

vated 123 feet above high water, and can be seen more than 18 miles. A powerful steam fog whistle has also been erected here which may be heard from 3 to 15 or 20 miles, according to the state of the atmosphere and wind. Arrangements have been made to keep a horse at each of these stations, as well as at the Humane Station on the Island, and one or more cows placed at each station. Another steam fog whistle has been erected on Briar Island, near the entrance to the Bay of Fundy, and was put in operation on 1st March, 1873. Two minor lighthouses are being built at Bras D'Or Lake, Cape Breton; one recently erected at Creighton's Head, Cape Breton Co., was blown over in the gale of 24th August, 1873, but arrangements were made to have it rebuilt in time for the navigation of 1874. A beacon lighthouse has been erected in Yarmouth Harbour, and a new iron lightship was placed near the entrance of Halifax Harbour with a steam fog whistle, but it was found the vessel was too small for that exposed position, and she has been taken for Red Island Reef, at the mouth of the Saguenay. Considerable damage was done to the lighthouses and other property of the Department in Nova Scotia by this gale, and the loss to shipping was very great. The southern entrance to the Gulf of St. Lawrence has been much improved by the erection of a steam fog whistle at St. Paul's Island; only one wreck having been reported to the Department as having occurred on this Island up to the close of navigation in 1873. There were only three wrecks on the Sable Island, and no loss of life. Reports have reached the Department from various quarters of the great value of the lights on this Island. A practical farmer has been placed in charge of the Island, and it is hoped that provisions to feed the establishment may after a little be raised on the Island. The staff on the Island is now 20 persons. At the instance of the Department a powerful steam fog whistle was placed at Cape Race, Newfoundland, by the Imperial Government. An additional lighthouse and fog whistle are still required at Cape Bold for vessels entering the Gulf by the Straits of Belleisle