>			
Widow Audet dit Lapointe, George	\$ 67 00		
" Bernier, J. Bte	67 00		
" Brown, Charles	67 00		
" Caron, Maximin	67 00		
" Delisle, Magloire	67 00		
" Dumas, Charles	67 00		
" Dumas, François	67 00		
" Dion, Jean Bte	67 00		
" Dick, Joseph	67 00		
" Godbout, Laurent	67 00		
" Girard, Dominique, pensioned from 1st May, 1867	35 00		
" Jouvin, Hilaire	67 00		
" Laprise, Louis	67 00		
" Langlois, Paul	67 00		
" Lavoie, Ls. Jos	67 00		
" Lapierre, Pierre	67 00		
" Marcoux, Edouard	67 00		
" Pelletier, Alexis	67 00		
" Pettigrew, Edouard	67 00		
" Sylvestre, Yves, died 24th March, 1897	22 82		
" Vaillancourt, Alexandre	67 00		
	<u>\$ 1,330 82</u>		
		<i>Twenty Widows, at \$55 to \$66.</i>	
Widow Bacquet, Annibal, pensioned 1st August, 1896	\$ 33 00		
" Coulombe, Jean	63 25		
" Fontaine, Louis	63 25		
" Delisle, F. X.	63 25		
" Dumas, Hubert	63 25		
" Dion, Julien	63 25		
" Forgues, Narcisse	63 25		
" Fontaine, Pierre	63 25		

STATEMENT of Moneys received and disbursed by the Corporation of Pilots for the Decayed Pilot Fund of Quebec, &c.—*Continued.*

Widow Gourdeau, Pierre.....	\$ 63 25		
" Guénard, Michel.....	63 25		
" Lachance, F. X.....	63 25		
" Lachance, Barth.....	63 25		
" Lamarre, Jean Frs.....	63 25		
" Laprise, Pierre.....	63 25		
" Lemieux, Pierre.....	63 25		
" Marticotte, Isaïe.....	63 25		
" Morency, Jos.....	63 25		
" Raymond, Jos.....	63 25		
" Reuelland, Pierre, arrears.....	13 75		
" " ".....	63 25		
" Thivierge, Louis.....	63 25		
	\$ 1,248 50		
<i>Ten Widows, at \$54 to \$65.</i>			
Widow Adam, J. C.....	\$ 62 25		
" Babin, Damase.....	62 25		
" Demers, Edouard.....	62 25		
" Dorion, Eustache.....	62 25		
" Fortin, Nicolas.....	62 25		
" Genest, Amable.....	62 25		
" Gaudreau, François.....	62 25		
" Lapointe, Joseph.....	62 25		
" Leclerc, Louis Ol.....	62 25		
" Plante, Gabriel.....	62 25		
	\$ 622 50		
<i>Six Widows, at \$52 to \$63.</i>			
Widow Bouchard, Antoine.....	\$ 60 25		
" Cinq-Mars, David.....	60 25		
" Crépault, Louis.....	60 25		
" Curodeau, Pierre.....	60 25		
" Mercier, Magloire.....	60 25		
" Roy, Alexis.....	60 25		
	\$ 361 50		
<i>Nine Widows, at \$50 to \$60.</i>			
Widow Fournier, Amable.....	\$ 57 50		
" Glynn, Dennis.....	57 50		
" Irvine, William.....	57 50		
" Langelier, Fabien.....	57 50		
" Langlois, Julien, ac.....	42 50		
" Laroche, Jean Bte.....	57 50		
" Lavoie, A. (L. M.).....	57 50		
" Noël, Henri.....	57 50		
" Ross, Pierre.....	37 50		
	\$ 502 50		
<i>Nine Widows, at \$48 to \$58.</i>			
Widow Talbot, J. Bte., arrears.....	\$ 12 00		
" Talbot, " 1 year.....	55 50		
" Caron, Germain.....	55 50		
" Côté, François.....	55 50		
" Dion, Jean.....	55 50		
" Kœning, C. F.....	55 50		
" Lachance, Ovide.....	55 50		
" Lévesque, Joseph.....	55 50		
" Pelletier, Jean, died Aug. 15, 1897.....	43 42		
" Pineau, Benjamin.....	55 50		
	\$ 499 42		
<i>Five Widows, at \$40 to \$48.</i>			
Widow Côté, Célestin, arrears.....	\$ 10 00		
" Côté, " year.....	46 00		
" Desrosiers, Pierre.....	46 00		
" Dion, Jos., pensioned Aug. 1, '97.....	39 33		
" Lachance, F. X. (M. L.).....	46 00		
" Turgeon, Edouard.....	46 00		
	\$ 233 33		
<i>Five Widows, at \$34 to \$40.80.</i>			
Widow Dandurand, Jacques.....	\$ 39 10		
" Keable, André.....	39 10		
" Morency, Guill.....	39 10		
" Pelletier, David.....	39 10		
" Rouleau, Pierre.....	39 10		
	\$ 195 50		
<i>Six Widows at \$32 to \$38.40.</i>			
Widow Caron, Fabien.....	\$ 36 80		
" Côté, Magloire.....	36 80		
" Langlois, Ls. (A. R.).....	36 80		
" McNeil, Thomas.....	36 80		
" Simard, George, died 12th July, 1897.....	26 00		
" Turgeon, Alfred.....	36 80		
	\$ 210 00		
CHILDREN.			
Child of Boutin, Thomas, inf..... (1)	\$ 12 75		
" Bernier, Ch., died 29th May, 1897.....	1 50		
" Couillard, Hilaire, arrears.....	7 50		
" Couillard, " inf. a/c.....	12 75		
" Dugas, Jean, inf..... (1)	17 25		
" Dupuis, F., died 20th October, 1897, inf.....	15 85		
" Forbes, James, inf..... (2)	31 62		
" Fortin, N., inf..... (1)	17 25		
" Giroux, Jean, inf..... (1)	17 25		
" Jahan, Joseph, inf..... (1)	17 25		
" Langlois, Joseph, inf..... (1)	17 25		
" Laprise, P. S..... (2)	30 37		
" Toussaint, P., inf..... (1)	17 25		
" Plante, Jos., inf., arrears..... (1)	9 63		
" Plante, " year.....	17 25		
" Noël, F., pensioned 14th April, 1897, inf..... (1)	9 75		
" Chouinard, Ch., pensioned 1st May, 1897, inf..... (1)	9 00		
	\$ 261 47		
RECAPITULATION OF PENSIONS.			
12 pilots at \$100 to \$120.....	\$ 1,235 00		
1 " " 92 to 110.....	105 40		
3 " " 84 to 100.....	288 00		
2 " " 82 to 98.....	184 00		
2 " " 80 to 96.....	113 10		
3 " " 73 to 88.....	252 75		
2 " " 47 to 57.....	119 66		
25 pilots.			
21 widows at \$58 to \$70 00.....	\$ 1,330 82		
20 " " 55 to 66 00.....	1,248 50		
10 " " 54 to 65 00.....	622 50		
6 " " 52 to 63 00.....	361 50		
9 " " 50 to 60 00.....	502 50		
9 " " 48 to 58 00.....	499 42		
5 " " 40 to 48 00.....	233 33		
5 " " 34 to 40 80.....	195 50		
6 " " 32 to 38 40.....	210 00		
91 widows.			
17 children at \$15, \$12.50, \$10, \$18, \$15, \$12.....	261 47		
	\$7,763 55		
133 pensioners.			

Harbours and Shipping.

STATEMENT of Moneys received and disbursed by the Corporation of Pilots for the Decayed Pilot Fund of Quebec, &c.—*Concluded.*

DR. RECEIPTS.		CR.
To balance of 1896	\$13,126 49	By pensions, relief paid during the year 1897 :—
Trustees of Quebec roads, 1 year's interest to 1st July, 1897, on \$22,800, at 6 per cent.	1,368 00	By relief
The City of Quebec, 1 year's interest to 1st July, 1897, on \$9,000, at 7 per cent	630 00	By arrears of pensions to 31st December, 1897
Treasury Department, 1 year's interest to 1st July, 1897, on \$20,000, at 5 per cent	1,000 00	By quarter ending 31st January, 1897. . . .
The Corporation of Pilots, 1 year's interest on \$1,600 at 4 per cent	64 00	By quarter ending 30th April, 1897
Church Trustees, St. Fulgence, 1 year's interest on \$2,500, at 5 per cent.	125 00	By quarter ending 31st July, 1897.
Guillaume Bouchard, 1 year's interest on \$2,400, at 5 per cent.	120 00	By quarter ending 31st October, 1897. . . .
The Municipality of St. Joseph de Lévis, 1 year's interest on \$3,200 at 5 per cent.	160 50	By general expenses
The Savings Bank, 1 year's interest on current account to 25th May, 1897. . . .	361 46	Salary of secy.-treasurer and assistant. . .
Contributions of pilots.	9,348 18	Deposit at savings bank—National Bank
Received from captain and acting pilots.	64 74	By balance on hand.
Corporation of Pilots, fines.	45 00	\$27,013 37
On account of capital remitted	600 00	STATEMENT OF FUND.
\$27,013 37		Moneys loaned
		Money in savings bank
		Money in secretary-treasurer's hands
		\$79,116 09
		To deduct the arrears of pensions due this day
		116 00
		\$79,000 09

F. X. DION,
Secretary-Treasurer.

We, the undersigned, officially appointed to revise the books and accounts of the Decayed Pilot Fund of Quebec, certify to having minutely examined them and find them correct.

T. BOISSINOT,
Accountant.

CHAS. A. RAYMOND,
N. CURODEAU,
Auditors.

QUEBEC, 31st December, 1897.

F. X. DION—in current account with the Corporation of Pilots of Quebec to 31st December, 1897.

DR.		Cr.	
To Balance of 1896	\$728 21	By Pilots' boats	\$ 881 73
Reserve fund of 1896	500 00	Pilots' expenses	654 47
Pilots' retiring fund	750 00	Pilot boat "Price"	730 90
Customs Montreal	73,107 72	General expenses	\$ 1,706 88
" Three Rivers	2,468 61	less	1 50
" Chicoutimi	534 13		1,705 38
" Tadoussac (St. Etienne)	383 10	Provisions	1,557 86
" Sorel	1,071 74	less	67 05
" Batiscan	371 43		1,490 81
" St. Thomas de Montmagny	1,535 56	Rent	623 63
" Trois-Pistoles	126 20	less	90 00
Banque Nationale	116 72		533 63
Lost time	2,644 52	Loan paid on account	600 00
Fines	280 00	Seamen's wages	1,054 48
Pilotage collected at Quebec	53,946 78	Cook's wages	506 60
		Indemnity to directors	600 00
		Indemnity to captains	275 00
		Indemnity for Saguenay	250 00
		Pilot boat shares	2,500 00
		Interest paid on loan	64 00
		Insurance	108 41
		Pilotage refunded	314 49
		Salaries of employees	1,550 00
		Deceased pilots' fund	9,348 18
		Retired pilots' fund	750 00
		Reserve fund	500 00
		Dividends	113,210 00
		Balance	936 64
	\$138,564 72		\$138,564 72

F. X. DION,
Secretary-Treasurer.

We, the undersigned, officially appointed to audit the books and accounts of the Corporation of Pilots of Quebec, certify to having minutely examined them and find them correct.

T. BOISSINOT,
Accountant.

CHS. A. RAYMOND,
N. CURODEAU,
Auditors.

QUEBEC, 31st December, 1897.

Harbours and Shipping.

APPENDIX No. 11.

REPORT OF THE PILOTAGE AUTHORITY OF HALIFAX FOR THE YEAR ENDED 31ST DECEMBER, 1897.

HALIFAX, N.S., 8th January, 1898.

Hon. Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg leave to submit for the information of the department, the inclosed returns of the pilotage authority of the district of Halifax, N.S., viz.:—
Statement of receipts and expenditure.
Statement of superannuation fund.
Return of vessels entered, British and Foreign.
Statement of vessels outward, British and Foreign.
List of licensed pilots.

Respectfully,
Your obedient servant,

J. TAYLOR WOOD,
Secretary-Treasurer.

STATEMENT of Receipts and Expenditures for the year ended 31st December, 1897.

CR.	\$ cts.
Balance, December 31st, 1896.....	1,297 57
Outward pilotage.....	1,457 11
Commissions.....	1,352 64
Interest, &c.....	366 78
Licenses and bonds.....	104 00
DR.	4,578 10
Salary, secretary and treasurer.....	600 00
Rent, taxes, heating, &c.....	325 00
Printing, stationery, expenses visiting stations.....	516 88
Superannuation Fund.....	1,041 90
Balance, December 31st, 1897.....	2,094 32
	4,578 10

J. TAYLOR WOOD,
Secretary-Treasurer.

STATEMENT of Superannuation Fund.

	Cr.	\$ cts.	\$ cts.
Balance, December 31st, 1896.....			13,554 86
Interest, &c.....		366 78	
Commissions.....		675 12	
			1,041 90
Less paid pensions.....			14,596 76
			485 00
	DR.		14,111 76
Dominion stock.....		5,200 00	
Savings Bank.....		6,677 77	
Special deposit.....		2,000 00	
Union Bank.....		233 99	
			14,111 76

J. TAYLOR WOOD,
Secretary-Treasurer.

LIST of Pilots of the Port of Halifax.

No.	Name.	Residence.	Age.
1	William Fleming.....	Halifax.....	31
2	James Holland.....	Duncan's Cove.....	61
3	William Baker.....	Halifax.....	62
4	Bernard Gallagher.....	do.....	73
5	Daniel Martin.....	Ketch Harbour.....	52
6	Joseph Reno.....	Herring Cove.....	72
7			
8			
9	Hugh Munro.....	Halifax.....	62
10	Jeremiah Holland.....	Duncan's Cove.....	65
11	Edward Byers.....	Halifax.....	56
12	James Hanrahan.....	Ferguson's Cove.....	60
13	William Beazley.....	do.....	57
14	John Hayes.....	Halifax.....	47
15	James Spears.....	do.....	39
16	John Beazley.....	do.....	37
17			
18	Charles F. Martin.....	Halifax.....	32
19	William White.....	Ferguson's Cove.....	40
20	Thomas Hayes.....	Herring Cove.....	38
21	Thomas Reno.....	do.....	37
22	Frank Mackay.....	Halifax.....	25
23	Henry Latter.....	do.....	33
24			
25	James Conway.....	Ferguson's Cove.....	35
26	James Fleming.....	Ketch Harbour.....	58
	*William Hayes.....	Herring Cove.....	23
	*William Gorman.....	do.....	23
	*Frank Thomas.....	do.....	22

*2nd class pilot.

J. TAYLOR WOOD,
Secretary-Treasurer.

Harbours and Shipping.

RETURN of Vessels entered Inward at the Port of Halifax, N.S., from 1st January, 1897, to 31st December, 1897 (subject to compulsory pilotage).

BRITISH.

Schooners.	Brigantines.	Barquentines.	Barques.	Ships.	Steamers.	Barges.	Tonnage.	Amount Pilotage Dues.
103	24	11	4	3	579	66	688,480	\$ cts. 12,338 10

FOREIGN.

39	5	6	49	1	121	.....	168,326	3,271 50
142	29	17	53	4	700	66	856,806	15,609 60

RETURN of Vessels entered Outwards at the Port of Halifax, N.S., from 1st January, 1897, to 31st December, 1897 (subject to compulsory pilotage).

BRITISH.

Schooners.	Brigantines.	Barquentines.	Barques.	Ships.	Steamers.	Barges.	Tonnage.	Amount Pilotage Dues.
16	4	12	5	3	500	18	645,458	\$ cts. 6,370 76

FOREIGN.

14	4	4	47	1	121	... ..	163,870	1,789 40
30	8	16	52	4	621	18	809,328	8,160 16

J. TAYLOR WOOD,
Secretary-Treasurer.

APPENDIX No. 12.

REPORT OF THE PILOTAGE AUTHORITY OF THE DISTRICT OF ST. JOHN FOR THE YEAR ENDED 31ST DECEMBER, 1897.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 6th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—Inclosed herewith please find the annual returns for pilotage for this district, for the year ending the 31st December, 1897, which, I trust, you will find in order.

I have the honour to be, sir,
Your obedient servant,

J. W. THOMAS,
Secretary St. John Pilot Commissioners.
Master, S.S. Campana.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.

STATEMENT of Receipts and Expenditures for the year ended 31st December, 1897.

RECEIPTS.		\$	cts.	\$	cts.
Licenses to 30 pilots at \$5.....		150	00		
do 6 boats at \$10.....		60	00		
25 cents per foot on outward pilotage from Port of St. John, to date.....		2,048	41		210 00
25 do do do Musquash, to date.....		15	00		
Commissioners fees for services, &c., returned for instructions of Minister.....					2,063 41
					800 00
					3,073 41
EXPENDITURES.					
Stationery, books, &c.....		34	90		
Auditing accounts for 1896.....		25	00		
Office rent, 1 year to 1st November.....		100	00		
Salary, Sec.-Treasurer, 1 year to date.....		800	00		
Lease expenses.....		275	00		
Sundries.....		6	50		
Balance placed to credit of Pilot Fund Account.....					1,241 40
					1,832 01
					3,073 41

J. W. THOMAS,
Secretary.

Harbours and Shipping.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.

STATEMENT of Pilot Fund Account, for the year ended 31st December, 1897.

PILOT FUND ACCOUNT.		\$ cts.	\$ cts.
DR.			
To Pensions paid 2 pilots.....		400 00	
do 6 widows.....		516 00	
do 2 children.....		30 00	
Funeral expenses, Mrs. Mulherron.....			946 00
Maritime Bank, balance written off.....			20 00
			214 09
Balance.....			1,180 09
			9,496 50
CR.			
By Balance, 31st December, 1896.....			8,561 89
Interest on Dominion Savings Bank deposits, 12 months to 1st July, 1897, per account No. 744.....	140 45		
Interest on Dominion Savings Bank deposits, 12 months to 1st July, 1897, per account No. 10,260.....	142 24		
Amount transferred from Income Account.....			282 69
			1,832 01
			10,676 59
By Balance to credit of Pilot Fund, 31st December, 1897.....			9,496 50

J. W. THOMAS,
Secretary.

OFFICE OF PILOTAGE AUTHORITY,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.
31st December, 1897.

STATEMENT of Finances, St. John Pilot Commissioners, as per audit, for the year ended 31st December, 1897.

INVESTMENT ACCOUNT.		\$ cts.	\$ cts.
On deposit in Dominion Savings Bank, per pass book No. 744.....		4,154 00	
do do do No. 10,260.....		4,206 54	
			8,360 54
CURRENT ACCOUNT.			
In Bank of New Brunswick.....			1,135 96
			9,496 50

J. W. THOMAS,
Secretary.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.

STATEMENT of Pilots' individual earnings, for the year ended 31st December, 1897.

	\$ cts.	\$ cts.
Total amount of Pilotage received	28,229 07	
Less—25c. per foot deducted from outward pilotage for office expenses, pilot fund, &c	2,048 41	
		26,180 66
<i>Contra.</i>		
Bennett, James	943 40	
Cline, Richard	1,566 62	
Cline, Alfred	628 20	
Conlin Patrick	133 50	
Daley, Charles	1,023 50	
Doyle, James	1,806 66	
Doherty, Joseph	1,205 73	
Doody, P. George	821 23	
Fletcher, Edward J	763 87	
Lahey, William	1,037 70	
Lahey, Frank L	520 26	
Mantle, James E	936 35	
Miller, William	936 05	
McPartland, James	771 30	
Quinn, William	884 49	
Reed, James	963 85	
Rogers, Bart	1,686 05	
Spears, John	831 45	
Spears, Henry	1,242 10	
Spears, Martin	934 43	
Spears, James S	877 32	
Sherrard, John L. C.	1,238 08	
Sproul, John	921 62	
Stone, Thomas J	769 46	
Scott, William	438 50	
Scott, Richard	737 06	
Thomas, John S	898 85	
Thomas, Robert	453 28	
Traynor, Thomas	209 75	
		26,180 66

J. W. THOMAS,
Secretary.

Harbours and Shipping.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.

RETURN of Vessels arriving at Port of St. John, N.B. (subject to pilotage) for the
year ended 31st December, 1897.

	British.	Foreign.	Total.
Schooners	142	183	325
Brigs and brigantines	7	2	9
Ships	8	3	11
Barques and barquentines	40	24	64
Steamers	157	24	181
	354	236	590
Amount of pilotage received	\$19,691 49	\$8,537 58	\$28,229 07

J. W. THOMAS,
Secretary.

OFFICE OF PILOTAGE AUTHORITY,
DOMINION OF CANADA,
DISTRICT OF ST. JOHN, N.B., 31st December, 1897.

LICENSED Pilots, Port of St. John, N.B., for the year 1896-97.

Name.	Age.	Residence.	Remarks.
Bennett, James	40	St. John, N. B.	
Cline, Richard	72	do	
Cline, Alfred	40	do	
Conlin, Patrick	47	do	
Doyle, James	60	do	
Doherty Joseph	51	do	
Daley, Charles	61	do	
Doody, P. George	57	do	
Fletcher, Edward J	70	do	
Lahey, William	68	do	
Lahey, Frank L	26	do	
Mantle, James E.	51	do	
Miller, William	46	do	
McPartland, James	63	do	
Quinn, William	50	do	
Reed, James	51	do	
Rogers, Bart	40	do	
Spears, John	48	do	
Spears, Henry	46	do	
Spears, James S	52	do	
Spears, Martin	40	do	
Sherrard, John L. C.	63	do	
Scott, William	41	do	
Scott, Richard	46	do	
Stone, Thomas J.	44	do	
Sproul, John	61	do	
Thomas, John S	49	do	
Thomas, Robert	56	do	
Traynor, Thomas	44	do	
McAulity, John	59	Musquash, N. B.	Licensed for Musquash only

J. W. THOMAS,
Secretary.

APPENDIX No. 13.

REPORT OF THE PILOTAGE AUTHORITY, DISTRICT OF LOUISBURG, N.S., FOR THE CALENDAR YEAR ENDED 31ST DECEMBER, 1897.

LOUISBURG, N. S., 15th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—Herewith I beg to forward accounts for the pilotage district of Louisburg for the year ended 31st December, 1897.

I have the honour to be, sir,
Your obedient servant,

JAS. MCPHEE,
Secretary.

NAMES of Pilots for the Port of Louisburg, N.S., for the year ended 31st December, 1897.

No.	Age.	Names.	License Fees.	
			\$	cts.
1	58	George Kehoe.....		
2	36	Daniel A. Townsend.....		
3	34	John Power.....		
4	38	Wm. P. Cann.....		
5	47	Elias Townsend.....		
6	64	John Williams.....		
7	58	Samuel A. Townsend.....		
8	37	Jas. T. Kelly.....		
9		Capt. Wm. H. Townsend, schooner "S. H. Townsend".....	7	00
10		do John O. Harah, do "Cumming".....	10	00
11		do M. Florian, barge "Lizzy".....	10	00
12		do do do "Alice".....	10	00
13		do W. H. McGillivray, barge "A. L. Taylor".....	10	00
14		do do do "Mabel".....	10	00
15		do W. E. Macumber, steam tug "D. H. Thomas".....	10	00
			67	00

JAS. MCPHEE,
Secretary-Treasurer.

Harbours and Shipping.

CLASS OF VESSELS.

	Number.	Tonnage.
<i>Steamers.</i>		
British.....	97	103,225
Foreign	19	16,984
	116	120,209
<i>Sailing Vessels.</i>		
British.....	40	17,244
Foreign	36	32,123
	76	49,367

PILOTAGE RECEIVED.

	\$ cts.	\$ cts.
From British steamers.....	2,120 50	
do sailing vessels.....	643 66	2,764 16
	351 50	
From foreign steamers.....	1,045 61	
do sailing vessels.....		1,397 11
		4,161 27

STATEMENT of Expenditure and Receipts for 1897.

	Amount.
RECEIPTS.	
Amount collected pilotage.....	4,161 27
do licenses.....	67 00
	4,228 27
EXPENDITURE.	
1 pilot boat.....	45 00
Repairing boats.....	15 00
Printing.....	2 00
Secretary-Treasurer's salary.....	166 45
Amount paid pilots.....	3,992 82
do commissioners.....	7 00
	4,228 27

JAS. MCPHEE,
Secretary-Treasurer.

APPENDIX No. 14.

REPORT OF THE PILOTAGE AUTHORITY OF PICTOU, N.S., FOR
THE YEAR ENDED 31ST DECEMBER, 1897.

PICTOU, N. S., 31st December, 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—Inclosed please find pilotage report for the Port of Pictou, for season ending 1897.

I am, sir,
Your obedient servant,

W. H. NOONAN,
Secretary P.A.P.D.

MEMO.—Pilots' Earnings, 1897.

No.	Name.	Residence.	Amount.	
			\$	cts.
1	Jas. Fraser	Chance Harbour	86	13
2	.....	.....
3	W. A. Cooke	Pictou	367	37
4	.....	.....
5	.....	.....
6	C. A. Cooke	Pictou	636	65
7	G. W. Powell	Pictou Landing	25	00
8	D. McLeod	Pictou	144	00
9	D. S. Smith	do	854	13
10	A. Smith	do	822	05
			2,935	33

Harbours and Shipping.

RECEIPTS and Expenditures of all Moneys received by or on behalf of the Pilotage Authority in respect of Pilots or Pilotage.

RECEIPTS.	\$ cts.	\$ cts.
Received pilotage dues, as per statement	2,983 19	
do from 7 pilots, renewing bonds	7 00	
do from Capt. Boulangier, license	40 00	
Balance due Secretary	564 81	
		3,595 00
EXPENDITURES.		
Paid pilots for pilotage	2,935 33	
do Secretary's salary	200 00	
Balance due from 1896	459 67	
		3,595 00

J. A. GORDON,
JOHN R. DAVIS,
A. J. PATTERSON,
H. McKENZIE,
Pilot Commissioners, Port of Pictou, N. S.

AMOUNT received for Pilotage dues for season ending 1897.

	\$ cts.	\$ cts.
Total amount received for pilotage dues for season ending 1897		2,983 19
Of this amount—		
Received from steamships	2,636 06	
do sailing ships	347 13	
		2,983 19
Of this amount—		
Received from British ships	2,671 06	
do foreign ships	312 13	
		2,983 19

Certified.

A. B. BELANGIER,

APPENDIX No. 15.

REPORT OF THE PILOTAGE AUTHORITY OF SYDNEY, FOR THE
YEAR ENDED 31ST DECEMBER, 1897.

NORTH SYDNEY, C.B., 25th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg to wait on you with returns, in connection with the pilotage authority of Sydney, for the past year, showing:

Balance due, per account.....	\$	379 53
Amount on deposit, Bank of Nova Scotia.....		1,000 00
		\$1,379 53

Which I trust will be found correct.

Statement of the names of the pilots and amounts paid them this year, will be forwarded to you in a few days, as soon as received from the collector in Low Point.

I notice the Government have appointed a new commission, and I shall be happy to hand the amount over whenever required.

I have the honour to be, sir,
Your obedient servant,

W. PURVES,
Secretary.

NORTH SYDNEY.

	Number.	Tonnage.
British steamers.....	136	137,316
Foreign do.....	46	27,039
British sailing vessels.....	104	33,382
Foreign do.....	14	5,649
Relief.....	10	4,491
Total.....	310	207,877

PILOTAGE RECEIVED.

From British vessels.....	\$5,739 50
From foreign vessels.....	1,245 50
From relief.....	74 00
Total.....	\$7,059 00

Harbours and Shipping.

INTERNATIONAL.

	Number.	Tonnage.
British steamers.....	157	208,547
Foreign do.....	26	35,948
British sailing vessels.....	18	14,911
Relief.....	22	1,433
Total.....	203	260,839

PILOTAGE RECEIVED.

From British vessels.....	\$7,508 00
From foreign vessels.....	1,358 00
From relief.....	15 50
Total.....	\$8,881 50

SOUTH BAR.

	Number.	Tonnage.
British steamers.....	34	41,230
Foreign steamers.....	6	5,030
British sailing vessels.....	15	6,439
Relief.....	3	559
Total.....	58	53,258

PILOTAGE RECEIVED.

From British vessels.....	\$1,783 50
From foreign vessels.....	211 00
From relief.....	12 50
Total.....	\$2,007 00

SYDNEY.

	Number.	Tonnage.
British sailing vessel.....	1	144

PILOTAGE RECEIVED.

From British vessels.....	\$6.00
---------------------------	--------

RECAPITULATION.

Port.	Number of Vessels.	Tonnage.	Amount.
North Sydney	310	207,877	\$7,059 00
International	203	260,839	8,881 50
South Bar	58	53,258	2,007 00
Sydney	1	144	6 00
Total	572	522,118	\$17,953 50

MASTERS LICENSED.

Name.	Vessel.	Class.	Number.	Amount.
				\$
P. Lechance	Polino	Steamer	2	40
D. Fraser	Coban	do	3	40
D. C. Fraser	Bonavista	do	4	40
E. Couillard	Greetlands	do	5	40
T. Whalen	Cacouna	do	7	40
J. Couillard	Acadian	do	8	40
J. Reid	Cape Breton	do	9	40
J. A. Farquhar	Harlaw	do	10	40
H. G. Gould	Louisburg	do	11	40
J. Delisle	Tiber	do	12	40
Total				400

STATEMENT of Relief.

Date.	Name.	Amount.
1897.		\$ cts.
Feb. 9	Widow Daly	15 00
do 12	do J. D. McGillvary	15 00
do 12	Family H. McGillvary	15 00
Mar. 12	do J. H. Brown	15 00
do 12	do Mary Petrie	15 00
June 2	do Mullins	15 00
do 25	Pilot John Curren	25 00
do 26	Widow M. Petrie	15 00
do 29	do McGinnis	15 00
do 30	do Madore	15 00
July 9	do Daly	15 00
do 21	do Isabel McGillvary	15 00
do 21	do Brown	15 00
Aug. 21	do Young	15 00
do 21	do Margt. Petrie	15 00
Oct. 21	do Isabel McGillvary	15 00
do 24	Family H. McGillvary	15 00
do 26	Widow May Petrie	15 00
do 26	do Margt. Petrie	15 00
Nov. 7	Pilot John Curren	25 00
do 17	Widow Young	15 00
do 26	do Mullins	15 00
Dec. 6	do Madore	15 00
do 6	do McGinnis	15 00
do 6	do J. D. McGillvary	15 00
		395 00

APPENDIX No. 16.

REPORT OF THE PILOTAGE AUTHORITY OF ST. MARY'S AND LISCOMBE, FOR THE YEAR ENDING 31ST DECEMBER, 1897.

RETURN of Pilotage for Pilotage District of St. Mary's and Liscombe, from January, 1897, to 31st December, 1897.

EDWARD QUINN, PILOT No. 1, ST. MARY'S.

Date of Arrival.	Where from.	Rig.	Name of Vessel.	Port of Registry.	Registered Tonnage.	Name of Master.	RATE OF PILOTAGE.			
							Inwards.	Outwards.	Total.	
							\$	cts.	\$	cts.
1897.										
April 12.	Sydney.	Schooner	Vanilla	Lunenburg	95	J. Spears.	3 80	3 80	7 60	
do 21.	Country Harbour.	do	New Dominion.	Halifax	34	P. McConnell.	1 36	1 36	2 72	
May 25.	Lunenburg	do	Demozelle	St. John, N. B.	163	L. Tower.	4 00	4 00	8 00	
June	Louisburg	do	Balace	Halifax.	63	M. Pettipas.	2 40	2 40	4 80	
do	do	do	do	do	63	M. Pettipas.	2 40	2 40	4 80	
July 4.	do	do	Vanilla	Lunenburg	95	J. Spears.	2 80	7 60	10 40	
do	Charlottetown, P.E.I.	do	Howard L.	Charlottetown.	71	J. G. Farrow.	2 80	2 80	5 60	
do	Jessac Harbour.	do	Minnie Mac.	Halifax.	76	J. McConnell.	3 04	3 04	6 08	
do	Sydney	do	Hariza.	Unknown	45	Terrio.	1 80	1 80	3 60	
do	do	do	Agility	Halifax.	62	Poirier.	2 48	2 48	4 96	
Sept. 5.	Twillingate	do	Lottie	St. John's, Nfld.	117	Landrigan.	1 75	1 75	3 50	
do	Louisburg	do	Vanilla	Lunenburg	95	J. Spears.	3 80	3 80	7 60	
									97 15	

Harbours and Shipping.

DANIEL BURNS, PILOT No. 4, ST. MARYS.

June 20	Cow Bay.....	Schooner...	Grenada.....	Port Hawkesbury	58	Bisset.....	2 24	4 48
July 12	Sydney.....	do	Balance.....	Halifax.....	63	M. Pettipas.....	2 50	5 00
Sept. 12	do	do	G. H. B.....	Arichat.....	35	Ferguson.....	1 50	3 00
do 16	Louisburg	do	Manzalla	Lockeport	58	Giffin.....	2 32	4 64
Oct. 1	do	do	Agility	Halifax	62	Foirier.....	2 50	5 00
do 8	Sydney	do	Balance	do	63	Pettipas	2 50	5 00
do 8	do	do	Swift Current	do	63	Murray.....	2 50	2 50
							.....	29 60

HENRY J. PYE, PILOT No. 1.

May 24	Shields.....	Barque.....	Annie Bingay.....	Liverpool, G. B.	994	R. Otterson.....	16 00	34 00
July 2	London	Steam-ship..	Acacia	London.....	1,632	Thomas	+14 32	30 67
								64 67

CHARLES RILEY, PILOT No. 3.

Sept. 4	Cape Town.....	Ship.....	Charles S. Whitney.....	Parraboro, N.S..	1,651	L. Atkins	23 00	25 00
								48 00

ARTHUR MCKINLAY, PILOT No. 5.

Oct. 2	Liverpool, G. B.	Ship.....	Trojan	Windsor.....	1,595	G. Armstrong	22 00	24 00
								46 00

*One-third from full pilotage by being towed. †Being one-third less being SS.

The undersigned Pilot Commissioners of St. Mary's and Liscombe beg to submit the following report.

WILLIAM PRIDE, <i>Secretary to Commissioners</i>	JAMES HEMLOW } WILLIAM PRIDE } <i>Commissioners.</i>
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APPENDIX No. 17.

REPORT OF THE PILOTAGE AUTHORITY OF BATHURST, FOR THE YEAR ENDING 31ST DECEMBER, 1897.
STATEMENT showing number of vessels, collections and disbursements, Pilotage District of Bathurst, N.B., season 1897.

Pilots.	British Vessels.			Foreign Vessels.			Total.	*Pilotage Rates.				Disbursements.			
	Inwards.		Outwards.	Inwards.		Outwards.		In.	Outside Bar.		Inside Bar.		To whom.	Amount.	
	No.	Amount.		No.	Amount.				No.	Amount.	In.	Out.			In.	Out.
		\$ cts.		\$ cts.		\$ cts.		\$ cts.	\$ cts.	\$ cts.	\$ cts.		\$ cts.		
William H. Daly.....	7	158 01	7	142 62	7	134 40	7	107 20	542 23	1 20	0 80	1 40	1 00	William H. Daly... Nazaire Hachey... Fred. Reynolds... Commissioners... Secretary.....	154 51 218 71 142 05 13 75 16 21
Nazaire Hachey.....															
Fred Reynolds.....															
Boat licenses.....									3 00						
Total receipts.....									545 23						545 23

*With an additional charge of 1 cent per ton on steamers in and out.

J. H. STEWART,
Secretary.

Commissioners—
JOHN E. O'BRIEN, *Chairman*.
SAMUEL MELANCON,
THOMAS LEAHY.
JOSEPH M. HACHEY,
P. J. BURNS.

Pilots—
WILLIAM H. DALY,
NAZAIRE HACHEY,
FRED. REYNOLDS.

APPENDIX No. 18.

REPORT OF THE PILOTAGE AUTHORITY OF CARAQUET FOR THE
YEAR ENDED 31ST DECEMBER, 1897.

CARAQUET, 14th December, 1897.

The Honourable the Minister of Marine and Fisheries,
Ottawa.

SIR,—Herewith please find inclosed statement of moneys paid to the pilots within the Pilotage Authority of Caraquet during the current year, also statement of my account with the Commissioners.

I have the honour to be, sir,
Your obedient servant,

PHILIP RIVE,
Secretary to Pilot Commissioners and Comr.

STATEMENT of Pilotage paid to Pilots for the Pilotage District of Caraquet during the year, 1897.

Name of Vessel.	Nationality.	Rig.	Tonnage.	Date of Arrival.	Name of Pilot.	Inwards.	Name of Pilot.	Outwards.	Total.	Date of Sailing.
						\$ cts.		\$ cts.	\$	
Alliance.....	British.....	Schooner..	99	May 19..	Charles Vibert.....	12 00	Charles Vibert.....	9 00	21 00	May 21.
Rose of Thornedge	"	"	94	Aug. 1..	"	13 20	"	10 50	23 70	Sept. 30.
Resolute	"	"	74	" 13..	Hyaccula Lentain.....	9 00	Hya. Lentain.....	9 00	18 00	Aug. 19.
Primrose.....	"	"	96	" 11..	Charles Vibert.....	13 20	Charles Vibert.....	10 00	23 20	Sept. 23.
George and Mary.....	"	"	83	Sept. 3..	Gervais Poulain.....	13 20	Gervais Poulain.....	10 00	23 20	Oct. 2.
Fin.....	Norwegian..	B. & schr.	131	" 14..	"	14 40	"	10 00	24 40	"
do.....	"	"	131	" 14..	"	Coastwise.	"	15 00	15 00	" 9.
Mary Annie.....	British.....	Barq'te.	130	" 18..	A. J. Wilson.....	13 20	A. J. Wilson.....	10 50	23 70	Nov. 20.
									172 20	

Harbours and Shipping.

PHILIP RIVE, Secretary, in account with Pilotage Authority of Caraquet, 1897.

DR.		\$ cts.
To received boat license (yearly),	Charles Vibert.....	1 00
" " " "	Gervais Poulain.....	1 00
" " " "	Xavier Poulain.....	1 00
" pilot " "	Hya. Lentain.....	4 00
" " " "	A. J. Wilson.....	4 00
		11 00
CR.		
By salary, 1897.....		11 00

PHILIP RIVE,
Pilot Commr. and Secretary to Pilot Commissioners.

CARAQUET, 14th December, 1897.

APPENDIX No. 19.

REPORT OF THE PILOTAGE AUTHORITY OF NEWCASTLE, N. B.,
FOR THE YEAR ENDED 31ST DECEMBER, 1897.

NEWCASTLE, N.B., 29th December, 1897.

Major F. GOURDEAU,
Deputy Minister of Marine and Fisheries,
Ottawa.SIR,—Herewith you will please find the pilotage returns for the district of
Miramichi, N.B., for the year ending 31st of December, 1897.I am, sir,
Your obedient servant,R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

Harbours and Shipping.

PILOTAGE Returns for the Pilotage District of Miramichi, N.B., year ending 31st December, 1897.

Class of Vessel.	Number.	Total.
Vessels reported inwards—		
British steamers	36	
do sailing vessels	41	
Foreign steamers	2	
do sailing vessels	48	
		127
Vessels reported outwards—		
British steamers	36	
do sailing vessels	38	
Foreign steamers	2	
do sailing vessels	49	
		125
Vessels removed—		
British steamers	21	
do sailing vessels	9	
Foreign steamers	2	
do sailing vessels	34	
		66
Vessels, extra services—		
British steamers	2	
do sailing vessels	3	
Foreign steamers	1	
do sailing vessels	5	
		11

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

PILOTAGE Returns for the Pilotage District of Miramichi, N.B., year ending 31st December, 1897.

Class of Vessel.	Amount.	Total.
Total amount of pilotage inwards—		
	\$ cts.	\$ cts.
British steamers	2,005 97	
do sailing vessels	1,054 43	
Foreign steamers	129 64	
do sailing vessels	1,378 25	
		4,568 29
Total amount of pilotage outwards—		
British steamers	2,360 10	
do sailing vessels	1,061 00	
Foreign steamers	139 38	
do sailing vessels	1,797 50	
		5,377 98
Total amount for removals—		
British steamers	206 00	
do sailing vessels	86 00	
Foreign steamers	12 00	
do sailing vessels	286 00	
		590 00
Total amount for extra services—		
British steamers	7 00	
do sailing vessels	12 00	
Foreign steamers	4 00	
do sailing vessels	20 00	
		43 00
		10,579 27

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

RATES of Pilotage chargeable at Miramichi, N.B., on all vessels, British and Foreign, for the year 1897.

When inward bound.....	\$ c.
And in addition to the above for all vessels propelled wholly or in part by steam.....	2.25 per foot.
When outward bound.....	0.02 per ton.
And in addition to the above for all vessels propelled wholly or in part by steam.....	2.00 per foot.
For every vessel taken to sea after the first day of November, a bonus of.....	0.02 per ton.
For the removal and mooring of vessels over 300 tons.....	4.00
And where the distance of removal exceeds four miles, fifty per cent additional on the above rate.....	4.00

NATIONALITY of Vessels piloted Inwards for the year 1897.

British	77
Norwegian	37
Italian	8
American	4
French	1

127

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

PILOTAGE Returns for the Pilotage District of Miramichi, N.B., year ending 31st December, 1897.

No.	Names of Pilots.	Age.	For what Service.	Remarks.
2	Louis Jimmo.....	43	Full license.....	
4	Angus McEachran.....	78	do	
5	Mitchell Martin.....	68	do	
6	Francis Martin.....	63	do	
7	Maxime Martin.....	52	do	
9	Angus McLean.....	64	do	
10	Alex. Wilson.....	51	do	
11	Robt. J. Walls.....	46	do	
12	George Savoy.....	53	do	
13	Reuben Nowlan.....	53	do	
20	Oliver Foster.....	56	do	
22	Wm. Walls, sr.....	43	do	Died at Chatham, N.B., Oct. 19th, 1897.
26	John McCallum.....	45	do	
27	James Nowlan.....	46	do	
28	Dudley P. Walls.....	51	do	
29	George Sutton.....	46	do	
30	James A. Nowlan.....	42	do	
31	George T. Tait.....	40	do	
32	Joseph Jimmo.....	42	do	
33	James McCallum.....	53	do	Leave of absence, 1897.
35	John Martin.....	38	do	
36	Asa Walls.....	38	do	
37	Wm. Walls, jr.....	40	do	
38	John Nowlan.....	41	do	
39	Patrick Nowlan.....	38	do	
14	John McEachran.....	47	do	Died at Chatham, N.B., April 18th, 1897.

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

Harbours and Shipping.

PILOTAGE Returns for the Pilotage District of Miramichi, N.B., year ending 31st December, 1897.

No.	Names of Boats.	Tonnage.	Captains.	First Licensed	Last Licensed.
13	Two Brothers	25		May, 1878....	Sold.
14	Empress.	25 57	George Savoy.	do 1878....	May, 1897.
15	Princess Louise.	20 85	Asa Walls	do 1879....	do 1897.
16	Senator Snowball.	30 95	George T. Tait.	do 1897....	do 1897.

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

STATEMENT showing the yearly expenditure by the Pilots on account of Pilot Schooners during the past seven years.

Names of Boats.	Paid by Pilots in 1891.	Paid by Pilots in 1892.	Paid by Pilots in 1893.	Paid by Pilots in 1894.	Paid by Pilots in 1895.	Paid by Pilots in 1896.	Paid by Pilots in 1897.
	\$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Two Brothers.	432 39	404 17	371 85	398 77	501 56	412 56	Sold.
Empress.	473 48	505 37	385 20	430 78	387 90	405 68	310 64
Princess Louise	346 33	324 35	447 17	391 84	381 21	329 14	305 05
Senator Snowball.							325 32
Total.	1,252 20	1,233 89	1,204 22	1,221 39	1,270 67	1,147 38	941 01

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

The Miramichi Pilots in account with R. R. Call, Secretary-Treasurer.

1897.	Dr.	\$	cts.
June 18.	To paid Geo. T Tait—wood, hauling sails, ballast and axe, for schr. "Senator Snowball"		1 65
do 18.	do Geo. Watt's account, sundries for schr. "Senator Snowball"		63 63
July 17.	do G. R. Marquis' account do do		27 01
do 17.	do Geo. Watt's account do "Empress"		22 68
do 17.	do G. R. Marquis' account do do		8 00
do 17.	do Mitchell Martin, repairing and fitting out schr. "Empress"		40 00
do 17.	do R. J. Walls, cleaning pilots' office		2 00
do 17.	do Note in Bank Nova Scotia, given on account construction schr. "Senator Snowball"		100 00
do 19.	do Note in Bank Nova Scotia, given on account construction schr. "Senator Snowball"		250 00
Aug. 5.	do Geo. Henderson, surveying pilot schooners		7 50
do 7.	do Note in Bank Nova Scotia, given on account construction schr. "Senator Snowball"		200 00
do 18.	do Geo. Watt's account, sundries for pilot schooners		30 80
do 18.	do J. G. Smith's account, printing		3 50
do 18.	do M. S. Hocken's account, sundries for pilot schooners		4 50
do 18.	do Asa Walls, fitting out schr. "Princess Louise"		40 00
do 18.	do Miramichi Steam Navigation Co., tickets		10 50
do 26.	do Note in Bank Nova Scotia, given on account construction schr. "Senator Snowball"		200 00
Sept. 13.	do Note in Bank Nova Scotia, given on account construction schr. "Senator Snowball"		254 45
do 18.	do John Wilson, repairing sails for schr. "Princess Louise"		8 12
do 18.	do do do "Empress"		11 47
do 18.	do A. C. McLean, sundries for schr. do		5 80
do 18.	do Geo. Watt's account do do		5 55
do 18.	do Edward Burke do "Princess Louise" and "Empress"		4 05
Oct. 5.	do Geo. Watt's account, expenses for schr. "Empress" on marine slip		38 20
do 16.	do Mrs. J. McEachran, share late pilot, John McEachran, in pilot schooners		127 58
do 18.	do Jas. P. Searle, rent of pilots' office to April 1st, 1898		20 00
Nov. 18.	do G. R. Marquis' account, sundries for pilot schooners		2 30
do 18.	do Robt. J. Walls' do do office		2 25
do 18.	do Alex. Martin, pension for 1897		75 00
do 22.	do W. C. Anslow's account for printing		1 75
do 26.	do E. Johnson's account for stationery		2 03
do 26.	do R. J. Walls, to pay rent of storehouse		10 00
do 26.	do Geo. Watt's account, sundries for schr. "Senator Snowball"		8 37
do 26.	do do do do		3 66
do 26.	do do do "Empress"		1 75
do 26.	do A. C. McLean's account do pilot schooners		3 52
do 26.	do James Nowlan's do assisting tug "D. H. Thomas"		2 00
do 26.	do Secretary-Treasurer, postage, stationery, &c.		3 18
do 26.	do D. P. Walls, premium insurance on seine		9 00
do 26.	do Returned two pilots on account of seine		1 58
do 26.	do John Nowlan, horse hire, bringing pilots from Escuminac		4 00
do 26.	do Secretary-treasurer, commission on \$11,239.27 at 3 per cent.		337 18
do 30.	do 24 pilots		9,284 71
	Cr.		11,239 27
Dec. 5.	By amount collected, pilotage in	\$	4,568 29
do 5.	do do do out		5,377 98
do 5.	do do do for removals		590 00
do 5.	do do do extra services		43 00
do 5.	do do earned by pilots outside		660 00
			11,239 27

R. R. CALL,
Secretary-Treasurer to Pilotage Commissioners.

JOHN C. MILLER,
Chairman.

Harbours and Shipping.

APPENDIX No. 20.

REPORT OF THE PILOTAGE AUTHORITY OF THE COUNTY OF CHARLOTTE, N.B., FOR THE YEAR ENDED 31ST DECEMBER, 1897.

ST. ANDREWS, N.B., 31st Dec., 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to inclose returns for the pilotage district of the County of Charlotte, for the year ended 31st December, 1897.

I am, sir,
Your most obedient servant,

C. E. O. HATHEWAY,
Commissioner and Secretary.

Pilots licensed and acting for the district—

Wellington Cline..... 56 years of age.
Joseph Boyd..... 62 years of age.

Pilot schooner "Frederick Taylor," licensed, 12½ tons; Joseph Boyd, master.

AMOUNT of Pilotage collected by pilots for the year 1897.

Description of Vessel.	Tonnage.	Nationality.	Amount of Pilotage.
			\$ cts.
Barque.....	450	British.....	33 00
Brigantine.....	150	do.....	30 00
Schooner.....	150	do.....	30 00
Brig.....	150	do.....	33 00
Total.....	900		126 00

Receipts by Pilotage Authority,

License for one pilot boat.....	\$5 00
Two copies of regulations.....	2 00
	\$7 00

Charges.

Stationery and postage.....	\$0 50
Commissioners and Secretary at St. Andrews.....	6 50
	\$7 00

Rates of Pilotage in the District of the County of Charlotte.

Longest distance, inwards or outwards, \$2.25 per ft. draught of water.

Second do do 1.60 do

Third do do 1.50 do

From or to Campbells, 20 cents per foot less than above rates.

Fourth distance, inwards or outwards, \$1 per foot draught of water.

From 1st of November to 1st of April, 20 cents per foot in addition to above rates.

To or from St. Andrews harbour to ballast ground, vessels of 80 tons and under 300 tons, \$2.50 each; vessels of 300 tons and upwards, \$3.00 each.

Removing a vessel from one landing place to another landing place or harbour inside St. Andrews Bay, vessels of 80 tons and up to 200 tons, \$4; over 200 and up to 300 tons, \$5; over 300 tons and up to 400 tons, \$6; exceeding 400 tons, \$8 each.

Removing a vessel from any landing place inside St. Andrews Bay to any harbour or landing place outside St. Andrews Bay, and within the district, pilotage inwards or outwards, vessels of 80 tons and under 200 tons, \$6; 200 tons and under 300 tons, \$8; 300 tons and under 400 tons, \$10; 400 tons and upwards, \$12 each.

C. E. O. HATHEWAY,
Commissioner and Secretary.

ST. ANDREWS, N.B., 31st Dec., 1897.

Harbours and Shipping.

APPENDIX No. 21.

REPORT OF THE PILOTAGE AUTHORITY OF SHEDIAC, N.B., FOR THE YEAR ENDED 31ST DECEMBER, 1897.

PILOTAGE OFFICE,
SHEDIAC, N.B., 5th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—The pilotage authority of the port of Shediac, N.B., beg leave to submit the following report for the year ended 31st December, 1897:—

Names of Pilots.	Age.	Service.
1. Edward McDonald.....	65	Full District.
2. Docity P. LeBlanc.....	59	do
3. Thomas McGrath.....	51	do
4. Olaf Hendrickson.....	43	do
5. Paul P. LeBlanc.....	52	do

Vessels reported inwards—

British sailing vessels.....	2
Foreign sailing vessels.....	29
	31

Vessels reported outwards—

British sailing vessels.....	2
Foreign sailing vessels.....	29
	31

Nationality of vessels reported inwards for the year ending 31st December, 1897:—

British.....	2
Norwegian.....	27
Danish.....	1
German.....	1
	31

The total amount received for pilotage service for the district for the year was as follows:—

From foreign vessels.....	\$1,124 04
From British vessels.....	63 12
Total.....	\$1,187 16

The above amount was all paid to the above pilots.

The rates of pilotage dues for this district are as follows:—

For pilotage inwards or outwards, \$1.25 per foot draught of water.

Each removal, \$2.

W. A. RUSSELL,
Secretary to the Pilotage Commission of Shediac, N.B.

APPENDIX No. 22.

REPORT OF THE YALE AND NEW WESTMINSTER PILOTAGE AUTHORITY FOR THE YEAR ENDED 31ST DECEMBER, 1897.

VANCOUVER, B.C., 6th January, 1898.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

DEAR SIR,—I have the honour to inclose statement and accounts of the Yale and New Westminster Pilotage Authority for year ending 31st December, 1897. And I have also the honour to send you copy herewith of resolution passed at annual meeting of this authority held at secretary's office this 6th day of January, 1898.

Resolved,—"That the accounts kept by the secretary for 1897, as submitted to the Commissioners, having been examined by them, are found to be correct, and the secretary is hereby instructed to forward same to the Minister of Marine at Ottawa."

I have, sir, the honour to be
Your obedient servant,

C. GARDINER JOHNSON,
Secretary Yale and New Westminster Pilotage Authority.

LEDGER BALANCE.

The Bank of Montreal, folio 94.....	\$703 78	
The Bank of Montreal—		
Savings Department	\$579 33	
Interest of savings, 1897.....	17 40	
	<hr/>	596 73
		\$1,300 51
Reserve Fund, folio 95.....	\$596 73	
Pilotage earnings, folio 138.....	703 78	
	<hr/>	\$1,300 51

RECEIPTS.

Balance in bank 5th January, 1897, folio 90....	\$ 1,087 09	
Pilotage earnings for year 1897, folio 130-38,		
\$12,807; less \$300 paid in by Commissioners.	12,507 00	
	<hr/>	\$13,594 09

DISBURSEMENTS.

Paid pilots, 5th January, 1897, folio 109.....	\$1,087 09	
Paid pilots during year 1897	8,010 55	
Office expense account, year 1897....	\$ 966 76	
Pilots expense account, year 1897....	2,825 91	
	<hr/>	3,792 67
Balance in bank	703 78	
	<hr/>	\$13,594 09

C. GARDINER JOHNSON,
Secretary Yale and New Westminster Pilotage Authority.

VANCOUVER, B.C., 8th January, 1898.

Harbours and Shipping.

BALANCE SHEET.

Reserve Fund, folio 95.....	\$579	33
Interest for 1897, folio 95.....	17	40
		\$ 596 73
Commission account, folio 53.....	1,250	63
Surplus earnings for 1897	419	91
		\$2,267 27
Expense account, folio 26.....	\$966	76
Bank of Montreal Savings Department, folio 185..	596	73
Bank of Montreal current account, folio 94.....	703	78
		\$2,267 27

No. of License.	Name of Pilot.	Age.	Service.	Remarks.
1 First class ..	William Ettershank..	55	} Licensed to pilot vessels of any size or description within limits of Yale and New Westminster Pilotage Authority.	} On active service.
2 do ..	Geo. W. Robertson..	47		
3 do ..	H. Robson Jones....	41		
4 do ..	William Johnson....	41		

NOTE.—Pilotage dues now in force are same as approved by Order in Council, Saturday, 28th day of April, 1894.

INWARDS.

33 British steamers	\$1,785	75
166 Foreign steamers	2,596	00
29 British sailing ships	860	00
24 Foreign sailing ships	616	00
		\$5,857 75

OUTWARDS.

31 British steamers	\$1,890	25
163 Foreign steamers	2,660	00
32 British sailing ships	1,240	00
24 Foreign sailing ships	859	00
		\$6,649 25
		\$12,507 00

C. GARDINER JOHNSON,
Secretary Yale and New Westminster Pilotage Authority.

VANCOUVER, B.C., 8th January, 1898.

APPENDIX No. 23.

REPORT OF THE PILOTAGE AUTHORITY OF VICTORIA AND
ESQUIMALT FOR THE YEAR ENDED 31ST DECEMBER, 1897.PILOTAGE AUTHORITY,
VICTORIA, B.C., 6th January, 1898.F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by direction of the Commissioners, to transmit herewith the pilotage returns for the Pilotage District of Victoria and Esquimalt, in the province of British Columbia, for the year ending 31st December, 1897, as required by section 22, chapter 80 of the Revised Statutes of Canada, 1886, and trust the same will reach you in season for embodiment in your annual report, and that I may be furnished with a copy of the supplement when issued.

Our chairman, Mr. R. P. Rithet, is absent in San Francisco, or he would have signed the returns in the usual way, the same as other Commissioners.

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

EDGAR CROW BAKER,
Secretary-Treasurer P. A.

PILOTAGE Returns, Victoria and Esquimalt Pilotage District, B.C., 1st January
to 31st December, 1897.

LICENSED PILOTS.

No.	Name.	Age.	Date of Issue.	Seniority.	Remarks.
1	John Thompson.....	48	April 23, 1880...	Dec. 4, 1878.	Originally a B.C. Pilot.
2	James Ramsey.....	67	Oct. 21, 1889....	June 9, 1873	Retired under pension from Pilots, February 8, 1894.
3	Samuel W. Bucknam..	47	March 6, 1891... ..	March 6, 1891... ..	Victoria and Esquimalt District.
4	John Newby.....	48	April 10, 1891... ..	April 10, 1891... ..	do do
5	Thomas Bebbington ..	51	Feb. 25, 1893....	Feb. 25, 1893....	Originally a N. W. and Yale Pilot.

N.B.—The foregoing is a list of licensed pilots, who are the only ones who have prosecuted such calling in the above named district. One of the above, James Ramsey, has been pensioned off, owing to increasing infirmity, under an agreement with the other pilots, whereby he receives a monthly allowance of sixty dollars paid by said pilots pro rata.

There are no masters and mates acting under license from this Pilotage Authority, all the certificates previously granted having expired by efflux of time.

Harbours and Shipping.

Classes I., II., III., page 213, supplement to 19th annual report, with reductions on pages 200 and 201, supplement to 21st annual report, and also those on pages 181 and 182, supplement to 26th annual report (*i.e.* Order in Council, 1st July, 1893), apply to this year also.

Same Acts and parts of Acts as last year apply to 1897, and list of exempted vessels and Puget Sound rates remain the same.

PILOTAGE Dues collected 1st January to 31st December, 1897.

Month.	British.	Foreign.	Total.	Remarks.
	\$ cts.	\$ cts.	\$ cts.	
January	396 88	624 75	1,021 63	N.B.—The total \$13,171.25 does not include sums of \$400.00 collected from Puget Sound steamers, and \$238.18 pilotage outwards in certain cases to credit of Pilotage Authority.
February	448 50	403 00	851 50	
March	464 00	580 75	1,044 75	
April	409 25	651 00	1,060 25	
May	667 50	650 75	1,318 25	
June	539 00	682 37	1,221 37	
July	395 00	714 00	1,109 00	
August	374 50	743 25	1,117 75	
September	422 25	750 00	1,172 25	
October	339 62	706 38	1,046 00	
November	252 75	782 50	1,035 25	
December	312 25	861 00	1,173 25	
	5,021 50	8,149 75	13,171 25	

EDGAR CROW BAKER,
Secretary-Treasurer P. A.

VICTORIA, B.C., 31st December, 1897.

CR.

DR. RECEIPTS and Expenditure, 1st January to 31st December, 1897.

Date.	Nature of Receipt.	Amount.	Date.	Head of Service.	Amount.
1897.		\$ cts.	1897.		\$ cts.
1 January	To Balance from last year	650 29	10 February	By V. and E. pilots, division surplus, 1896	650 29
1 Jan. to 31 Dec.	Pilotage dues, 12 months	13,171 25	1 Jan. to 31 Dec.	V. and E. pilots, earnings as per receipts	11,854 12
1 " 31 "	Certificate fees, Puget Sound steamers	400 00	1 " 31 "	Secretary-Treasurer, 12 months salary	600 00
1 " 31 "	Pilotage outwards in certain cases to credit of Pilotage Authority	238 13	1 " 31 "	Fees to Commissioners, 3 months, 31st March, 1897 (previous to rescinding by-law)	60 00
			1 " 31 "	Office expenses, rent, fuel, light, &c.	364 00
			31 December	Balance Cr. Pilotage Authority	931 26
		14,459 67			14,459 67

Approved and certified correct.

MATTHEW JOHNSTON, }
HERBERT G. LEWIS. } *Commissioners.*

EDGAR CROW BAKER,
Secretary-Treasurer,

Harbours and Shipping.

APPENDIX No. 24.

REPORT OF THE PILOTAGE AUTHORITY OF THE DISTRICT OF HARVEY, FOR THE YEAR ENDED 31ST DECEMBER, 1897.

HARVEY, N.B., 6th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg to call your attention to the inclosed report. You will notice the small amount collected by pilot. During the season of 1897 we had the largest number of ships' load in this port of any season since it became a pilotage district. The small amount is due to the fact that the pilotage is non-compulsory. Many of the ships having been here before manage to jib in on light draught and at high water, without pilot, while steamers leave at high tide when many of the obstructions to navigation are covered sufficiently to carry them over, and thus save pilotage.

Respectfully yours,

GEO. A. COONAN.

HARVEY PILOTAGE DISTRICT,
HARVEY, N.B., 6th January, 1898.

SIR,—I have the honour to report that Addington Brewster has been licensed to pilot in the waters of this district, and is the only pilot. Pilotage 50 cents to \$1 per foot as to distance.

Amounts received from British ships.....	\$44 50
Amounts received from Foreign ships	50 00

Your obedient servant,

GEO. A. COONAN,
Commissioner.

APPENDIX No. 25.

REPORT OF THE PILOTAGE AUTHORITY OF NANAIMO, FOR THE
YEAR ENDED 31ST DECEMBER, 1897.PILOT OFFICE, NANAIMO,
10th January, 1898.F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to forward, for the information of the Government, the annual returns of the Nanaimo Pilotage Authority, for the year ended 31st December, 1897, in accordance with the Pilotage Act, 1886.

I am, sir,
Your obedient servant,

C. C. MCKENZIE,
Acting Secretary.

PILOTAGE Returns for year ended 31st December, 1897, in accordance with the
Pilotage Act, 1886.

Names of Pilots.	Age.	Service.
John Sabiston, junior.....	44	District.
Daniel Morrison.....	57	do
Jas. Peter Bendrodt.....	37	do
Jas. Christensen.....	56	do
Jas. Edgar Butler.....	36	do
Rates of pilotage dues, &c.—		
Half pilotage.....	\$ 1	per foot.
Full pilotage.....	2	per foot.
Gulf pilotage.....	10	per diem.
Special rates for mail steamers and tugs.		
Total amount received for pilotage dues.—		
Pilotage dues from British ships.....	\$ 3,087	50
Pilotage dues from Foreign ships.....	15,155	50
Total pilotage dues.....	\$18,243	00

Harbours and Shipping.

Receipts and Expenditure—

Receipts.

Balance from 1896.....	\$	83	93	
Pilotage dues for 1897.....		18,243	00	
Refund by Commissioners.....		650	00	
		—————		\$18,976 93

Expenditure.

Paid pilots.....	\$14,450	25	
pilots' expenses.....	3,074	35	
ex-pilot Jabiston allowance.....	600	00	
Commissioners (refunded).....	50	00	
Secretary-treasurer.....	600	00	
rent of office.....	120	00	
office cleaning.....	30	00	
printing, postage, stationery, &c..	36	50	
Balance for 1898.....	15	83	
	—————		\$18,976 93

E. QUENNELL,
Chairman.

C. C. MCKENZIE,
Acting Secretary.

APPENDIX No. 26.

REPORT OF THE PILOTAGE AUTHORITY OF GLACE BAY, FOR
THE YEAR ENDED 31ST DECEMBER, 1897.PILOTAGE AUTHORITY,
GLACE BAY, C.B., 31st December, 1897.F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have to report that owing to the abandonment of the harbour of Glace Bay, by the Dominion Coal Company, as a shipping point for the coal mined in this district, all of which had hitherto been shipped through this harbour, there has not been an entry of a single ship of tonnage sufficient to warrant the payment of pilotage dues during the year just ended.

No licenses were issued to pilots, nor were any fees whatever collected during the year 1897, as the account inclosed herewith will show.

I have the honour to be, sir,
Your obedient servant,

EDWD. H. RIGBY,
Secretary.

PILOTAGE DISTRICT OF GLACE BAY, C.B.

Receipt and Disbursement Account.

		DR.	\$ cts.	\$ cts.
1897.				
Jan. 1.	To Balance from last year.....			18 00
		CR.		
March 5.	By Paid E. Mahon, account superannuation.....		5 00	
Dec. 31.	Paid Secretary account allowance.....		13 00	
				18 00

EDWD. H. RIGBY,
Secretary.

GLACE BAY, C.B., 31st December, 1897.

Harbours and Shipping.

APPENDIX No. 27.

HARBOUR MASTERS.

TABLE showing the names of Ports proclaimed under certain Dominion Acts, the provisions of which are found in Chapter 86, Revised Statutes of Canada, for the appointment of harbour masters; the dates of proclamation; the names of the harbour masters appointed; the dates of the appointment of harbour masters; the amount which each of their salaries is not to exceed; the amount of fees collected by each of them during the calendar year ended 31st December, 1897, and the overplus, if any, paid into the credit of the Receiver General.

PROVINCE OF ONTARIO.

Name of Port.	Date of Proclamation.	Name of Harbour Master.	Date of Appointment.	Amount from the fees of office salary not to exceed.	Amount collected in 1897.	Amount paid over to Receiver General.
				\$ cts.	\$ cts.	\$ cts.
Collingwood.....	3 March, '77	Andrew Lockerbie.....	3 March, '77	200 00	116 50	.....
Fort William.....	7 July, '91	T. E. Oakley.....	21 May, '97	400 00	354 50	.....
French River.....	20 June, '93	E. Borron, jr.....	20 June, '93	200 00	76 00	.....
Goderich.....	28 April, '76	William Marlton.....	8 May, '94	300 00	36 30	.....
Midland.....	22 July, '82	John White.....	13 July, '97	200 00	93 50	.....
Parry Sound.....	24 March, '83	John Galna.....	19 March, '83	200 00	168 00	.....
Penetanguishene.....	2 Feb., '77	Francis Dusome.....	3 June, '81	200 00	34 00	.....
Port Arthur.....	12 May, '84	B. Guerard.....	21 May, '97	200 00	49 50	.....
Rondeau.....	4 do '78	W. R. Fellowes.....	17 Dec., '88	100 00	70 50	.....
Southampton.....	23 Sept., '75	W. H. Johnston.....	— Oct., '82	100 00	52 00	.....
Sarnia.....	25 July, '85	Robert McAdam.....	3 May, '86	300 00	.....	.....

PROVINCE OF QUEBEC.

Amherst.....	14 Sept., '78	John Cassidy.....	2 Sept., '78	200 00	12 50	.....
Bersimis.....	31 July, '91	Earl D. Chase.....	31 July, '91	200 00	.....	.....
Carleton.....	8 Dec., '81	Joseph E. Cullen.....	30 March, '96	200 00	.....	.....
Chicoutimi.....	17 June, '85	Ainsworth Sturton.....	8 June, '86	200 00	.....	.....
Grand Entry.....	19 Feb., '92	Colin Wallace.....	19 Feb., '92	200 00	.....	.....
Gaspé.....	25 Sept., '74	Francis J. Eden.....	3 April, '89	500 00	.....	.....
House Harbour.....	9 Aug., '87	C. Lafrance.....	10 Dec., '96	200 00	6 50	.....
Lachine.....	19 April, '80	Vacant.....	.....	.....	.....	.....
Matane.....	19 Oct., '77	L. J. Lavasseur.....	12 Dec., '96	200 00	.....	.....
Métis.....	7 Feb., '78	J. H. Ferguson.....	10 March, '96	200 00	41 00	.....
New Carlisle.....	25 do '89	John C. Hall.....	17 Jan., '95	200 00	8 50	.....
New Richmond.....	15 April, '82	Henry Leblanc.....	3 April, '82	200 00	35 00	.....
Oak Bay.....	27 March, '80	Jas. D. Sowerby.....	22 March, '80	200 00	.....	.....
Paspébiac.....	12 May, '77	Hugh Christie.....	22 May, '77	150 00	33 00	.....
Port Daniel.....	25 March, '89	J. Enright.....	11 Sept., '90	200 00	5 00	.....
Rimouski.....	5 do '77	A. P. St. Laurent.....	13 May, '96	200 00	23 50	.....
Rivière Ouelle.....	22 July, '82	Vacant.....	.....	100 00	.....	.....
St. Thomas.....	2 Jan., '86	L. Dionne.....	22 Oct., '96	200 00	148 00	.....
St. Johns.....	Within the Harbour of Montreal.	G. H. Farrar.....	20 March, '97	500 00	720 00	220 50
Sorel.....		Pierre Guévremont.....	20 May, '90	300 00	295 00	.....

TABLE showing the Names of Ports proclaimed under the Dominion Acts, &c.—*Con.*

PROVINCE OF NEW BRUNSWICK.

Name of Port.	Date of Proclamation.	Name of Harbour Master.	Date of Appointment.	Amount from the	Amount collected in	Amount paid over to
				fees of office salary not to exceed.	1897.	Receiver-General.
				* cts.	\$ cts.	\$ cts.
Bathurst	30 May,	'73 M. T. Daley	21 April, '96	200 00	61 50	
Black's Harbour and Beaver Harbour	22 Sept.,	'83 E. W. Cross	17 Sept., '83	100 00	11 00	
Buctouche	30 May,	'73 H. Hutchinson	17 April, '97	100 00	5 50	
Campbellton	30 do	'73 A. J. Venner	12 do '93	200 00	68 00	
Campobello	30 do	'73 W. E. Sulis	16 Dec., '92	100 00	2 50	
Cape Tormentine	7 do	'95 John Tucker	7 May, '95	200 00	68 50	
Caraget	30 do	'73 Louis Poirier	17 April, '83	150 00	9 00	
Chatham	30 do	'73 Wm. Johnston	25 June, '79	300 00	253 00	
Cocagne	30 do	'73 H. Bourgeois	12 Mar., '97	100 00	0 50	
Dalhousie	30 do	'73 Wm. Smith	19 do '88	200 00	201 00	1 00
Dorchester	30 do	'73 F. C. Palmer	15 April, '93	200 00		
Fredericton	30 do	'73 Vacant				
Grand Manan, North	18 Sept.,	'76 James Pettis	21 May, '88	100 00		
Grand Manan, South	22 Aug.,	'89 Abel Wilcox	22 Aug., '89	100 00	4 00	
Great Shemogue	17 May,	'75 Vacant		100 00		
Harvey	30 do	'73 J. E. Bishop	22 June, '97	100 00	30 00	
Heron Channel	15 July,	'97 Duncan Robertson	15 July, '97	200 00	14 50	
Hillsborough	— May,	'73 Boaz Gross	28 Jan., '92	100 00	165 00	64 00
Hopewell Cape	25 Aug.,	'91 Josiah Christopher	25 Aug., '91	200 90	57 50	
Ledge of St. Stephens	30 May,	'73 W. McBean	12 June, '94	100 00	Nil.	
Letete, &c.	22 Sept.,	'83 Jacob Cook	26 Nov., '97	100 00		
Little Shippegan and Miscou Gully	1 May,	'86 Donald Harper	19 April, '86	100 00		
Little Shemogue	5 Sept.	'88 Vacant		100 00		
Moncton	30 May,	'73 E. P. Cook	11 April, '95	200 00	14 00	
Musquash	26 Mar.,	'74 J. McNulty	28 Sept., '96	100 00	15 00	
Newcastle	30 May,	'73 John Niven	7 July, '73	300 00	149 50	
North Joggins	30 do	'73 Vacant				
Port Elgin and Bay Verte	6 Feb.,	'73 R. Anderson	2 June, '93	200 00	33 00	
Pokemouche	7 July,	'83 Felix Boudreau	13 Mar., '96	100 00	Nil.	
Richibucto	30 May,	'73 James Alexander Jardine	11 May, '74	200 00	61 00	
Rockland	30 do	'73 Vacant				
Sackville	30 do	'73 Alexander Ford	28 June, '88	200 00		
St. Andrews	30 do	'73 John Wren	6 May, '84	100 00	38 00	
St. George	30 do	'73 Alexander Dick	29 Aug., '84	100 00	16 50	
St. Martin and Quasco	14 do	'74 Joseph Carson	14 May, '74	100 00	13 00	
Shediac	30 do	'73 Alexander McQueen	19 do '76	300 00	116 50	
Shippegan	30 do	'73 John DeGrace	10 Aug., '80	100 00		
Tracadie	7 do	'74 Vital Arsenau	9 July, '75	100 00	5 00	
Waterside	3 Sept.,	'89 Wm. Riley Copp	3 Sept., '89	100 00		
West Isles	4 Feb.,	'79 Thos. K. Parker	4 Feb., '79	200 00		

PROVINCE OF NOVA SCOTIA.

Advocate	15 May,	'80 Samuel Morris	10 May, '80	100 00		
Annapolis	12 Mar.,	'75 William Cummings	16 do '79	200 00		
Apple River	14 Aug.,	'86 Robt. Field	9 Sept., '90	200 00	32 50	
Arichat	22 April,	'79 C. P. Terrio	29 April, '95	200 00	26 00	
Baddeck	23 Sept.,	'75 Alex. McAulay	10 Dec., '90	100 00	1 50	
Barrington	10 July,	'82 B. Kenney	6 July, '93	200 00	35 00	
Bayfield	11 do	'79 John McDonald	11 do '79	200 00	Nil.	
Bay St. Lawrence	21 April,	'87 G. Zwicker	21 April, '87	200 00		
Bear River	25 Sept.,	'74 Wm. McFadden	27 Sept., '97	100 00		
Beaver Harbour	94 July,	'80 Henry Hawbolt	22 do '88	100 00	2 50	
Big Harbour	9 June,	'83 Donald McKenzie	28 May, '83	100 00	38 50	
Bourgeoise River	1 May,	'86 E. C. Bouchie	19 April, '86	100 00	6 00	
Bridgewater	6 do	'74 William Oaks	28 Jan., '96	100 00	84 00	

Harbours and Shipping.

TABLE showing the Names of Ports proclaimed under the Dominion Acts, &c.—*Con.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name of Port.	Date of Proclamation.	Name of Harbour Master.	Date of Appointment.	Amount from the fees of office salary not to exceed.		Amount collected in 1897.		Amount paid over to Receiver General.
				\$	cts.	\$	cts.	
Bras d'Or, including New Campbellton	6 May '74	Wm. Livingston	13 Feb., '94	200	00	12	50	
Cape Canso	6 June, '76	R. Jamieson	5 July, '97	100	00	22	00	
Cape Negro or North East Harbour	18 May, '81	A. D. Perry	18 May, '81	200	00	19	00	
Chester	8 Sept., '83	A. C. Corkum	8 July, '96	100	00	30	00	
Cheticamp	20 April, '76	Fulgence Aucoin	15 April, '76	100	00			
Clark's Harbour	1 June, '81	J. B. Brannen	1 June, '81	200	00	9	50	
Clementsport	1 May, '77	Thomas Tracey	1 May, '77	100	00			
County Line to Grand Narrows	9 June, '83	Vacant						
Crow Harbour	30 Sept., '88	A. Ehler	30 Aug., '97	100	00			
D'Escousse	23 Jan., '85	Arthur Pertus	6 March, '90	100	00	32	50	
Digby	19 Feby., '78	Israel Hersey	21 May, '97	200	00	15	50	
East Bay	25 Aug., '83	Donald McInnis	5 April, '86	100	00			
Fourchie	22 May, '89	Neil MacLean	22 May, '89	100	00	1	50	
Gaberouse	3 March, '79	John Wm. Hardy	2 Nov., '86	100	00	6	00	
Glasgow and Cape Breton Pier, Sydney	30 Oct., '80	Angus McQuarrie	30 Oct., '80	300	00	18	00	
Guysborough	15 Jan., '89	Thos. O'Connor	31 do '93	100	00	8	00	
Halifax	No proclamation required by Act	J. E. Butler	21 Sept., '93	1800	00	1711	50	
Hantsport	27 June '84	Edward Davidson	7 June, '84	225	00	190	00	
Ingonish, North Bay of do South do	22 March, '81 9 Oct., '84	William Thompson F. C. Brewer	24 March, '81 9 June, '86	200 100	00 00		5 00	
International Pier, Sydney	30 do '80	Michael J. Neville	30 Oct., '80	300	00	251	00	
Isaac's Harbour	30 do '89	Andrew J. Blakely	30 do '89	100	00	9	50	
Jeddore	20 Sept., '90	Wm. Jennox	20 Sept., '90	100	00	4	00	
Jordan Bay	25 Oct., '76	M. D. McKenzie	25 Oct., '76	150	00	13	00	
LaHave or Getson's Cove	12 March, '75	George Henry Zwicker	25 Feb., '75	300	00	40	45	
L'Ardoise, Upper and Lower	22 Aug., '84	George Burke	29 Aug., '84	100	00			
Lingan	12 July, '81	Thomas Laffin	12 July, '81	200	00			
Liscombe	18 May, '81	David Rosenheiser	9 Aug., '88	200	00	20	00	
Little Bras d'Or Lake between McKay's P'nt and Grand Narrows	25 April, '84	Peter McLean	25 April, '84	100	00			
Little Bras d'Or Lake from McKay's Point to Washadebuck Rivers	25 do '84	Alex. J. McNeil	25 April, '84	100	00			
Little Glace Bay	3 Aug., '74	E. Douglas Rigby	8 May, '84	200	00			
Little Narrows and Cranberry Point	9 June, '83	Kenneth McLennan	1 Nov., '97	100	00	2	00	
Liverpool	19 Jan., '77	Wm. A. Kenney	19 Jan., '77	200	00	100	00	
Lockeport	18 May, '81	E. A. Capstick	18 May, '81	200	00	39	50	
Louisbourg	17 March, '79	Louis Dickson	5 Oct., '87	200	00	428	00	
Lunenburg	3 Dec., '75	John Loye	10 Dec., '96	150	00	104	50	
Mabou	17 July, '80	Finlay Rankin	23 June, '80	100	00	2	50	
Mahone Bay	16 May, '87	T. F. Mader	6 May, '96	200	00	3	00	
McNair's Cove	12 March, '75	Ronald McEachen	8 March, '75	150	00			
Main à Dieu	31 July, '86	John Farrell	21 July, '86	100	00	2	50	
Maitland	26 May, '85	Vacant						
Marble Mountain	26 July, '92	D. McDonald	26 July, '92	200	00	0	50	
Margaretsville	26 March, '78	Robert Early	26 March, '78	100	00			
Margaret's Bay	16 July, '75	Peter Francis Boutelier	7 July, '75	100	00	31	50	
Margaree	12 June, '86	Nicholas Deagle	27 Feby., '93	100	00			
Marie Joseph	— Jan., '95	John Davis	23 Jan., '95	100	00			
Middle South Island	— April, '96	S. Wynaucht	1 April, '96	100	00	4	00	
Merigomish	26 March, '78	D. McGregor	22 March, '93	100	00			

TABLE showing the Names of Ports proclaimed under the Dominion Acts, &c.—*Con.*PROVINCE OF NOVA SCOTIA—*Concluded.*

Name of Port.	Date of Proclamation.	Name of Harbour Master.	Date of Appointment.	Amount from the fees of office salary not to exceed.	Amount collected in 1897.	Amount paid over to Receiver General.
				\$ cts.	\$ cts.	\$ cts.
Meteghan Harbour.....	8 June, '97	B. F. Robicheau	8 June, '97	100 00	7 00	.....
Meteghan River.....	10 Feb., '83	Luke A. Comeau.....	1 do '97	100 00	7 50	.....
Musquodoboit.....	19 May '82	David Williams.....	19 May, '82	100 00	10 00	.....
New Haven.....	9 June, '83	H. A. McLeod.....	17 Aug., '89	100 00	.....	.....
Neil's Harbour.....	9 do '83	A. Hayman.....	28 May, '83	100 00	.....	.....
Northport.....	27 do '82	John M. Burns.....	27 June, '82	100 00	35 50	.....
North-west Cove, Coleman's Cove and Aspotogan Harbour.....	22 Dec., '76	P. Boutillier.....	30 June, '92	200 00	.....	.....
Parrsborough.....	22 Oct., '73	Edward Walter Beaty.....	22 Oct., '73	300 00	245 00	.....
Petit de Grat.....	5 June, '95	S. Boudrot.....	5 June, '95	200 00	3 50	.....
Petite Rivière Bridge.....	7 July, '83	John Nelson Parks.....	27 April, '88	100 00	.....	.....
Pictou.....	24 May, '83	John Gunn.....	14 Aug., '75	400 00	.....	.....
Plaster Harbour.....	6 do '74	Vacant.....	.....	.....	.....	.....
Port George.....	1 do '77	Charles B. Weaver.....	1 May, '77	150 00	.....	.....
Port Greville.....	13 March, '80	George Hatfield.....	8 April, '91	200 00	.....	.....
Port Hawkesbury.....	16 July, '75	Daniel Henesey.....	9 July, '75	200 00	63 00	.....
Port Hood.....	16 do '75	John Murphy, jun.....	9 do '75	200 00	.....	.....
Port la Tour.....	14 April, '81	J. K. Snow.....	26 June, '97	200 00	0 50	.....
Port Lorne.....	27 March, '83	Freeman Beardsley.....	9 June, '97	200 00	Nil	.....
Port Maitland.....	— Dec., '96	Josiah Ellis.....	10 Dec., '96	200 00	4 50	.....
Port Morien.....	3 March, '79	Hector McDonald.....	3 March, '79	400 00	.....	.....
Port Mulgrave.....	8 do '76	David Murray.....	12 Oct., '92	200 00	16 50	.....
Port Medway.....	25 June, '79	E. Dolliver.....	4 May, '97	200 00	21 00	.....
Pubnico.....	27 Sept., '82	D. Q. Amiro.....	27 Sept., '82	100 00	43 00	.....
Pugwash.....	22 Oct., '93	C. T. De Wolf.....	6 May, '95	100 00	8 00	.....
Ritcey's Cove.....	26 Sept., '84	J. B. Ritcey.....	21 April, '96	100 00	30 00	.....
River John.....	26 March, '78	H. Campbell.....	11 June, '91	100 00	0 50	.....
St. Ann's, including Fuche's Cove.....	20 April, '81	Vacant.....	.....	200 00	.....	.....
St. Ann's.....	.....	James McKillop.....	.....	.....	.....	.....
St. Mary's River.....	18 May, '81	Wm. Pride.....	20 Dec., '93	200 00	7 50	.....
St. Peter's.....	24 Jan., '81	Peter McNeil.....	17 Sept., '83	200 00	6 00	.....
Sambro.....	27 Dec., '79	Ben Smith.....	23 Dec., '79	200 00	13 00	.....
Sheet Harbour.....	14 May, '74	Malcolm McFarlane.....	6 do '83	150 00	74 50	.....
Shelburne.....	27 Aug., '77	J. C. Morrison.....	4 May, '97	200 00	65 00	.....
Ship Harbour.....	2 June, '84	Conrad Marks.....	2 June, '84	100 00	2 50	.....
Smith's Mountain, St. Ann's.....	9 do '83	James McKillop.....	28 May, '73	100 00	1 50	.....
Tatamagouche.....	27 Feb., '78	W. McKenzie.....	29 March, '93	200 00	.....	.....
Tidnish.....	5 July, '82	Charles Fields.....	30 June, '84	100 00	40 00	.....
Torbay and Whitehead.....	18 May, '81	A. Haley.....	10 Dec., '97	200 00	.....	.....
Tusket.....	18 March, '75	Charles W. Hatfield.....	7 March, '87	100 00	.....	.....
Victoria Pier, South Bay, Sydney.....	25 July, '84	Ernest Richardson.....	1 Nov., '97	200 00	200 00	.....
Wallace.....	22 Oct., '73	James Patton.....	24 Feb., '96	100 00	.....	.....
West Arichat.....	20 Aug., '90	B. Poirier.....	7 Oct., '96	100 00	21 00	.....
West Bay.....	8 May, '84	John McInnes.....	8 May, '84	100 00	1 00	.....
West Port.....	8 March, '87	Joseph D. Payson.....	8 March, '87	200 00	15 00	.....
Weymouth.....	— May, '94	R. Payson.....	29 May, '97	200 00	20 00	.....
Whycocomagh.....	29 Oct., '75	Neil McKinnon.....	8 Oct., '75	100 00	.....	.....
Wood's Harbour.....	19 Feb., '92	S. K. Woods.....	19 July, '92	200 00	.....	.....
Yarmouth.....	18 March, '75	Ebenezer Scott.....	19 Oct., '77	250 00	202 50	.....

PROVINCE OF PRINCE EDWARD ISLAND.

Alberton and Cascumpec	15 July, '74	John McKay.. ..	11 May, '97	200 00	6 00	.....
Bay Fortune.....	10 April, '75	John R. Coffin.....	29 April, '78	200 00	.....	.....
Brudenell.....	25 July, '85	Vacant.....	.....	200 00	.....	.....
Cape Traverse.....	23 May, '84	do.....	.....	.....	.....	.....

Harbours and Shipping.

TABLE showing the Names of Ports proclaimed under the Dominion Acts, &c.—*Con.*

PROVINCE OF PRINCE EDWARD ISLAND—*Concluded.*

Name of Port.	Date of Proclamation.	Name of Harbour Master.	Date of Appointment.	Amount from the fees of office salary not to exceed.		Amount collected in 1897.		Amount paid over to Receiver General.
				\$	cts.	\$	cts.	
Cardigan River, including Cardigan Bridge..	2 July, '78	Hercules McDonald.....	2 July, '78	200	00			
Cardigan River, from head of river to north bank Mitchell River..	16 May, '78	D. Stewart.....	7 May, '97	100	00			
Cove Head.....	15 do '89	James D. McMillan.....	15 do '80	100	00			
Charlottetown.....	15 July, '74	David Small.....	19 Feb., '77	400	00	150	00	
Crapaud.....	15 do '74	Wesley Myers.....	17 June, '74	200	00			
Egmont.....	15 do '74	George Bollum.....	3 Nov., '85	200	00			
Georgetown.....	15 do '74	Samuel Hemphill.....	1 Dec., '87	200	00	55	50	
Grand River.....	10 April, '75	W. C. Jenkins.....	4 May, '97	200	00			
Grand River, down to and including Poplar Point and Chapel Wharf.....	16 May, '78	Vacant.....						
Malpeque.....	10 July, '74	J. Champion.....	10 Dec., '96	200	00			
Miminegash.....	17 April, '80	J. J. Gallant.....	14 June, '97	100	00	Nil.		
Montague Bridge.....	15 July, '74	Welton Porter.....	7 April, '97	200	00	18	50	
Murray Harbour.....	17 June, '74	Wm. Miller.....	17 June, '74	200	00			
Murray River.....	16 May, '78	Geo. McLeod.....	9 Feb., '97	200	00	5	50	
New London.....	15 July, '74	Wm. Bell.....	25 Aug., '96	200	00	2	00	
Pinette.....	15 do '74	Daniel McAulay.....	18 Dec., '97	200	00			
Port Hill.....	15 do '74	James Ellis.....	17 June, '74	200	00			
Pownal.....	10 do '79	M. Haley.....	30 March, '97	100	00			
Rollo Bay.....	10 April, '75	Vacant.....						
Rustico.....	17 May, '75	F. Buote.....	1 May, '97	200	00	2	00	
St. Peter's Bay.....	10 April, '75	John McGrath.....	28 June, '87	200	00			
Souris East and West.....	10 do '75	John McCormick.....	25 April, '79	200	00			
Summerside.....	15 July, '74	Wm. Stymest.....	20 Oct., '97	200	00	Nil.		
Tignish.....	22 April, '90	Vacant.....						
Tracadie.....	17 May, '75	Donald Campbell.....	27 Aug., '95	200	00			
Tryon.....	12 April, '77	Vacant.....						
Vernon River Bridge.....	19 May, '74	John Finlay.....	9 Oct., '84	200	00			
West River.....	17 do '75	Vacant.....						

PROVINCE OF BRITISH COLUMBIA.

Chemains.....	2 March, '97	Lewis G. Hill.....	2 March, '97	200	00	73	00	
Comox.....	— April, '96	Geo. H. Roe.....	25 April, '96	200	00	75	00	
Nanaimo.....	10 do '75	H. Cooper.....	25 Feb., '97	500	00	275	50	
New Westminster.....	23 Jan., '80	J. N. Draper.....	18 Aug., '86	400	00	87	00	
Quadra.....	17 April, '77	Vacant.....						
Vancouver, including Burrard Inlet.....	22 Feb., '88	Malcolm McLeod.....	14 Jan., '97	400	00	323	50	
Victoria and Esquimalt.....	20 March, '75	C. E. Clarke.....	3 Nov., '94	600	00	586	00	

F. GOURDEAU,

Deputy Minister of Marine and Fisheries.

APPENDIX No. 28.

LIST of Certificates of Competency granted to Masters and Mates of FOREIGN SEA-GOING Vessels, during the year ended 30th June, 1897.

Number of Certificate	Date of Certificate	Name.	Grade.	Address.	Where Examination was passed.	Fee.
1896.						
3207	July 2.	Everett Tadford	Master.	Sandford, N.S.	St. John.	15 00
3208	do 2.	John Angus McDonald.	do	Belfast, P.E.I.	do	15 00
3209	do 2.	Harry Smith.	do	Walton, N.S.	do	15 00
3210	do 16.	Geo. Wm. Roberts.	Mate.	Avondale, N.S.	Halifax.	8 00
3211	do 16.	James Frank Rose	do	Cheverie, N.S.	do	8 00
3212	do 18.	George Henry Kierstead	Master.	Alma, Albert Co., N.B.	St. John.	15 00
3213	do 18.	Daniel Neil Campbell.	do	Auckland, New Zealand.	do	15 00
3214	Aug. 1.	Henry Scadding Sullivan.	Mate.	Toronto, Ont.	Quebec.	8 00
3215	Sept. 12.	Leander H. Porter.	Master.	Lower Granville, N.S.	Halifax.	15 00
3216	do 14.	Walter Nisbet Davis.	do	Yarmouth, N.S.	Yarmouth.	15 00
3217	do 14.	Arthur Wm. Hilton.	do	do	do	15 00
3218	do 14.	Alden Garron.	Mate.	Woods Harbour, N.S.	do	8 00
3219	do 14.	Wilfred Ernest Gardiner.	do	Warrington, Eng.	Victoria.	8 00
3220	do 14.	Robert James Cain.	2nd Mate.	Isle of Man.	do	8 00
3221	do 17.	Oscar Brinton Starratt	Master.	Cambridge, N.S.	Halifax.	15 00
3222	do 19.	Ernest Edwin Allen.	2nd Mate.	London, Eng.	Victoria.	8 00
3223	do 21.	Wm. Patillo Bennett.	Mate.	Windsor, N.S.	Halifax.	8 00
3224	do 29.	Russell Adolph Barber	2nd Mate.	Manchester, Eng.	Victoria.	8 00
3225	Nov. 9.	Dan. McAulay MacKenzie.	Mate.	Pictou, N.S.	Halifax.	8 00
3226	do 23.	Arthur Murray.	2nd Mate.	Manchester, Eng.	Victoria.	8 00
3227	do 24.	John Monsarrat Wright.	Mate.	Vancouver, B.C.	do	8 00
3228	Dec. 10.	Robert Rodgers.	2nd Mate.	Port Glasgow, Scotland.	do	8 00
3229	do 14.	Christopher M. Kimber.	do	Victoria, B.C.	do	8 00
3230	do 22.	Harvey Brooks Fitzgerald.	Master.	Weymouth, N.S.	St. John.	15 00
3231	do 22.	James Leslie Smith.	do	Woods Harbour, N.S.	do	15 00
1897.						
3232	Jan. 4.	Fred. Morton Simpson.	do	Yarmouth, N.S.	Yarmouth.	15 00
3233	do 4.	David Laugher.	Mate.	Sable Island, N.S.	do	8 00
3234	do 4.	Edmond Thompson.	do	Yarmouth, N.S.	do	8 00
3235	Feb. 10.	Wm. Fred. Inskip.	do	Torpoint, B.C.	Victoria.	8 00
3236	do 20.	John Douglas.	do	Maitland, N.S.	Halifax.	8 00
3237	do 20.	Julius Anderson Scotney.	do	do	do	8 00
3238	March 2.	Carl Edwin Carlson.	Master.	St John, N.B.	St. John.	15 00
3239	do 2.	Daniel Malman.	Mate.	Hillsboro, N.B.	do	8 00
3240	do 2.	Wm. John Dalton.	Master.	Fairville, St. John, N.B.	do	15 00
3241	do 11.	Alonzo Hunter.	2nd Mate.	Windsor, N.S.	Halifax.	8 00
3242	do 11.	Andrew C. Davison.	Master.	Hantsport, N.S.	do	15 00
3243	do 17.	Harry Alden Huff.	do	do	do	8 00
3244	do 23.	Thomas Sladen.	Mate.	Salcombe, G.B.	Victoria.	8 00
3245	do 28.	Edward Evans Whistler.	do	Victoria, B.C.	do	8 00
2246	May 14.	John Edward Jeffery.	Master.	St. John, N.B.	St. John.	15 00
3247	do 14.	George Gilbert Haley.	do	Westport, N.S.	do	15 00
3248	do 18.	Alex. Putnam.	do	South Maitland, N.S.	Halifax.	15 00
3249	do 18.	Arthur Gladwin Morris.	Mate.	Middle Musquodoboit.	do	8 00
3250	do 18.	Robert Walter Shears.	2nd Mate.	Victoria, B.C.	Victoria.	8 00
3251	do 18.	Edward John Ruxton.	do	Liverpool, Eng.	do	8 00
3252	do 18.	Charles Geo. Mickleburgh.	do	Oswestry, Shropshire, E.	do	8 00
3253	do 18.	Ernest Arthur Brown.	do	Cheshnuts, Herts, Eng.	do	8 00
3254	June 2.	Edward Holland.	Mate.	Louisburg, C.B., N.S.	Halifax.	15 00
3255	do 12.	James Alex. Sanford.	Master.	St. John, N.B.	St. John.	15 00
3256	do 12.	John Farry.	Mate.	do	do	8 00
3257	do 12.	David Leslie McRoberts.	2nd Mate.	St. Andrews, N.B.	do	8 00
3258	do 12.	Chas. Butler Fenton.	Mate.	Auckland, New Zealand.	do	8 00
3287	Aug. 25.	Wm. Trennum.	Master.	Bobcaygeon, Ont.	Kingston.	8 00
3288	Sept. 16.	Thos. Z. Taylor.	do	Charlottetown, P.E.I.	Charlottetown.	8 00
3289	do 17.	John A. Johnston.	Mate.	Halifax, N.S.	Halifax.	4 00
3290	do 19.	Alex. Allen.	Master.	Wallaceburg, Ont.	Wallaceburg.	8 00
3291	do 22.	Wm. Ritchie.	do	Three Rivers, Que.	Quebec.	8 00

Harbours and Shipping.

LIST of Certificates of Service granted to Masters and Mates of INLAND and COASTING Vessels, during the year ended 30th June, 1897.

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was passed.	Fee.
1896.						
3292	Sept. 22.	John Ritchie.....	Master.....	Grand Piles, Que.....	Quebec.....	8 00
3293	do 30.	Thos. Valentine Hutchison	do.....	London, Ont.....	St. Catharines	8 00
3294	do 30.	Stephen Marshall Rolf.....	do.....	Port Greville, N.S.....	Parrsboro.....	8 00
3295	Oct. 28.	Daniel Aussant.....	Mate.....	Sorel, Que.....	Quebec.....	4 00
3296	Dec. 4.	Geo. Ed. Cox.....	Master.....	Port Sandfield, Ont.....	St. Catharines	8 00
3297	do 10.	Gelean Campbell.....	do.....	Wellington, lot 16, P.E.I.....	Summerside.....	8 00
3298	do 18.	Geo. Ostrout.....	do.....	Montreal, Que.....	Ottawa.....	8 00
1897.						
3299	Jan. 8.	Edward Crews.....	do.....	Halifax, N.S.....	Halifax.....	8 00
3300	do 27.	John Oliver.....	do.....	Kingston, Ont.....	Kingston.....	8 00
3301	Feb. 1.	John Wheeler.....	Mate.....	Pictou, N.S.....	Pictou.....	8 00
3302	do 3.	Daniel McDonald.....	Master.....	Summerside, P.E.I.....	Charlestown.....	8 00
3303	do 10.	Thos. Willard Pyke.....	do.....	Wolfe Island, Ont.....	Kingston.....	8 00
3304	Mch. 1.	Liboite Paquin.....	do.....	Montreal, Que.....	Quebec.....	8 00
3305	do 2.	Donald Jno. McDonald.....	Mate.....	Kingston, Ont.....	Kingston.....	4 00
3306	do 31.	Antoine Bonenfant.....	Master.....	Quebec.....	Quebec.....	15 00
3307	April 3.	Frank Colin.....	Mate.....	St. John, N.B.....	Parrsboro.....	4 00
3308	do 6.	Richard E. Burke.....	Master.....	Ingonish, C.B., N.S.....	Sydney.....	8 00
3309	do 7.	Thos. Collins.....	do.....	Kingston, Ont.....	Kingston.....	8 00
3310	do 9.	Raymond Wilson.....	do.....	Barrington, Ont.....	Barrington.....	8 00
3311	do 22.	Joseph Bowie.....	do.....	Boyeston, Guysboro Co, N.S	Halifax.....	8 00
3312	May 28.	Isaac Watt.....	do.....	Windsor, Ont.....	St. Catharines	8 00
3313	do 31.	John T. Dewar.....	do.....	Montague, N.S.....	Pictou.....	8 00
3314	June 12.	Edmond Bonenfant.....	do.....	Charlemagne, P.Q.....	Quebec.....	8 00
3315	do 16.	Michel Girouard.....	do.....	Buctouche, N.B.....	Buctouche.....	8 00
1938	July 2.	Wm. Geo. Shaw.....	do.....	Cardinal.....	Ottawa.....	15 00
1939	do 2.	John Jackson.....	do.....	Windsor.....	St. Catharines	15 00
1940	do 2.	Alex. Brown.....	do.....	Collingwood.....	do.....	15 00
1941	do 2.	Herman Tofte.....	do.....	Vancouver.....	Victoria.....	15 00
1942	do 6.	James Abuer Erb.....	Mate.....	Springfield R. Co., N.B.....	St. John.....	6 00
1943	do 6.	James Francis.....	Master.....	Dresden, Ont.....	St. Catharines	15 00
1944	do 10.	Wm. J. Snodgrass.....	do.....	Okanagan Falls, B.C.....	Victoria.....	15 00
1945	do 15.	Wm. Wallace Wood.....	do.....	River Hébert, N.S.....	St. John.....	15 00
1946	do 14.	Gustavus Hamilton.....	do.....	Spanish Station.....	Spanish River	15 00
1947	do 16.	John Dix.....	do.....	Garden Island.....	Kingston.....	15 00
1948	do 16.	Thos. Arthur Nicholson.....	do.....	Gananouque, Ont.....	do.....	15 00
1949	do 16.	Murdoch Landry.....	Mate.....	Halifax, N.S.....	Halifax.....	6 09
1950	do 17.	Marshall Woodcock.....	Master.....	Deseronto, Ont.....	Kingston.....	15 00
1951	do 20.	Angus Campbell.....	do.....	Nelson, B.C.....	Victoria.....	15 00
1952	do 20.	John Wm. Butler.....	do.....	Victoria, B.C.....	do.....	15 00
1953	do 21.	Jas. McLarty.....	do.....	Windsor, Ont.....	Kingston.....	15 00
1954	do 21.	Imbert Ottis Canning.....	Mate.....	Port Greville.....	St. John.....	6 00
1955	do 23.	Wm. Edwd. James.....	Master.....	Combermere, Ont.....	Ottawa.....	15 00
1956	do 23.	George Poirier.....	do.....	Caracquet, N.B.....	do.....	15 00
1957	do 23.	Louis Casper Krell.....	Mate.....	Port Dover, Ont.....	St. Catharines	15 00
1958	do 24.	Wm. Henry Featherston- haugh.....	Master.....	Penetanguishene, Ont.....	do.....	6 00
1959	do 25.	Andrew Cyr.....	do.....	Maria, P.Q.....	Dalhousie.....	15 00
1960	do 27.	Johnson Kenwick Pettis.....	do.....	Fox Riv., Parrsboro, N.S.	St. John.....	15 00
1961	do 27.	Wm. Sommerville.....	do.....	Vancouver, B.C.....	Victoria.....	15 00
1962	do 28.	Wm. Reid, jun.....	do.....	Newcastle, N.B.....	Newcastle.....	15 00
1963	do 28.	Wm. Reid, jun.....	do.....	Ottawa, Ont.....	Ottawa.....	15 00
1963	Aug. 1.	Geo. Hubal Latour.....	do.....	Kingston, Ont.....	Kingston.....	15 00
1964	do 3.	Jas. Kirkwood.....	do.....	Freeport, N.S.....	St. John.....	15 00
1965	do 3.	Byard Powell.....	do.....	Freeport, N.S.....	St. John.....	15 00
1966	do 10.	Western Smith Kelly.....	do.....	Bridgeworth, Ont.....	Kingston.....	15 00
1967	do 10.	Osmard Sewell.....	do.....	Upper Maugerville, N.B.	Fredericton.....	15 00
1968	do 10.	Loran A. Kenney.....	Mate.....	Yarmouth, N.S.....	Yarmouth.....	6 00
1969	do 11.	Alfred Ouellette.....	Master.....	Lachine, Que.....	Kingston.....	15 00
1970	do 12.	John Alcock.....	do.....	South Vancouver, B.C.....	Victoria.....	15 00
1896.						
1971	Aug. 12.	Michael Manson.....	do.....	Cortez Island, B.C.....	do.....	15 00
1972	do 12.	Andrew Strong.....	Mate.....	Victoria, B.C.....	do.....	6 00
1973	do 13.	John Leonard.....	do.....	Narrows Road, St. John, N. B.....	St. John.....	6 00

LIST of Certificates of Competency granted to Masters and Mates of INLAND and COASTING Vessels, during the year ended 30th June, 1897.

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was passed.	Fee.
	1896.					\$ cts.
1974	Aug. 14.	Geo. James Gay	Master.	Hamilton, Ont.	St. Catharines	15 00
1975	do 15.	James Tobin, jr	Mate.	Peterboro, Ont.	Kingston.	6 00
1976	do 18.	Wm. Marshall Hodgson.	Master.	Port Perry	do	15 00
1977	do 18.	Frank Patenaude.	do	Melocheville, Que.	St. Catharines	15 00
1978	do 24.	Chas. Elmore Ferfoy	do	Hantsport, N.S.	Halifax.	15 00
1979	do 24.	Chas. Johnson	Mate.	Port Dalhousie, Ont.	St. Catharines	6 00
1980	do 24.	Francis Jas. Davis	do	Wiarton, Ont	do	6 00
1981	do 25.	John Ryan	Master.	Kingston, Ont.	Kingston.	15 00
1982	Sept. 16.	Jas. McNeill, jr	Mate.	Owen Sound, Ont.	St. Catharines	6 00
1983	do 16.	John Abel	Master.	St. Catharines, Ont.	do	15 00
1984	do 16.	George Robertson	do	Kaslo, B.C.	Victoria	15 00
1985	do 17.	Laurent Vernier	do	Coteau Landing, Que.	Ottawa	15 00
1986	do 16.	Chas. N. Nicholson.	do	Victoria, B.C.	Victoria.	15 00
1987	do 17.	Olivier Morin	do	Sorel, Que.	Quebec.	15 00
1988	do 17.	Norman Edsell Burton	Mate.	Barrie, Ont.	St. Catharines	6 00
1989	do 17.	John Anderson	Master.	Vancouver, B.C.	Victoria	15 00
1990	do 19.	Harley Demeng	do	Port Stanley, Ont.	St. Catharines	15 00
1991	do 19.	Jno. Le Baron Matinney	do	Greenwich, N.B.	St. John	15 00
1992	do 21.	Chas. Lavolette	do	St. Ours, Que.	Quebec.	15 00
1993	do 21.	Jno. Edgar McKinnon.	Mate.	Yarmouth, N.S.	Yarmouth.	6 00
1994	do 21.	Alfred Henry Bickmore.	do	Alport, Ont.	St. Catharines	6 00
1995	do 21.	Isaac Woolner	do	Collingwood, Ont.	do	6 00
1996	do 21.	Edward Young	Master.	Youngs Point, Ont.	Kingston.	15 00
1997	do 22.	Chas. Lapierre	do	Montreal, Que.	Quebec.	15 00
1998	do 22.	Edwin S. Loye	do	Lunenburg, N.S.	Lunenburg.	15 00
1999	do 24.	Geo. Robertson.	do	Kaslo, B.C.	Victoria	15 00
2000	do 24.	Allan Lean	do	Pilot Bay, B.C.	do	15 00
2001	do 24.	Dan. Jennings Butler	do	Victoria, B.C.	do	15 00
2002	do 30.	John Cheyne Craig.	do	Collingwood, Ont.	St. Catharines	15 00
2003	Oct. 1.	Edward Burke	do	Midland, Ont	do	15 00
2004	do 5.	Wm. Alex. Clark	do	Collingwood, Ont.	do	15 00
2005	do 7.	Joseph Laurion.	do	Montreal, Que.	Quebec.	15 00
2006	do 7.	Michael McManus.	do	Mount Pleasant Valley, Que	do	15 00
2007	do 7.	Geo. Poulet	do	Sorel, Que.	do	15 00
2008	do 10.	Jno. Wm. Diamant	do	Lindsay, Ont.	Kingston.	15 00
2009	do 13.	Henry Arthur Young	do	New Westminster, B.C.	N. Westm'ter.	15 00
2010	do 13.	Wm. E. Gardner	do	Victoria, B.C.	Victoria	15 00
2011	Nov. 16.	Harry Hugh Robinson	Mate.	Parrsboro, N.S.	St. John	6 00
2012	Oct. 21.	Frank Dechaine.	Master.	St. Demont, Que.	Ottawa.	15 00
2013	do 21.	Geo. L. Graham	do	Arnprior, Ont	do	15 00
2014	do 26.	Beverly Lyon	do	St. John, N.B.	St. John.	15 00
2015	Nov. 2.	Hume Blackley Babington	do	Vancouver, B.C.	Victoria	15 00
2016	do 2.	Geo. Larsen	Mate.	Victoria, B.C.	do	6 00
2017	do 4.	Chas. Alphonse Gardner	do	New Westminster, B.C.	N. Westm'ter.	6 00
2018	do 7.	Willoughby Ley	do	Mainadieu, C.B., N.S.	Sydney	6 00
2019	do 9.	Embry Hilbert Paul.	Master.	St. John, N.B.	St. John.	15 00
2020	do 10.	Joseph Mortimer	do	Mortimer, Muskoka Dist'ct	St. Catharines	15 00
2021	do 10.	Chas. Arthur Monteith	do	Rosseau, Ont.	do	15 00
2022	do 11.	Malcolm Macaskill	do	Vancouver, B.C.	Victoria.	15 00
2023	do 12.	Wm. Henry Giles	Mate.	Gravenhurst, Ont.	St. Catharines	6 00
2024	do 18.	Henry White.	Master.	Huntsville, Ont.	do	15 00
2025	Dec. 3.	Austin Sherman French.	do	New Westminster.	Victoria.	15 00
2026	do 3.	Lauchlin McKinnon.	Mate.	"	do	6 00
2027	do 29.	Robert Dravey	Master.	Nama Harbor, B.C.	do	15 00
2028	do 5.	Jos. Sherwood Wallis.	do	Port Carling, Ont.	St. Catharines	15 00
2029	do 10.	Edmond Corriveau	do	Quebec	Quebec	15 00
2030	do 14.	Wm. Hy. McCulley.	Mate.	Port Carling, Ont.	St. Catharines	6 00
2031	do 23.	David Rippey	Master.	Annapolis, N.S.	Annapolis	15 00
	1897.					
2032	Jan. 4.	Elias Smith	Master.	Yarmouth, N.S.	Yarmouth	15 00
2033	do 4.	Louis Brown	do	Tracadie, N.B.	St. John.	15 00
2034	do 4.	Jas. Sinclair Inkster	do	Goderich, Ont	St. Catharines	15 00
2035	do 4.	Kasmus Hausen.	do	Gravenhurst, Ont.	do	15 00
2036	do 4.	Donald A. McKinnon.	Mate.	Beaverton, Ont.	do	6 00

Harbours and Shipping.

LIST of Certificates of Competency granted to Masters and Mates of INLAND and COASTING Vessels, &c.—Continued.

Number of Certificate.	Date of Certificate	Name.	Grade.	Address.	Where Examination was passed.	Fee.
	1897.					\$ cts.
2037	Jan. 4.	Wm. Benoay Vansickle	Mate	Lynden, Ont.	St. Catharines.	6 00
2038	do 7.	Albert G. Peters	Master	New Westminster, B.C.	Victoria	15 00
2039	do 14.	Jno. Ritchie Craigie	do	Goderich, Ont.	Goderich	15 00
2040	do 14.	Jas. Badcock	do	Victoria, B.C.	Victoria	15 00
2041	do 16.	Jas. Nevin	Mate	Toronto, Ont.	St. Catharines.	6 00
2042	do 16.	Alfred Bodily	do	Victoria, B.C.	Victoria	6 00
2043	do 18.	Chas. Rush	Master	Vancouver, B.C.	do	6 00
2044	do 30.	Geo. G. Allan	do	Fort Frances, Ont.	Winnipeg	6 00
2045	Feb. 10.	Alfred Grenbund	Mate	Vancouver, B.C.	Victoria	6 00
2046	do 10.	Edwd. Bulmer Rhoda	do	do	do	6 00
2047	do 10.	Frank Taunton Saunders	Master	do	do	15 00
2048	do 10.	Martin Jonason	do	Montreal River, Ont	Ottawa	15 00
2049	do 10.	Ed. Marshall Baird	do	Great Village, N.S.	St. John	15 00
2050	do 10.	Fred. Harley Colwell	do	Upper Semseg, Queen's Co., N.B.	do	15 00
2051	do 10.	Chas. Robt. White	do	Riverside, Albert Co., N.B.	do	15 00
2052	do 10.	Gerald Irwin McNamara	Mate	Parrsboro', N.S.	do	6 00
2053	do 10.	Jno. Bernhard Blomquist	do	St. John, N.B.	do	6 00
2054	do 10.	Wm. Lawrence Murphy	Master	Pembroke, Ont.	Kingston	15 00
2055	do 11.	Lorenzo Raymond Maguire	do	Pirate Harbour, N.S.	Port Mulgrave	15 00
2056	do 11.	Howard Springer	do	Upper Jemseg, Queen's Co., N.B.	St. John	15 00
2057	do 24.	Nelson King	Mate	Oakville, Ont.	St. Catharines.	6 00
2058	do 24.	Wm. Stephen Major	Master	Sarnia, Ont	do	15 00
2059	do 24.	Patrick Walsh	do	Hamilton, Ont	do	15 00
2060	do 24.	Donald Robinson Glennie	Mate	River Hébert, N.S.	St. John	6 00
2061	do 24.	Avard Melville Rockwell	Master	do	do	15 00
2062	do 24.	Robt. Alex. Gilbert	Mate	Addington, Ont.	Kingston	6 00
2063	do 25.	Peter McIntosh	Master	French River, Ont.	St. Catharines.	15 00
2064	do 25.	Thos. Henry Brown	do	West Victoria, B.C.	Victoria	15 00
2065	do 25.	Bernard Larsen	do	Victoria, B.C.	do	15 00
2066	do 25.	Samuel Stanwood	do	Yarmouth, N.S.	Yarmouth	15 00
2067	Mar. 1.	Wm. Penn Short	do	Trail, B.C.	Victoria	15 00
2068	do 1.	Andrew Leishman	Mate	Vernon, B.C.	do	6 00
2069	do 1.	McPhee Howatt	Master	Kaslo, B.C.	do	15 00
2070	do 1.	Wm. John Madden	do	Penetanguishene, Ont.	St. Catharines.	15 00
2071	do 2.	Benj. Vaughan Naylor	do	Nayon, Que.	Ottawa	15 00
2072	do 4.	Eugene Lavigne	do	Ottawa, Ont	do	15 00
2073	do 10.	John McDonald	do	Canso, N.S.	Port Mulgrave	15 00
2074	do 11.	Wm. Sencabaugh	Mate	Georgetown, P.E.I.	Halifax	8 00
2075	do 11.	Philip J. Campbell	Master	Caidigan, P.E.I.	do	15 00
2076	do 12.	Thos. Hannay Salter	do	Parrsboro', N.S.	St. John	15 00
2077	do 12.	Jas. Thos. Jackson	do	Hamilton, Ont	St. Catharines.	15 00
2078	do 12.	Albert Edwd. Stinson	Mate	Toronto	do	6 00
2079	do 13.	Wm. John Murphy	Master	Kingston, Ont	Kingston	15 00
2080	do 13.	Havelock Newcomb	Mate	Hantsport, N.S.	Yarmouth	6 00
2081	do 13.	Sylvester Ed. St. Amour	Master	Wallaceburg, Ont.	St. Catharines.	15 00
2082	do 15.	G. W. L. Merseburg	do	St. John, N.B.	St. John	15 00
2083	do 15.	Jas. W. Rigney	Mate	Sarnia, Ont.	St. Catharines.	6 00
2084	do 15.	Hance Albert Cole	Master	Dorchester, N.B.	St. John	15 00
2085	do 16.	Grant Graham Horne	do	Wolfe Island, Ont.	Kingston	15 00
2086	do 16.	Wm. C. Slade	do	Kaslo, B.C.	Nelson	15 00
2087	do 19.	Pontaleon Roberge	do	New Liverpool, Que.	Quebec	15 00
2088	do 22.	Alex. McLennan	do	New Westminster, B.C.	Victoria	15 00
2089	do 22.	Murdoch Landry	do	Port Morien, C.B., N.S.	Sydney	15 00
2090	do 22.	Samuel Lovatt	do	Pilot Bay, B.C.	Victoria	15 00
2091	do 24.	Andrew Purves	Mate	Pembroke, Ont.	Kingston	6 00
2092	do 30.	Wm. Jno. Irving	do	St. Catharines, Ont.	St. Catharines.	6 00
2093	do 30.	Felix Peter Graveline	Master	Amherstburg, Ont.	do	15 00
2094	do 30.	Geo. Murphy	Mate	St. John, N.B.	St. John	6 00
2095	do 30.	John Cherry	do	Barriefield, Ont.	Kingston	6 00
2096	do 31.	Esdras Beaudet	Master	Lotbinière, Que.	Quebec	15 00
2097	do 31.	John Sidney Eamoe	do	Township of Osnabrock, Ont	Cornwall	15 00
2098	April 3.	Edwd. Bennett	do	Kingston, Ont.	Kingston	15 00
2099	do 5.	Harry Dexter	do	Cheverie, N.S.	Yarmouth	15 00

LIST of Certificates of Competency granted to Masters and Mates of INLAND and COASTING Vessels, &c.—Continued.

Number of Certificate.	Date of Certificate.	Name.	Grade.	Address.	Where Examination was Passed.	Fee.
	1897.					\$ cts.
2100	April 5.	Wm. Jas. Moss.	Mate.	Port Maitland, Ont.	St. Catharines.	6 00
2101	do 8.	Edgar Elroy Sanford.	do	Summersville, N.S.	Yarmouth.	6 00
2102	do 8.	Archie Smith Campbell.	Master.	Stewartville, Ont.	Ottawa.	15 00
2103	do 8.	Gaudias Fortin.	Master.	St. Valier, Que.	Quebec.	15 00
2104	do 10.	Daniel Mooney.	do	Vancouver, B.C.	Vancouver.	15 00
2105	do 10.	Richard Power.	Mate.	New Westminster.	Victoria.	6 00
2106	do 13.	Allen J. Nesbitt.	do	Trail, B.C.	do	6 00
2107	do 15.	Edward Mackie.	Master.	Little Current, Ont.	St. Catharines.	15 00
2108	do 15.	John Sinclair.	do	Rusagornis, N.B.	Fredericton.	15 00
2109	do 17.	William Henry Wenborne.	do	Wolfe Island, Ont.	Kingston.	15 00
2110	do 21.	Ludwig Anderson.	Mate.	Vancouver, B.C.	Victoria.	6 00
2111	do 21.	John Morley Newcomb.	Master.	Vancouver, B.C.	Victoria.	15 00
2112	do 21.	Wm. Fitzgerald.	Mate.	Windsor, Ont.	St. Catharines.	6 00
2113	do 21.	Hugh Jas. McIntyre.	Master.	Toronto, Ont.	do	15 00
2114	do 21.	Thos. Tremblay.	do	Quebec.	Quebec.	15 00
2115	do 22.	Francis Gerald Young.	Mate.	Young's Point, Ont.	Kingston.	6 00
2116	do 22.	David Moreau.	Master.	Port Severn, Ont.	St. Catharines.	15 00
2117	do 22.	Ed. De Young.	do	Eastern Passage, N.S.	Halifax.	15 00
2118	do 26.	Robert Thomson Johnston.	do	St. Catharines, Ont.	St. Catharines.	15 00
2119	do 26.	John Archibald Fraser.	do	Huntsville, Ont.	do	
2120	do 23.	Jno. Geo. McEwen.	Mate.	Georgeville, Que.	Quebec.	6 00
2121	do 26.	Frank Day.	Master.	Carleton City, N.B.	St. John.	15 00
2122	do 26.	Benoit Bergeron.	do	St. Etienne, Que.	Quebec.	15 00
2123	do 27.	Wm. Jas. Stewart.	do	Ottawa, Ont.	Kingston.	15 00
2124	do 28.	Jos. Arthur Goodwin.	Mate.	Toronto, Ont.	St. Catharines.	6 00
2125	do 28.	Edward Evans Whistler.	Master.	Victoria, B.C.	Victoria.	15 00
2126	do 30.	Dennis Blake.	do	Parraboro, N.S.	St. John.	15 00
2127	May 4.	Jean Dechaine.	do	Chicoutimi, Que.	Quebec.	15 00
2128	do 4.	Douglas Cummings.	do	Waubushene, Ont.	St. Catharines.	15 00
2129	do 4.	Zenon Lavigne.	do	St. Anne's, Que.	Ottawa, Ont.	15 00
2130	do 12.	Daniel Archibald Morrison.	do	Point Tupper, N.S.	Port Mulgrave.	15 00
2131	do 12.	Karl Peterson.	do	Millerton, N.B.	Newcastle.	15 00
2132	do 12.	Robert Ferris.	do	Rat Portage, Ont.	Rat Portage.	7 00
2133	do 12.	Emil Johnson.	do	New Westminster, B.C.	N. Westm'r.	15 00
2134	do 13.	Jas. Olson.	do	Victoria, B.C.	Victoria.	15 00
2135	do 13.	Jas. Playfair.	do	Midland, Ont.	Kingston.	15 00
2136	do 20.	Archie McIntyre.	Mate.	Presque Isle, Ont.	St. Catharines.	6 00
2137	do 21.	Wm. Henry Henneberry.	Master.	Halifax, N.S.	Halifax.	15 00
2138	do 21.	Wm. Gallagher.	do	Halifax, N.S.	do	15 00
2139	do 26.	John Glenn.	do	Keewatin.	Winnipeg.	7 00
2140	do 26.	Edmund E. Petrie.	do	Glace Bay, C.B., N.S.	Sydney.	15 00
2141	do 26.	Geo. Hen. French.	do	New Westminster, B.C.	N. Westm'r.	16 00
2142	do 28.	Joseph Gouin.	do	St. Ours, Que.	Quebec.	15 00
2143	do 28.	John Dennis Sullivan.	Mate.	St. Catharines, Ont.	St. Catharines.	6 00
2144	do 31.	Alex. Rod. McLean.	Master.	Sault Ste. Marie, Ont.	do	15 00
2145	do 31.	Alexander McDonald.	do	Inverness, N.S.	Pictou.	15 00
2146	June 4.	Jas. Robinson.	do	Millerton, N.B.	Newcastle.	15 00
2147	do 4.	Antoine Mainville.	do	Stoneville, P.Q.	Ottawa.	15 00
2148	do 9.	Louis Robideau.	do	Cornwall, Ont.	Cornwall.	15 00
2149	do 10.	Narcisse B. Giroux, jr.	Mate.	Pembroke, Ont.	Kingston.	6 00
2150	do 10.	Pierre Brunelle.	do	Champlain, Que.	Quebec.	6 00
2151	do 10.	Charley Johnson.	do	Victoria, B.C.	Victoria.	6 00
2152	do 10.	Theo. M. Magnuson.	Master.	do	do	15 00
2153	do 10.	John E. Hamilton.	do	Vancouver, B.C.	do	15 00
2154	do 12.	Honoré Bonenfant.	do	Montreal, Que.	Quebec.	15 00
2155	do 14.	Kenneth Morrison.	do	Brazebridge, Ont.	St. Catharines.	15 00
2156	do 19.	Hugh Harry Bostock.	Mate.	West Selkirk, Man.	Winnipeg.	6 00
2157	do 23.	Arch'd F. McDonald.	Master.	Pictou, N.S.	Halifax.	15 00
2158	do 23.	Nap. Lefabvre.	do	Lachine, P.Q.	Quebec.	15 00
2159	do 23.	Jean Baptiste Lasalle.	do	Montreal, Que.	do	15 00
2160	do 24.	Jas. Clark.	do	Kingston, Ont.	Kingston.	15 00
2161	do 24.	Frank Lefromboise.	do	Amherstburg, Ont.	St. Catharines.	15 00
2162	do 28.	Thos. Arnold Ehtmann.	Mate.	St. John, N.B.	St. John.	6 00
2163	do 28.	Wm. McIntosh.	Master.	Pictou, N.S.	Pictou.	15 00
2164	do 29.	Edwin Lawlor.	do	Hawkesbury, Ont.	Ottawa.	15 00
2165	do 29.	Chas. John Blomquist.	Mate.	Victoria, B.C.	Victoria.	6 00

STATEMENT showing returns respecting shipping and discharging Seamen, &c.—Continued.

Name of Port.	Name of County.	Name of Shipping Master.	For Half-year ended 30th June, 1897.		For Half-year ended 31st December, 1897.		Total Seamen Shipped.	Total Seamen Discharged.	Total Amount.
			Seamen Shipped.	Seamen Discharged.	Seamen Shipped.	Seamen Discharged.			
Lepreaux	Charlotte	G. K. Hanson	3				3		\$ cts. 1 50
Moncton	Westmoreland	J. W. Binney							
Musquash	St. John	A. T. Dunn							
New Brandon	Gloucester	F. J. Foley				9	8	6 90	6 90
Newcastle	Northumberland	J. Niven							
North Joggins	Westmoreland	Rufus C. Ward	50	34			50	34	35 20
Quaco	St. John	J. Carson							
Richbucto	Kent	B. V. Johnson							
Rockland	Westmoreland	A. Boudreau	7	4			7	4	4 70
Rockport	Westmoreland	R. C. Ward							
Sackville	Westmoreland	W. C. Milner							
St. Andrews	Charlotte								
St. George	Charlotte	James McKay	1,331	6 19		1,443	1,180	1,078 20	1,929 40
St. John	St. John	W. H. Purdy	Nil.	6					1 80
St. Stephens	Charlotte	H. Graham	7	10		10	5	6 50	13 00
Shediac	Westmoreland	W. R. Wood		Nil.					
Shippegan	Gloucester	Henry A. Sormany							
NOVA SCOTIA.									
Advocate	Cumberland	Wm. Moore	21	13		9	12	8 10	22 50
Amherst	Cumberland	W. D. Main							
Annapolis	Annapolis	E. McCormick		Nil.					
Antigonish	Antigonish	A. Boyd							
Apple River	Cumberland	H. H. Mosher							
Arichat	Richmond	D. O'Connell							
Aspy Bay	Victoria	D. McDonald							1 50
Barrington	Victoria	J. McDonald	11			9	6	6 30	11 80
Baddeck	Shelburne	D. Sargent		1					0 30
Bayfield	Antigonish	E. G. Randall	71	56		68	61	52 30	104 60
Bellvue Cove	Digby	E. E. Theriault	70	44		71	66	55 30	103 50
Beaver River	Digby	T. H. Miller							
Bridgetown	Cochester	R. Perry							
Bridgewater	Annapolis	S. S. Ruggles							
	Lunenburg	N. C. Owen				53	43	39 40	39 40

STATEMENT showing returns respecting shipping and discharging Seamen, &c.—Concluded.

NOVA SCOTIA—Concluded.

Name of Port.	Name of County.	Name of Shipping Master.	For Half-year ended 30th June, 1897.			For Half-year ended 31st December, 1897.			Total Seamen Shipped.	Total Seamen Discharged.	Total Amount.
			Seamen Shipped.	Seamen Discharged.	Amount. \$ cts.	Seamen Shipped.	Seamen Discharged.	Amount. \$ cts.			
Pulnico	Yarmouth	P. S. D'Entremont.									
Pugwash.	Cumberland	J. Wilson.									
Ritsey's Cove.	Lunenburg	A. Seaboyer.	23	35	22 00	132	87	92 10	122	114 10	
River Hébert.	Cumberland	W. Moffat.	28	2	14 60	27	17	18 60	19	33 20	
St. Ann's.	Cape Breton	D. McAuley.		Nil.							
St. Mary's River.	Guystorrough.	A. F. Falconer.									
St. Peter's.	Richmond	Donald Urquhart.	30		15 00					15 00	
Salmon River.	Digby	I. H. C. Penny.				25	13	16 40	13	16 40	
Sheet Harbour.	Halifax.	M. Macfarlane.									
Shelburne	Shelburne	W. W. Atwood.	32	16	20 80	27	12	17 10	28	37 90	
Sydney.	Cape Breton.	Neil McDonald.	58	43	41 90				58	41 90	
Sydney, Victoria Pier.	Cape Breton	Vincent Mullins.	4	4	3 00	51	48	39 90	55	42 95	
Thorne's Cove	Annapolis	F. H. Porter.	12		6 00				12	6 00	
Truro	Colchester.	George P. Nelson.									
Tatamagouche	Colchester.	J. A. G. Campbell.		Nil.							
Wallace	Cumberland	Charles D. Kerr.									
Waton	Hants	H. Woolaver.		Nil.		2		1 00		1 00	
West Aricuat.	Richmond	B. Poirier.	10	4	6 20		8	3 20	10	9 40	
Weymouth	Digby	N. B. Jones.				126	51	78 80	126	78 80	
Windsor.	Hants.	H. W. Dimock.	64	19	32 70	107	72	75 10	161	107 80	
Wilmot.	Annapolis	G. B. Reed.									
Wolfville	King's	J. B. Davidson.									
Yarmouth	Yarmouth	N. L. Trestry	327	302	254 10	474	558	404 40	801	658 50	

APPENDIX No. 30.

REPORT OF THE PORT WARDEN OF MONTREAL FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

MONTREAL, 7th January, 1898.

Honourable Sir L. H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour, by direction of the council of this board and in compliance with section 31 of the Act governing the Port Warden's Office, 45 Vic., chap. 45, to transmit herewith documents as follows:—

1. The Port Warden's report for the year 1897.
2. Audited statement of receipts and expenditure of the Port Warden's Office for the year ending 31st December, 1897.
3. Statement of investments of the Port Warden's surplus funds.

I have the honour to be, sir,
Your obedient servant,

GEO. HADRILL,
Secretary.

MONTREAL, 31st December, 1897.

To the Chairman and Members of the Board of Examiners
for the Office of Port Warden.

GENTLEMEN,—I have the honour to submit to you the annual report of the business of this office, with the statements of exports, receipts and expenditure for the past year.

Navigation opened with the arrival of the SS. "Polino" at 9.30 a.m. on the 22nd April, and closed with the departure for sea of the SS. "Acadian" at day-break on Thursday the 25th November.

The first ocean steamer to arrive was the SS. "Montezuma" at 7.30 a.m., 30th April, and the last ocean steamer to sail was the SS. "Turret Crown," which left for sea at 10.30 a.m. on the 24th November.

The first sailing vessel to arrive was the barquette "Peerless" from Barbados with a cargo of molasses on the 15th May.

The first vessel to enter the Gulf of St. Lawrence this season by the Straits of Belle Isle was the Thompson Line steamship "Ganges" on the 26th June.

Harbours and Shipping.

Four hundred and seventy-nine over-sea or foreign-going vessels of all kinds were entered at this office with a tonnage of 1,054,225 tons, being an increase of 58 vessels and 152,550 tons.

The business to the lower ports this season consisted of, entered, 300 vessels of all classes with a tonnage of 317,397 tons, against 273 vessels of all classes last season, with a tonnage of 297,410 tons. Increase of 27 vessels and 19,987 tons.

Clearances to the lower ports this season were as follows: 123 vessels of all classes, with a tonnage of 99,994 tons, against 127 vessels of all classes last season, with a tonnage of 109,595 tons, decrease 4 vessels and 9,601 tons.

You may note by the accompanying statement that amongst the arrivals of sailing vessels, there was not one full rigged ship; showing the decadence of sailing vessels in this trade, as this is the first season on record that this has occurred. It is also worthy of note that the South American lumber trade from this port has almost entirely disappeared, there being only one small vessel loaded this season for Rosario, she only carried 417,505 feet B. M.

There has been numerous grounding of vessels in the river this season of a more or less serious nature; the SS. "Arabia," which grounded in the Cape Roch channel on the 26th September, being the most serious.

The water in the ship channel ran very low this year, compelling a number of the larger vessels to complete their loading at Quebec. The comparative reports of the depth of water in the ship channels as recorded on the gauges for the past two seasons are as follows:—20th November, 1896, Montreal gauge, 28 feet 10½ inches; 20th November, 1896, Sorel gauge, 29 feet 8 inches; 20th November, 1897, Montreal gauge, 26 feet 10 inches; 20th November, 1897, Sorel gauge, 26 feet 6 inches.

This in a great measure may be accounted for by the exceedingly dry weather prevailing the last three months of the season, August rainfall being 1·95, average 3·60; September rainfall, 1·15, average 3·05; October rainfall, 0·65, average 2·96; total rainfall in the three months, 3·75. Average rainfall for 23 years for these three months being 9·61, so that the rainfall was little more than one-third of the average for these months.

The shipments of various kinds for the past season, as reported at this office, were as per attached statement.

All of which is respectfully submitted.

I am, gentlemen,
Your obedient servant,

ARCHIBALD REID,
Port Warden.

COMPARATIVE Statement of Shipments, years 1896 and 1897, as per Manifests reported at Port Warden's Office.

Description.	1896.	1897.	1897.	
			Increase.	Decrease.
Wheat..... Bush.	7,425,742	10,556,630	3,130,888	
Pease	1,897,136	2,002,403	105,267	
Barley and rye..... "	690,698	1,085,221	454,523	
Oats..... "	2,658,176	5,142,011	2,483,835	
Corn..... "	6,752,277	9,172,016	2,419,739	
Total grain.....	19,359,019	27,958,281	8,599,262	
Flour and meal..... Brls.	952,184	710,044		242,140
Ashes..... "	1,753	1,401		352
Apples..... "	707,201	160,223		546,978
Cheese..... Boxes.	1,734,398	2,100,922	366,524	
Butter..... Pckgs.	154,011	201,464	67,453	
Eggs..... "	139,649	167,166	27,517	
Box meats..... "	219,671	157,378		62,293
Lard..... "	207,832	197,686		160,146
Pulp..... Tons.	1,431	9,770	8,339	
Dead meat..... Qtrs.	15,837	3,179		12,658
Sundries..... Tons.	20,004	34,086	5,082	
Hay..... "	761	3,900	3,139	
Hops..... "	32	13		19
Oil cake..... "	4,452	4,110		342
Phosphates..... "	21	160	139	
Minerals..... "	2,867	4,874	2,007	
Lumber..... Ft. B. M.	221,334,580	315,312,166	93,977,586	
Cattle..... Head.	96,406	117,329	20,923	
Horses..... "	10,524	9,975		549
Sheep..... "	76,842	59,988		16,859

STATEMENT of Sea-going Arrivals.

	1896.		1897.	
	No.	Tons.	No.	Tons.
Steamers.....	400	888,856	457	1,046,300
Ships.....	5	7,349		
Barques.....	4	2,127	8	3,968
Brigs and schooners.....	12	3,343	14	3,957
Totals.....	421	901,675	479	1,054,225

An increase of 58 vessels and 152,550 tons.

STATEMENT of Lower Port Arrivals.

Steamers.....	258	295,883	284	315,530
Brigs and schooners.....	15	1,527	16	1,867
Total.....	273	297,410	300	317,397

An increase of 27 vessels and 19,987 tons.

Harbours and Shipping.

CLEARANCES for the Lower Ports.

	1896.		1897.	
	No.	Total.	No.	Total.
Steamers	115	108,514	113	99,067
Brigs and schooners	12	1,081	10	927
Total	127	109,595	123	99,994

A decrease of 4 vessels and 9,601 tons.

REVENUE.

	1896.	1897.
Amount	12,629 87	10,925 74

STATEMENT of the investments of the surplus funds of the Port Warden's Office at Montreal and of interest accruing therefrom during the year ended 31st December, 1897.

Date.	Investments.	Amount.	Interest
			\$ cts.
Feb. 16, 1880	Expended \$2,380.34 in purchase of Dominion Government stock	\$2,300 at 4 p.c. for 6 m. \$46.00	
		" 3½ " 40.25	86 25
Aug. 16, 1880	Expended \$7,254.11 in purchase of City of Montreal registered stock	\$ 7,000 at 5 p.c. for 12 mos.	350 00
April 18, 1884	Expended \$5,031.34 in purchase of City of Montreal four per cent registered stock, Nos. 1720, 1721, 1722, 1723, 1724, 5 of \$1,000	5,000 at 4 " ..	200 00
Mar. 14, 1887	Expended \$10,320.75 in purchase of City of Montreal Consolidated Fund Stock Class C. 100 shares of \$100 each	10,000 at 4 " ..	400 00
	Loans to Montreal Board of Trade Building Fund to 31st December, 1897	37,000 at 4 " ..	1,480 00
	Total	\$81,300 interest for 12 mos.	2,516 25

HENRY MILES,
Treasurer.

GEO. HADRILL,
Secretary.

MONTREAL, 7th January, 1898.

PORT WARDEN'S OFFICE.

DR. STATEMENT of Receipts and Expenditure for year ending 31st December, 1897. CR.

1896.	To	Balance, cash in bank.	\$	cts.	1897.	Dec. 31..	By	\$	cts.
		Cash in Port Warden's hands.	9,848	33			Arch. Reid, Port Warden.	2,300	00
			98	89			J. A. Vibert, Deputy Port Warden	1,750	00
1897.							A. T. Creighton do	1,750	00
							W. J. Anderson, book-keeper.	1,400	00
							J. F. Scanlan, clerk.	405	00
							S. Hayes, junior clerk.	171	00
							Superannuation allowance:—		
							Arch. Reid, Port Warden	300	00
							J. A. Vibert, Deputy Port Warden	200	00
							A. T. Creighton do	200	00
							W. J. Anderson, book-keeper.	100	00
							Board of Trade, secretarial expenses.	1,000	00
							Rent, fuel and taxes.	311	86
							Telephones, cleaning office, light, &c	273	32
							Lloyds register and shipping books.	33	94
							Books, printing and stationery.	95	35
							Office furniture.	40	00
							Cab and car fares.	38	05
							Miscellaneous expenses.	28	73
							Alf. W. Hadrill, auditor	60	00
							Outstanding accounts, 1897	10,457	25
							Balance cash in bank	5	46
							Cash in Port Warden's hands.	11,574	07
							Cash \$127.50, cheque from Treasurer Board of Trade, \$1,480.	1,607	50
1898.								10,925	74
								256	07
								2,516	25
								23,644	28
Jan. 1..	To	Balance.						13,181	57

Audited and found correct. ARCHIBALD REID, Port Warden.

ALF. W. HADRILL, Auditor. MONTREAL, 3rd January, 1898.

E. & O. E.

Harbours and Shipping.

APPENDIX No. 31.

REPORT OF THE PORT WARDEN AT QUEBEC FOR THE YEAR ENDED 31ST DECEMBER, 1897.

QUEBEC, 31st December, 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—As required by the 30th section of the Port Warden's Rules, I beg respectfully to submit the following annual statement of the business transacted in this office during the year ended 31st December, 1897, as follows:—

Eighty-seven steamers were surveyed for clearance outwards, after taking on board part cargo at this port, having previously shipped part cargo of grain at Montreal.

Thirteen sailing vessels had their hatches opened and cargoes surveyed, on arrival from sea.

Nine steamers were surveyed on account of grounding and stranding.

Three steamers and one sailing vessel were surveyed for valuation.

Four steamers were surveyed on account of damage by ice.

Eleven surveys were held on damaged goods.

Three steamers were surveyed on account of damage by collision.

Two steamers were surveyed on account of deck load.

Three steamers and one sailing vessel were surveyed on account of repairs and condition.

One sailing ship was totally wrecked on Anticosti and one at Metis.

The receipts and disbursements of this office were as follows:—

Receipts from all sources.....	\$1,179 00
Expenses.....	433 00
	<hr/>
Balance net receipts.....	\$ 746 00

Besides the foregoing there were several vessels damaged by stranding, and otherwise, that did not come under the port warden's rules.

Seven steamers took live stock at Quebec during the season, amounting in all to 2,656 cattle and 615 sheep, on which was collected \$42.92, which was deposited in the Bank of Montreal to the credit of the Receiver General.

With much respect, I am,

Your obedient servant,

W. SIMONS, N.A.,

Port Warden.

APPENDIX No. 32.

REPORT OF THE PORT WARDEN AT RIMOUSKI, FOR THE YEAR

ENDED 31ST DECEMBER, 1897.

RIMOUSKI, 4th December, 1897.

Hon. Sir L. H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to forward herewith my report for the season of 1897.
I have not visited any vessel nor collected any money during this season.

I have the honour, &c.,

CAPT. ELZEAR HEPPEL,
Port Warden.

Harbours and Shipping.

APPENDIX No. 33.

REPORT OF THE PORT WARDEN AT ANNAPOLIS, FOR THE YEAR ENDED 31ST DECEMBER, 1897.

ANNAPOLIS, N.S., 31st Dec., 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—In submitting my report for the year ended 31st December, 1897, I beg leave to state that during the past year nothing has occurred in this port calling for the duties of Port Warden.

I am, sir,
Your very obedient servant,

SIMON W. RILEY,
Port Warden.

APPENDIX No. 34.

REPORT OF THE PORT WARDEN AT HALIFAX FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

HALIFAX, N.S., 4th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report for the year ending 31st December, 1897, accompanied by a statement of the receipts and expenditure during that period.

Surveys have been held by me on thirty-two steamers and three sailing vessels which arrived at this port in a damaged condition during the year. The necessary repairs were made to the vessels and those of them bound to other ports with their cargoes proceeded to their destinations, where they arrived safely.

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

DAVID HUNTER,
Port Warden.

RECEIPTS and Expenditure of the Port Warden, Halifax, N.S., from 1st January
to 31st December, 1897.

DR.			CR.
	\$ cts.		\$ cts.
To amount of fees received.....	2,372 88	By paid assistants, office expenses, &c....	1,490 33
		Amount reverting to Port Warden...	882 55
	2,372 88		2,372 88

I hereby certify that the above is a true and correct statement of the receipts and expenditure of the Port Warden at Halifax, N.S., during the year 1897.

DAVID HUNTER,
Port Warden.

Harbours and Shipping.

APPENDIX No. 35.

REPORT OF THE PORT WARDEN AT NORTH SYDNEY FOR THE YEAR ENDED 31ST DECEMBER, 1897.

PORT WARDEN'S OFFICE,
NORTH SYDNEY, C.B., 13th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to report as follows:—
During the past year I have held the following surveys:

Six (6) steamships.
Four (4) sailing vessels.

The most of the above vessels had extensive repairs made under my recommendation and inspection.

The total fees received were.....	\$182 00
Paid assistant surveyors.....	75 00
	<hr/>
	\$107 00
Less office expenses	40 00
	<hr/>
	\$ 67 00

I have the honour to be, sir,
Your obedient servant,

DANIEL MCKAY,
Port Warden.

APPENDIX No. 36.

REPORT OF THE PORT WARDEN AT PORT HAWKESBURY FOR
THE YEAR ENDED 31ST DECEMBER, 1897.

PORT HAWKESBURY, N.S., 31st December, 1897.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the doings of this office, accompanied with a statement of the fees received by me during the year now closing. There have not been many vessels repaired here during the past year. The services of the Port Warden have been requested only once during the year, and that only to survey the hatches of the schooner "Sabrina," of St. John. N.B., from Boston, U.S., to Charlottetown, P.E.I., with a cargo of flour and corn.

I have the honour to be, sir,
Your obedient servant,

D. W. HENESEY,
Port Warden.

RECEIPTS of Port Warden's Office for the year ending 31st December, 1897.

To holding survey on hatches of schooner "Sabrina"
at Port Hawkesbury, 11th January, 1897..... \$8 00

I do hereby certify that the above is a true and correct statement of all fees received by me as Port Warden at this port during the year now closing.

D. W. HENESEY,
Port Warden.

Harbours and Shipping.

APPENDIX No. 37.

REPORT OF THE PORT WARDEN AT YARMOUTH FOR THE YEAR ENDED 31ST DECEMBER, 1897.

YARMOUTH, N.S., 3rd January, 1898.

I have been called on four times to survey the hatches of vessels arriving with corn, and six times on vessels that have been stranded and afterwards floated and brought to Yarmouth for repairs.

The total amount of fees received net, was \$76.

EBEN SCOTT,
Port Warden.

APPENDIX No. 38.

REPORT OF THE PORT WARDEN AT CHATHAM FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

PORT OF CHATHAM, N.B., 17th December, 1897.

Department of Marine and Fisheries,
Ottawa.

DEAR SIR,—Inclosed please find copies of surveys held by me at this port for the season of 1897, with an account of fees collected for the same. Hoping you will find all correct and satisfactory.

I remain,
Your obedient servant,

WILLIAM MUIRHEAD.

MEMO. of account of Fees received by William Muirhead, Port Warden, Chatham, N.B., for the year 1897.

1897.		\$	cts.
Sept. 29....	Ship "Austria," Bathurst, N.B.....	20	00
Oct. 2....	Schooner "Beatrice," Chatham.....	10	00
Nov. 1....	Barge "Reinbrandt," Newfoundland.....	10	00
do 2 ...	Barque "Angellano Castellano".....	10	00
		50	00

PORT OF CHATHAM, N.B.,
DOMINION OF CANADA,
2nd November, 1897.

At the request of L. Cacaca, master of the Italian bark "Angellano Castellano," of Naples, Italy, I, William Muirhead, Port Warden of the Port of Chatham, N.B., J. J. Brown, master mariner, and Dudley P. Walls, shipwright, proceeded on board said bark for the purpose of holding survey on said vessel and cargo.

We found the hatches of the said bark and tarpaulins on the same perfectly dry, and hatches well caulked.

On removing hatches found what portion of the cargo of sulphur in sight in good condition.

Harbours and Shipping.

On sounding the pumps we found about 15 inches of water in the well, and at the end of half an hour found no increase. On the hull the only damage to be seen was port rail and stanchions started.

Captain Cacaca reports having to cut away in stormy weather two lower topsails. Fore-topmast stayed, and several spare spars.

WILLIAM MUIRHEAD,
Port Warden.

J. J. BROWN,
Master Mariner.

DUDLEY P. WALLS,
Shipwright.

Fees, \$10.

PORT OF CHATHAM, N.B.,
DOMINION OF CANADA,
1st November, 1897.

At the request of Captain E. Hall, of the coal barge "Rembrandt," of St. John's, Newfoundland, 1,421 tons register, I, William Muirhead, Port Warden of the Port of Chatham, N.B., and Captain J. J. Brown, Surveyor of Records, proceeded on board said barge, she having touched on Escuminac reef, at the entrance of Miramichi River. On examining the barge we found no sign of rails, waterways or anything about the decks started or strained. Sounded the pumps and found only 9 inches of water in the well. We therefore consider the vessel seaworthy and fit to proceed to Louisburg, Cape Breton, her port of destination.

WILLIAM MUIRHEAD,
Port Warden.

Fees, \$10.

PORT OF CHATHAM, N.B.,
DOMINION OF CANADA,
21st October, 1897.

At the request of Captain Sangster, master of the schooner "Beatrice," of Halifax, N.S., I, William Muirhead, Port Warden of the Port of Chatham, N.B., Captain J. J. Brown, master mariner, and Dudley P. Walls, shipwright, proceeded in tug "Mascot" to Portage Island, at the mouth of Miramichi River, for the purpose of holding survey on schooner "Beatrice," of Halifax, N.S., as she now lies stranded on said island loaded with codfish. On boarding the said schooner, we found her full of water and that the tide ebbed and flowed in her hold. We also found stern post started from plank ends, rudder damaged, deck seams, mast coatings and house combings started. After considering the position of said vessel, state of the hull, &c., and age of said vessel, we the undersigned surveyors recommend that the said "Beatrice" be sold as she now lies near Portage Island, Miramichi River for the benefit of owners, underwriters, and all concerned.

WILLIAM MUIRHEAD,
Port Warden.

J. J. BROWN,
Master Mariner.

DUDLEY P. WALLS,
Shipwright.

Fees, \$10.

APPENDIX No. 39.

REPORT OF THE PORT WARDEN AT PRINCE EDWARD ISLAND
FOR THE YEAR ENDED 31ST DECEMBER, 1897.

PORT WARDEN'S OFFICE,
PRINCE EDWARD ISLAND,
31st December, 1897.

The Honourable Sir L. H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my annual report of the business of my office during the past season.

I am glad to report that there has been no loss of any grain-laden vessels bound to foreign ports this season.

I have the honour to be, sir,
Your obedient servant,

H. P. WELSH,
Port Warden.

RECEIPTS and Expenditure of the Port Warden's Office, Prince Edward Island,
for the year 1897.

Date.	Receipts.	Amount.	Date.	Expenditure.	Amount.
1897.		\$ cts.	1897.		\$ cts.
	To Fees derived from grain-laden vessels.....	255 00		By Expense of office.....	8 50
	Damaged goods.....	4 86		Commission to deputies....	64 00
	Survey on hatches.....	3 00		Balance.....	220 36
	Other surveys.....	30 00			
		292 86			292 86

I hereby certify the above to be a correct statement.

H. P. WELSH,
Port Warden.

CHARLOTTETOWN, P.E.I., 31st December, 1897.

Harbours and Shipping.

APPENDIX No. 40.

REPORT OF THE PORT WARDEN AT ST. ANDREWS, N.B., FOR THE YEAR ENDED 31ST DECEMBER, 1897.

Date.	—	Fees.
1897.		\$ cts.
Jan. 30...	Survey on hatches Sch. "Grace"	2 00
March 6...	do do do "Donald Cann"	2 50
April 5...	do do do "Ellanore"	2 00
do 6...	do do Bktn. "Robert Ewing"	2 50
do 13...	do Cargo and dunnage, Sch. "Velma"	4 50
May —...	do Pilot boat No. 1	1 00
		14 50

JOHN WREN,
Port Warden.

ST. ANDREWS, 4th January, 1898.

Sworn at St. Andrews, Charlotte Co., N.B., before the undersigned.

JOHN S. MAYN, J.P.

APPENDIX No. 41.

REPORT OF THE PORT WARDEN AT HOPEWELL CAPE FOR THE
YEAR ENDED 31ST DECEMBER, 1897.

HOPEWELL CAPE, 12th January, 1898.

The Honourable
Minister of Marine and Fisheries,
Ottawa.

SIR,—Inclosed please find account business of my office as Port Warden for year 1897.

Schooner "Fraulien," surveys and certificate.....	\$18 00
do "A. R. Keene," surveys and certificate.....	13 00
	<hr/>
	\$31 00

Yours most truly,

H. J. BENNETT,
Port Warden.

Harbours and Shipping.

APPENDIX No. 42.

REPORT OF THE PORT WARDEN AT SHEDIAC FOR THE YEAR ENDED 31ST DECEMBER, 1897.

SHEDIAC, 8th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

DEAR SIR,—The only matters on which I have to report for this season now past that called for the services of Port Warden were the cases of the barque "Nebo" and the barque "Posiden," both of Norway. Both of them had been in collision with ice on the voyage out from Europe to this port.

Surveys were held by me on each, and temporary repairs recommended and executed and the ships loaded and proceeded to their respective destinations.

Annexed you will please find statement of the fees collected.

I have the honour to remain,
Yours truly,

CHARLES HARPER,
Port Warden.

STATEMENT of fees collected and expended by Port Warden at Port of Shediac during season of 1897.

RECEIPTS.

From barque "Nebo," total fees.....	\$21 00	
From barque "Posiden," total fees.....	22 00	
		————— \$43 00

EXPENSES.

Paid 2 assistants at survey "Nebo".....	\$10 00	
Paid 2 assistants at survey "Posiden".....	10 00	
		————— 20 00
Net fees of office.....		————— \$23 00

CHARLES HARPER,
Port Warden.

SHEDIAC, 8th January, 1898.

APPENDIX No. 43.

REPORT OF THE PORT WARDEN AT VICTORIA, B.C., FOR THE
YEAR ENDED 31ST DECEMBER, 1897.

VICTORIA, B.C., 4th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour of submitting my annual report as Port Warden for the ports of Victoria and Esquimalt, B.C., for the year ended the 31st of December, 1897.

Amount of fees received for surveys on the hatches of 30 vessels.....	\$150 00
Amount received for surveys on cargoes, hulls, &c.....	309 00
	<hr/>
	\$459 00
Rent and expenses of office.....	50 00
	<hr/>
Net receipts.....	409 00

I have the honour to be, sir,
Your obedient servant,

CHAS. E. CLARKE,
Port Warden.

Harbours and Shipping.

APPENDIX No. 44.

REPORT OF THE PORT WARDEN AT WHITNEY PIER, SYDNEY, FOR THE YEAR ENDED 31ST DECEMBER, 1897.

WHITNEY PIER, SYDNEY, 31st December, 1897.

Hon. Sir L. H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour of forwarding to you the following report of proceedings of this office during the past year.

Surveys have been held on nine steamers, and fees collected as follows:—

Surveys on hulls, seaworthiness.....	\$72 00
Office and expenses.....	20 00
	<hr/>
Net revenue.....	\$52 00

The offices discharged were of the usual description.

I have the honour to be, sir,
Your obedient servant,

JAMES CARLIN,
Port Warden.

PORT WARDEN—Survey, 1897.

Date.	Official No.	Rig.	Name.	Master.	Tonnage.	Port of Register.	Where from.	Where bound.	Description of Survey.	Drafts.		Clear Side.	Cargo.	
										Fore.	Aft.			
										ft. in.	ft. in.	ft. in.		
1897.														
May 31	1	SS	"Forest Holme"	Johnson	1,540	Mary Port	Quebec	London	Seaworthiness	20	9	21	8	Deals.
Nov. 3	2	"	"Strathdee"	Forsyth	1,709	Glasgow	Montreal	Avonmouth	do	22	21	5	7	Grain.
do 13	3	"	"Tyr"	Hansen	1,442	Norway	Quebec	Sharpness, near Bristol	do	19	19	8	10	Deals.
do 15	4	"	"Stalheim"	Halt	1,365	Barigan	Montreal	London	do	18	6	19	12	do
do 16	5	"	"Huelva"	Towill	1,698	London	Quebec	Bristol	do	18	6	18	9	do
do 17	6	"	"Ailsa Craig"	Robertson	2,166	Glasgow	Three Rivers, Q.	London	do	22	22	5	7	do
do 21	7	"	"Bydal Holme"	Brown	1,226	Mary Port	Montreal	do	do	19	5	19	5	do
do 27	8	"	"Loughrigg Holme"	Milligan	1,316	do	do & Quebec	Antwerp	do	19	5	19	10	do
do 30	9	"	"Turret Crown"	Bruhn	1,142	Newcastle	Montreal	London	do	12	10	16	8	Grain.

Harbours and Shipping.

APPENDIX No. 45.

REPORT OF THE PORT WARDEN AT NANAIMO AND DEPARTURE BAY, B.C., FOR THE YEAR ENDED 31ST DECEMBER, 1897.

NANAIMO, B.C., 7th January, 1898.

F. GOURDEAU, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—Notwithstanding the large amount of shipping that has visited these ports during the last year, the service of Port Warden has not been called into requisition.

Yours truly,

HARRY COOPER,
Port Warden.

APPENDIX No. 46.

REPORT OF THE PORT WARDEN AT VANCOUVER FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

VANCOUVER, B.C., 14th January, 1898.

The Honourable Sir L. H. DAVIES, K.C.M.G.,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour of submitting my annual report as Port Warden for the port of Vancouver, B.C., for the year ending on the 31st of December, 1897.

Amount of fees received for surveys on the hatches	
of 20 vessels	\$165 00
Fees received for surveys of cargoes and hulls, &c..	103 00
	<hr/>
	\$268 00

I have the honour to be, sir,
Your obedient servant,

MALCOLM McLEOD,
Port Warden.

Harbours and Shipping.

APPENDIX No. 47.

REPORT OF THE PORT WARDEN AT PICTOU FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

Pictou, 26th January, 1898.

One survey on schooner "Vivian," of Lunenburg, N.S., for value and average,
30th November, 1897.

One survey on schooner "City of Lunenburg, N.S.," for repairs and valuing
for average, &c.

Amount of receipts for 1897.....	\$26 00
Expenses of office, &c.....	17 00
	<hr/>
Amount for 1897	\$ 9 00

W. C. MUM,
Port Warden.

APPENDIX No. 48.

REPORT OF THE PORT WARDEN AT BATHURST FOR THE YEAR
ENDED 31ST DECEMBER, 1897.

PORT OF BATHURST,
DOMINION OF CANADA,
29th September, 1897.

By request of Captain Dexter of the British ship "Austria," 1,773 tons, registered at the Port of Windsor, Nova Scotia, we, the undersigned, William Muirhead, Port Warden of Chatham, N.B., James Gooden, master mariner, and Samuel White, shipwright, proceeded on board said ship for the purpose of holding survey.

We sounded the pumps and found only about one inch of water in the well.

The said ship is well found in every particular, spars, rigging, sails, &c.

We made a thorough examination and consider the vessel seaworthy and in every way fitted to proceed on her voyage to port of destination.

WILLIAM MUIRHEAD
Port Warden.

JAMES GODIN,
Master Mariner.

SAMUEL WHITE,
Shipwright.

Fees, \$20.

STATEMENT OF Wrecks and Casualties reported as having occurred to British, Canadian and Foreign Sea-going Vessels in Canadian Waters, &c.—Continued.

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigged. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty happened.	Nature and Cause of Casualty.	Lives lost.	Remarks.
1897.		Yrs								\$
Jan. 22	Austria	12	Windsor, N.S.	Ship, wood, sail	1772	Greenock to Pensacola and Devonport.		Vessel grounded on Peninsula Bar.		Partial loss,
Jan. 25	Alina	3	Shelburne, N.S.	Schr., wood, sail.	96	Turks Island to Liverpool, N.S.	North Atlantic.	Sprung a leak.		do
Oct. 2	Azof	36	Charlotte'twn, P.E.I	Schr., wood, sail.	38	Buctouche to Alberton.	P.E. Island coast, north side.	Stranded		Total loss, 450
1897.										
April 9	Assaye		London, Eng.	Schooner	6	Liverpool to St. John, N.B.	Blonde Rock, north side Seal Island, N.S.	Stranded		do
	Addie	20	Hatifax, N.S.	Schr., wood, sail.	16	Halifax to Newfoundland.	L'Ardoise Bay, N.S.	Foundered		do 200
April 21	Altona	6½	Windsor, N.S.	Barque, wood, sail	491	Trinidad to New York.	North Atlantic.	Casualty caused by heavy gale.		Partial loss, 500
1896.										
Aug. 9	Bolivia	15	Liverpool	Brig, steel, sail.	879	Royal Roads to Vancouver, B.C.	Active Pass, B.C.	Stranded; vessel went on rocks while being towed through the Pass.		do
Aug. 21	Brookaide	37	Sunderland	F. & A., steel, steamer.	1,702	Shields to Quebec and London.	Near Traverse L'Isle, River St. Lawrence.	Casualty caused by fog.		do
Aug. 10	Bengore Head	12	Belfast	Schooner, iron, steam.	1,619	Montreal, Que., to Dublin.	Harbour of Quebec.	Grounded while loading.		do
Sept. 3	Bessie	7	Yarmouth, N.S.	Schr., wood, sail.	186	Louisburg to Yarmouth.	Off Whitehead, N.S.	Vessel lost topsail and received other damage.		do 200
Oct. 10	Britannia	2	Lunenburg, N.S.	Schr., wood, sail	59	Bridgewater to Pictou, N.S.	Madame Island Ledge, C.B., N.S.	Stranded		do 100
Sept. 20	Bimble	9	Windsor, N.S.	Schr., wood, sail	179	New York to St. Croix and New York.	Atlantic Ocean.	Casualty caused by a gale of wind.		Partial loss, 200
Nov. 2	Bessie E. Crane.	11	Parraboro', N.S.	Schr., wood, sail.	184	Porto Rico to Ragged Island.	Ragged Island, Bahamas.	Stranded		Total loss, 4,000
1897.										
Jan. 2	Bertha Gray.	8	Yarmouth, N.S.	Botue, wood, sail.	320	Natal to Delaware Breakwater.	American coast	Heavy weather cause of casualty.		Partial loss.

Harbours and Shipping.

Jan. 4	Bonavista	12	Montreal, Que.	Schooner, iron, steam.	837	Louisburg, C. B., to Boston Harbour	Ledge	Struck the ledge in a thick fog.	do	14,000
April 29	Bertha H.	7	Windsor, N.S.	Schr., wood, sail.	124	Turks Island to West Indies.	West Indies	Ran on the reef.	Total loss, Cargo,	5,000 400
Dec. 23	B. C. Borden	2	Parraboro', N.S.	Schr., wood, sail.	385	Windsor, N.S., to New York.	Coast of Maine	Stranded.	Partial loss,	1,000
Aug. 15	Canoyes	11	Gloucester, Mass.	Schr., wood, sail.	68	Gloucester, Mass., to Souris, P. E. I., fishing	Goose Isld., Magdalen Islands, Guff St. Lawrence.	Stranded, strong current.	Partial loss,	700
Sept. --	Comox	6	Vancouver, B. C.	Sloop, iron, steam.	60	16 Vancouver to Port Neville.	Entrance to Burrard Inlet, B. C.	do	do	250
do	City of Nanaimo	5	Victoria, B. C.	Sloop, wood, steam.	761	Vancouver, Nanaimo, Vancouver.	Burrard Inlet, B. C.	do	do	200
Oct. 25	Crosinie	...	French	Bgmt., wood, sail.	98	St. Pierre to North Sydney.	Wharf at North Sydney, N.S.	Damaged by being run against by another vessel.	do	2,400
Sept. 18	Chieftain	6	Victoria, B. C.	Tug, wood, steam.	65	Skene's River to Port Simpson.	British Columbia coast.	Stranded.	do	3,000
Aug. 11	Culdoon	11	St. John, N.B.	Bgmt., wood, sail.	372	Zanibar to New York.	South Atlantic	do	do	2,000
Sept. 21	Calcium	new	Parraboro', N.S.	Barque, wood, sail.	637	Parraboro' to Greenland.	Off Greenland, North Atlantic.	Vessel struck by gale.	do	125
do	Calcium	new	do	do	637	do	Off Greenland	do	do	130
Dec. 6	Carrick	19	St. John, N.B.	Bgmt., wood, sail.	291	Dandalk to Cardiff	Bristol Channel, Eng.	Stranded.	Total loss,	500
Spring, Jan. 28	C. Dussault Chio	13	Quebec, Lunenburg, N.S.	Brig, wood, sail.	168	Lunenburg, N. S., to Turks Isld. and Lunenburg.	North Atlantic	Vessel broken up by ice.	Partial loss.	
1897.	Coquitlan	5	Vancouver, B. C.	Sloop, steel, steam.	236	Vancouver	Coast of British Columbia.	Stranded.	do	3,000
July 25	Culders	12	Pictou, N. S.	Ship, wood, sail.	1,575	London to Sydney, C. E., N.S.	Six miles east of Eddy stone Lighthouse.	Rough weather.	do	
Sept. 11	Donald Cann	8	Parraboro', N.S.	Schr., wood, sail.	99	New York to Shelburne, N.S.	Vineyard Haven, U.S.	Collision.	do	240
1897.	Doris	9	Lunenburg, N.S.	Barque, wood, sail.	187	35 Lunenburg, N. S., to Bahamas and Lunenburg.	Coast of Nova Scotia	Stranded.	Total loss, Cargo,	6,000 560
May 17	Doris	9	Lunenburg, N.S.	Barque, wood, sail.	187	35 Lunenburg, N. S., to Bahamas and Lunenburg.	Coast of Nova Scotia	Stranded.	Total loss, Cargo,	6,000 560
1896.	Ellen A. Reid	11	Yarmouth, N.S.	Ship, wood, sail.	1,750	Yarmouth, N. S., to Parraboro' & Manilla mouth.	to 250 miles, N. E. Sydney	Partially burnt.	Partial loss.	
Oct. 24	Eva Stewart	15	Parraboro', N.S.	Schr., wood, sail.	98	Parraboro' to Yarmouth.	Off Digby, N.S.	Damaged in a gale.	do	200
June 6	Marie Emma	13	Windsor, N.S.	do	...	Newcastle, (New South Wales) to Manilla.	Western Pacific.	On fire and abandoned.	Total loss,	14,500

STATEMENT of Wrecks and Casualties reported as having occurred to British, Canadian and Foreign Sea-going Vessels in Canadian Waters, &c.—*Continued.*

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigged. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty happened.	Nature and cause of Casualty.	Lives lost.	Remarks.
1896.		Yrs								\$
Oct. 26	Elma D.	6	Yarmouth, N.S.	Schr., wood, sail.	68	Meteorhan to Boston, U. S. A.	North Atlantic.	Stranded.		Total loss, 1,000 Cargo, 100
1897.										
March 4	Emma L. Shaw.	23	Windsor, N.S.	Bgtn., wood, sail.	567	Turke Island to Philadelphia.	Green Run Station.	do		Total loss, 3,000
May 14	Emma B.	14	Barrington, N.S.	Schr., wood, sail.	94	Boston to New Glasgow.	Near Egg Island Light station, N. S.	do		do 1,600
May 2	Ethel Granville.	16	Parrsboro', N.S.	do	99	St. John, N.B., to Middleton, Conn.	14 miles east Pollock Lightship, North Atlantic.	Fog.		do 2,500 Cargo, 500
July 28	Energy.	8	Parrsboro', N.S.	do	98	St. John to New York U. S. A.	New York Harbour.	Fire.		Total loss, 3,000
May 23	E. H. Foster.	15	St. John, N.B.	do	124	St. John, N. B., to Providence, R. I.	Pro-American coast.	Stranded.		Partial loss, 300
Sept. 3	Fanny Young.	16	Port Hawkesbury, N.S.	do	85	Boston to Halifax and Port Hawkesbury.	Isaacs Harbour, N. S.	do		do 150
May 31	Florence.		Sydney, C. B., N.S.	do	17 04	Bonne Bay to St. John's, Nfld.	One mile east of Cape Ray, Nfld.	Parted her chains.		Total loss, 600
Aug. 19	Fairy.	15	Quebec.	Tug, wood, steam.	9	St. Thomas, Que.	St. Thomas, Que.	Burnt at wharf.		do
May 5	Frank and Iva.	1	St. John, N.B.	Schr., wood, sail.	98	Shules, N.S., to Bridgeport, Conn.	Near Highland Light, off Cape Cod.	Damaged by collision and became leaky.		Partial loss, 2,500
Sept 23	F. W. Homans.	26	Gloucester, Mass.	do	63	Gloucester to Pleasant Bay.	South entrance to Anheerst Harbour, Magdalen Island.	Stranded.		do 800
June 8	Flora P. Stafford.		Windsor, N.S.	Ship.		Newcastle, N. S. W., to Manila.			4	Total loss
Dec. —	Fraulien	7	Moncton, N.B.	Schr., wood, sail.	149	Elizabethport to Jersey, U. S., and Yarmouth, N.S.	New American coast, North Atlantic.	Heavy storm.		Partial loss, 1,200

Harbours and Shipping.

Aug. 1	Grace Rice	13	Weymouth, N.S.	Schr., wood, sail.	145	Providence, R.I., to Weymouth, N.S., and Boston, Mass.	East side of Port Hood Harbour, N.S.	Stranded; sudden change in wind.	Partial, Cargo,	700 40
May 21	Glenlivet.	18	Leith	Schr., iron, steam.	1,008	Tyne, North Sydney to Montreal.	Near Crane Isld. Light, River St. Lawrence.	Grounded; fault of pilot.	Partial loss.	
Aug. 2	Gulnare	120	Sydney, N.S.	Steamer	120	North Sydney to Halifax.	White Point, N.S.	Compass supposed to have been out of order.	Total loss,	7,500
July 21	Greta	7	St. John, N.B.	Schr., wood, sail.	123	St. John to Vineyard Haven.	Near Nausset Light, Cape Cod.	Run down by another vessel.	Partial loss,	1,600
Sept. 19	G. H. Perry	5	Yarmouth, N.S.	do	99	Boston to St. John.	Cape Ann, west 5 miles, Atlantic.		do	700
Oct. 13	Garfield White	99	Parrboro' N.S.	do	99	Apple River to Vineyard Haven.	Off Mound Desert, Rock, An. coast.	Damaged in gale.	do	100
Nov. 31	Glydax R.	93	Digby, N.S.	do	93	Tiverton to St. John, N.B.	Mason's Bay, N.B.	Stranded.	Total loss,	400
Dec. 8	Georgie Harold	12	Charlottetown, P. E. I.	do	87	Charlottetown to St. Pierre Miquelon.	8 miles west of Miquelon.	Sprung a leak.	do	
Dec. 6	George & Everett	6	St. John, N.B.	do	87	Shulee, St. John, to Salem, Mass.	Seale Harbour, Maine, U.S.A.	Stranded.	do	3,000
Dec. 14	Genesta	18	St. John's, Nfld.	do	79	Alberton, P. E. I., to John's, Nfld.	Grand Etang, Co. Inverness, N.S., North Cape, P. E. I.	do	do	1,600 900
Oct. 24	G. S. Perry	20	Belfast	Barque, wood, sail.	690				Partial loss,	2,500
1897.										
July 24	Genesta	7	Lunenburg, N.S.	Schr., wood, sail.	99-00	La Have, St. John's, to La Have.	Grand Banks, Nfld.	Vessel was run into by another vessel.	Total loss,	3,000 3,000
1896.										
Nov. 16	Gleaner	17	Parrboro', N.S.	do	96	Parrboro' to St. John.	Cumberland Bay, N.S.	Vessel damaged in a gale of wind.	Partial loss,	200
Nov. 14	Glocecap.	6	do	Ship, wood, sail.	1721	Illoilo to Halifax	North Atlantic.	Vessel stranded in heavy sea.	do	4,000
Sept. 30	Glenora	7	Windsor, N.S.	Barque, wood, sail.	801	Turks Island to New York.	Unknown.	Vessel not heard of since sailing.	Total loss,	1,500
1897.										
Mar. —	Glenora	17	St. John, N.B.	Schr., wood, sail.	99	Salmon River to Salem, Mass.	Salmon River Bar, N.B.	Stranded.	Partial loss,	100 40
Mar. 9	Gypsum Empress	4	Windsor, N.S.	do		St. John, N.B., to New York.	American coast, North Atlantic.	Damaged in a heavy gale of wind.	Partial loss,	150
1896.										
Aug. 19	Herold	12	Parrboro', N.S.	Schr., wood, sail.	86	Parrboro', N.S., to Point Lepreux, N.B.	Half mile E.S.E. of Pt. Lepreux Light.	Blown on the rocks.	Total loss,	1,600 400
May 2	Highland	13	St. John, N.B.	Barque, wood, sail.	1,234	St. John, N.B., Harbor; ready to sail.	St. John Harbour.	Fire	Partial loss,	1,500
Oct. 3	Hungarian	15	Newcastle, G.B.	Schr., iron, steamer.	1,008	Sorel, Que., to Sydney.	Gulf of St. Lawrence.	Casualty caused by heavy sea, which caused the steam pipes to burst.	do	300
Sept. 1	Hamburg	10	Windsor, N.S.	Barque, wood, sail.	1,649	Cardiff to Dundee.	Caucus Shoal, Mexico.	Stranded	do	2,500
July 5	Hesper	6	West Hartlepool, G.B.	Schr., steel, steamer.	1,766	Las Palmas to St. John, N.B.	Ram Island, off Lockeport, N.S.	do	Total loss,	125,000

STATEMENT of Wrecks and Casualties reported as having occurred to British, Canadian and Foreign Sea-going Vessels in Canadian Waters, &c.—*Continued.*

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigg'd. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. — Port bound to.	Place where Casualty happened.	Nature and cause of Casualty.	Lives lost.	Remarks.
1897.		Yrs								
Mar. 22	L. G. Crosby	6	Yarmouth, N.S.	Bq. tne., wood, sail.	238-49	Macovis to New York	North Atlantic.	Damaged in a gale.		Partial loss, 300
	Manzenilla	18	Parrsboro, N.S.	Schr., wood, sail.	87	St. John to Boston	Between 2 reefs, American coast.	Stranded.		Total loss, 500
1896.										
Sept. 9	Margaret E. Dean	6	do	Bq. tne., wood, sail.	239	New York to Brazil.				do 16,000
Nov. 6	Mabel Howard	14	Halifax, N.S.	Schr., wood, sail.	119	St. Stephen, N.B., to Parrsboro, N.S.	St. Andrews Har., N.B.	Heavy storm		Cargo, 15,000
Nov. 9	Maria Emma	31	St. John's, Nfld	do	35	Charlottetown to North Sydney.	Port Hastings, Strait of Canso, N.S.	Stranded.		Partial loss, 300
1897.										
Jan. 26	Magnolia		Sydney, N.S.	Wood, steam.	260	Sydney wharf.	Sydney, N.S.	Fire.		Total loss, 5,000
Jan. 5	M. L. Bonnell	7	St. John, N.B.	Schr., wood, sail.	297	New York to New Zealand.		do		do 10,000
Jan. 14	Molega	8	Lunenburg, N.S.	do	124-22	Bridgewater to Barbados.	West Indies	Rough sea		Cargo, 15,000
Jan. 23	Moss Rose.	4	do	do	148-93	New York to Arcaju.	Gulf Stream.	Damaged in a gale		Total loss.
Apr. 23	Maud S.	11	Victoria, B.C.	Schr., wood, sail.	97	Victoria (sailing)	East Point, Queen Charlotte Sound, B.C.	Wrecked.		Total loss.
Feb. 5	Mark Curry	7	Windsor, N.S.	Barque, wood, sail.	1256	Newcastle, N.S.W.	Harbour of Iloilo.	Fire.		Total loss, 20,000
Apr. 4	Minnie G. Whitney.	13	do	do	20	Darien, Newport, Eng.	Sapelo Bar, Darien, U.S.A.	Struck the bar.		Total loss, 12,000
	Mary Eleanor	23	Halifax, N.S.	Schr., wood, sail.	98	Mahone to Arichat and Boston.	About 10 miles south to Whitehead, N.S.	Vessel sprung a leak		Partial loss, 300
June	Mabel Howard	15	do	do	119	San Domingo to New York.	San Domingo, W.I.	do		do
June 25	Myrtle M.	6	Parrsboro, N.S.	do	121-57		Indian Ocean.	Lack of ballast		do

Harbours and Shipping.

1896.	7	Lunenburg, N.S.	Schr., wood, sail.	79	Lunenburg, N.S.	Cape Porcupine, Str. of Canco, N.S.	Partial loss,	200
Sept. 15	new	Newcastle-on-Tyne.	Schr., steel, steam.	278	Newcastle to Quebec and London.	River St. Lawrence.	do	
Aug. 12	19	St. John, N.B.	Steamer, wood	53	Bennett's Creek to Hopewell, Albert County, N.B.	Bennett's Creek.	Total loss,	1,400
1897.	8	Lunenburg, N.S.	Schr., wood, ssail.	122	Lunenburg (fishing).	.....	do	
May -		N. Yanza.	do	298	Chatham to New York.	Near entrance to Str. of Canso.	Partial loss,	4,000
1896.		St. John, N.B.	do	86	Victoria, B.C. to Alton; Behring Sea to Victoria, B.C.	Blind Entrance, Vancouver Island, B.C.	Partial loss,	800
July 31	7	Victoria, B.C.	do	124	St. John to Halifax.	Sandy Point, N.S.	Total loss, Cargo,	5,000 1,500
Oct. 3	7	Windsor, N.S.	do	125	Annapolis to St. John, N.B., and Barbados.	Bay of Fundy.	Partial loss,	500
Nov. 15	19	Halifax, N.S.	do	105	St. Martins to Boston.	Gale's Ledge, Salem, Mass.	do	550
1897.	16	St. John, N.B.	do	336	Canary Islands to Florida.	.....	Total loss,	15,000
Jan. 21	5	Digby, N.S.	Barque, wood, sail.	78	Sydney to Charlotteville.	Near Cape St. George, N.S.	Partial loss,	150
1896.	13	Charlottetown, P.E.I.	Schr., wood, sail.	68	Annapolis, N.S., to Rockland, Me.	to American coast.	Total loss, Cargo,	500 100
Aug. 14	27	St. John, N.B.	Schr., wood, sail.	3188	San Francisco to Nanaimo.	Entrance to Departure Bay, Gulf of Georgia, B.C.	Partial loss.	
July 28	2	London.	Schr., steel, steamer.	509	Quebec to Rio de Janeiro.	Vessel took fire at sea.	Total loss,	20,000
July 28	3	Parrsboro', N.S.	Eqtime, wood, sail.	99	Harbourville, N.S., to Boston, U.S.	Port Lorne, Bay of Fundy.	Partial loss, Cargo,	100 50
Aug. 30	29	Windsor, N.S.	Schr., wood, sail.	614	San Francisco to Port Gamble.	Bonilla Point, R.C.	Total loss,	45,000
Oct. 24	8	American.	do	16	Round Hill, N.S., to Moncton, N.B.	Cropley Ledge, Annapolis Co., N.S.	Total loss, Cargo,	400 300
Nov. -	15	St. John, N.B.	do	396	New York to Hillsboro', N.B.	Off Isle au Haute, N.S., 20 miles from Cape Flat-tery, Pacific Ocean.	Partial loss, Cargo,	1,200
Nov. 8	13	Parrsboro', N.S.	do	1134	Vancouver to England.	.....	do	460
Dec. 16		Christiana, Norway.	Barque, wood, sail.		Lunenburg to Aricebo, P.R.	Aricebo, Porto Rico.	Total,	1,500
Oct. 12		Prince Victor.	do					
Dec. 8		Pembina.	Schr., wood, sail.					

STATEMENT of Wrecks and Casualties reported as having occurred to British, Canadian and Foreign Sea-going Vessels in Canadian Waters, &c.—Continued.

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigged. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place where Casualty happened.	Nature and cause of Casualty.	Lives lost.	Remarks.
1896.		Yr								
Nov. 21 1897.	Prudent	8	St. John, N.B.	Schr., wood, sail.	124	New York to St. John, N.B.	Courtney Bay, St. John, N.B.	Vessel caught in a snow and wind storm.		Partial loss, \$ 200
May 26 1896.	Polar Star		Liverpool, N.S.	do	75	Halifax to North Sydney, Halifax.	St. Peters Canal, N.S.	Foundered		Total loss.
June 20	Reaburn	3	Richibucto, N.B.	do	74	Chatham to New York	Handherchief Shoal, Vineyard Sound, U.S.A.			Partial loss, 300 Cargo, 125
Dec. 23 1897.	R. C. Borden	2	Parrsboro', N.S.	do	385	Windsor to New York	Coast of Maine	Stranded		Partial loss, 1,000
Jan. 26	Ravola	4	Windsor, N.S.	do	130	St. John, N.B., to Pensacola, Porto Rico.	Florida Reef	Heavy weather.		Partial loss.
Dec. 8	Renfrew	36	Halifax, N.S.	Schr., wood, sail.	42	Halifax, Mahone, Orwell, P.E.I.	East side of entrance to Mahone Harbour.	Stranded		Partial loss, 150
July 7	Rex	14	St. John, N.B.	Schr., wood, sail.		Quasco, St. John, N.B.	Near Beaver Light, St. John.	Collision		do 160
Oct. 7	Susannah R.	14	Parrsboro, N.S.	Schr., wood, sail.	43	Wolfville, N.S., Parrsboro.	Wolfville River, N.S.	Stranded		do 100
May 23	Strachmuir	11	Maidland, N.S.	Barque, wood, sail.	1178	Hull, New York.	North Atlantic	Gale		do 200
Sept. 23	San Jose	45	Victoria, B.C.	Schr., wood, sail.	31	Victoria, B. C., H. N. Unalaska, Vit., B.C.	Akun Cove, Island, Alaska.	Stranded		Total loss, 4,000
Nov. 5	Storm King	11	Chatham, N.B.	Schr., wood, steam.	73	St. John Harbour.	St. John Harbour	Collision		Partial loss, 125
Oct. 13	Salina	10	Quebec	Barque, wood, sail.	926	Philadelphia to Greenland.	Arctic Ocean	Vessel struck by cyclone.		do 500

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Oct. 11	Sower	13	Parrsboro, N.S.	Schr., sail	wood,	124	St. John, N.B., Armer- icean port.	Vineyard Haven, Amer- icean coast.	Stranded.....	Partial loss,	2,500
Sept. 17	Swallow	7	Arichat, N.S.	do	do	.....	Cheticamp, coast trad- ing.	Stranded at Pleasant Bay, N.S.	do	Total loss, Cargo.	1,500 900
.....	Spinster	4	.....	Schr., steam.	wood,	15	Victoria, E.C., to Sooke, B.C.	Sooke, B.C.	do	Total loss,	2,500
May 8	Samoa	8	Lupenburg, N.S.	Schr., sail.	wood,	.....	Halifax, N.S., to North Bay.	On shoal at Eastern pas- sage, White Head Harbour, N.S.	do	Partial loss,	250
1897.	Sierra	7	Parrsboro, N.S.	Schr., sail.	wood,	124	.....	Off Rover Shoal, N.Y.	Foundered.	do	3,000
Mar. 27	Barphire	12	(British)	Schr., sail.	wood,	109	Sealing.....	North Pacific Ocean...	Fire.....	Total loss,	10,000
May 9	Shanadoah	5	Annapolis, N.S.	do	do	198-07	Ponce to New York...	East of Sand Pt., Long Island, U.S.A.	Collision.....	Partial loss,	500
Mar. 2	St. Julien	17	St. John, N.B.	Barque, wood, sail.	wood,	1049	Buenos Ayres to France.	Dunkirk Roads, France	Casualty caused by heavy gales.	do	2,000
May 27	Three Sisters	23	Boston, U.S.	Schr., sail.	wood	287	Coming thro' falls St. John Harbour, N.B.	Split Rock	Struck Split Rock	Partial loss,	500
1896.	Ulrica	4	Parrsboro, N.S.	Schr., sail.	wood,	298	Hillsboro to Hoboken..	Boston Bay.....	Vessel struck by a snow- storm.	Total loss,	1,700
Dec. 16	Vancouver	12	Liverpool	4 masted, iron, steam.	iron,	3,400	Liverpool to Quebec...	River St. Lawrence....	Collision.....	Partial loss.	.....
Sept. 2	Varuna	15	Liverpool, N.S.	Egtn., sail.	wood,	195-12	New York, Hayti, New York.	Crooked Island passage Bahamas.	Stranded	Total loss,	5,000
1897.	Victoria	4	Victoria, B.C.	Schr., sail.	wood,	40	Victoria, B.C. (sealing)	Brown's Point, Van- couver Island, B.C.	Casualty caused by sud- den shift of wind.	do	3,000
Jan. 19	Vancouver	9	do	Sloop, steam.	wood,	49-96	Victoria to Conox....	B.C.	Imperfect knowledge of channel by master.	Outfit, Partial loss,	2,500 1,400
Feb. 23	Victoria	12	St. Johns, Nfld.	Schr., sail.	wood,	64	Fortune Bay, Nfld., to St. John, P.E.I.	Port Mulgrave, N.B.	Sprung a leak	do	150
July 7	Vera	7	St. John, N.B.	do	do	99	St. John to Bristol, R. I.	Narraganset Bay, U.S.	Collision, (fog)	Total loss,	3,000
Aug. 2	William Geake	20	.....	Barque, wood, sail.	wood,	277	London to Barbadoes and Montreal	Bull Head, Magdalen Islands.	Stranded	do	.....
Aug. 4	Warner Moore	13	Richmond, U.S.	Schr., sail.	wood,	481	Hillsboro', N.B., to Alexandria, Va.	Split Rock, near Mus- quash, St. John Co, NB	do	do	500
Aug. 31	Minnie Pierce	.....	St. John's, Nfld.	do	do	69	North Sydney to Bridgeport, Conn.	Entrance to Arichat Harbour, N.S.	Struck on a rock	do	150
Sept. 1	Willapa	.....	.....	Schr., steam.	wood,	833-90	Seattle to Nanaimo...	Governor Rock, B. C.	Stranded (fog)	Cargo, Partial loss,	100 300
Oct. 10	Wellman Hall	4	Parrsboro, N.S.	Schr., sail.	wood,	136	Sydney, N.S., to Chat- ham, N.B.	Madam Island Ledge, C.B.	do	do	250

STATEMENT of Wrecks and Casualties report as having occurred to British, Canadian and Foreign Sea-going Vessels in Canadian Waters, &c.—Continued.

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigged. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. Port bound to.	Place Where Casualty happened.	Nature and cause of Casualty.	Lives lost.	Remarks.
1897.										
Sept. 7	Walleda	4	Parrboro', N.S.	Schr., wood, sail.	249	Jeremic to Hayti and Boston.	Mid-ocean	Vessel caught in hurricane.		Partial loss, 1,000
Oct. 23	William C. Allan	13	Yarmouth, N.S.	do	12	Meteghan to Cape St. Mary's.	Big Cove, N.S.	Digby, Foundered		Total loss, 450
Nov. 15	Wandrian	13	Parrboro', N.S.	do	310	Shules, N.S., to New York.	Vineyard Haven, Amr. coast.	Vessel mistaycd.		Partial loss, 147
do 18	Waterside		St. John, N.B.	do	161	Louieburg, C.E., to Halifax, N.S.	to Grass Island Point.	Stranded		Partial.
Mar. 2	W. E. Vroom	7	do	Wood, steam.	7	Lying at Dunn's wharf, Grand Bay, King's. Co., N.B.	Dunn's wharf, Grand Bay.	Fire		Partial loss.
1896.										
Dec. 30	Warwick	14	Glasgow	Schr., steel, steaum.	1504	Glasgow to St. John, N.B.	Off Grand Manan, N.B.	Stranded		Total loss, 55,000
1897.										
Jan. 12	W. H. Smith	6	British	Schr., wood, sail.	43	Liverpool to St. Pierre	Coast of Nova Scotia.	do		do 2,000
do 9	Waterside	7	St. John, N.B.	do	161	Port Medway to Barbadoes.	Atlantic	Casualty caused by a hurricane.		Total, 6,000
Feb. 19	Westmorland	4	Dorchester, N.B.	Barque, wood, sail.	697	St. John to Cork	North Atlantic	Heavy sea caused casualty		Cargo, 1,686
Mar. 19	Willapa	12	Port Townsend, U.S.A.	Schr., wood, sail.	250	Seattle to Nanaimo and Mary Island.	Coast of British Columbia.	Stranded		Total loss, 30,000
May 31	Walter H. Rasin.	7	Philadelphia, U.S.A.	do	9	Boston, U. S. A., to Hillsboro', N. B.	Griffin's Head, N. B.	do		do 15,000
do 20	Wood Brothers	3	Parrboro', N.S.	do	68	River Hebert to Parrboro' N.S.	Bank of River Hebert.	do		Partial loss, 150
1896.										
May 23	Willie D.	9	Parrboro', N.S.	Schr., wood, sail.	65	Parrboro', N.S., to St. John, N.B.	Off Cape Spencer, St. John, N.B.	Vessel struck by a squall		do 800

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June 29 Wallula.....	American....	Wood, steam..	1924	Off Bar Point, Canada	Thick weather cause of	do	2,500
.....	Y a r m o u t h,	Ship, steel, sail	1631	San Francisco to Grims-	.....	casualty.	do	
.....	N.S.	by.				Vessel caught in heavy		
1896.						gale of wind.		
Nov. 7 Zina M. ....	.....	Schr., wood,	70	St. John to Parrsboro'	Parrsboro' River, N.S.	Collision.....	do	200
do 23 Zina M. ....	.....	sail.	70	Parrsboro' to St. John	Off Cape Chignecto,	Damaged in a gale	do	100
		do			Bay Fundy.			

STATEMENT of wrecks and casualties reported as having occurred to Canadian Inland Vessels and to other Vessels in the Inland waters of Canada, during the twelve months ended 30th June, 1897.

Date of Casualty.	Name of Ship.	Age of Ship.	Port of Registry.	How Rigged. Iron or Wood. Steam or Sail.	Register Tonnage.	Port sailed from. — Port bound to.	Place where Casualty happened.	Nature and cause of Casualty.	Lives lost.	Remarks.
Nov. 5	Aeolia	29	Hamilton, Ont.	Cutter, iron & wood, steam	509	Fort William to Mont- real. Laid up at wharf, Col- lingwood, Ont.	Lake Superior	Stranded	Total loss, 22,500	
Sept. 5 1897.	Baltic	29	Collingwood, Ont.	Steamer	.....	.....	.....	Fire	do	
April 27	Bannockburn	1	Montreal, Que.	Schr., steel, steam.	15	Toledo to Kingston	Foot of Lake Ontario.	Stranded	Partial loss, 500	
.....	James Clarke	13	Goderich, Ont.	Screw, wood, steam.	.....	Collingwood to Mani- toulin Island.	Lake Huron	Burnt	Cargo, 1,350 Total loss, 5,500	
.....	Kakabeka	18	Winnipeg, Man.	Wood, steam.	75	Port Arthur to Silver Islet, Lake Superior.	Lake Superior	Vessel broke from moor- ings.	do	6,000
.....	L. Shickhuna	.....	Toronto, Ont.	Wood, steam.	303	Toronto to Cleveland	5 miles east Long Point, Ont.	Collision	do	10,000
.....	Meganettawan	20	Collingwood, Ont.	do	127	Collingwood	Algoma District	Stranded	do	8,000
1896.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aug. 12 1897.	Reliance	.....	Montreal	Steamer	60	South Nation, Que., to Lachine, Que.	.....	Fire	.....	Partial loss.
April 26	Sequin	7	Owen Sound, Ont.	do	.....	Parry Sound	Niagara River	Collision	.....	.....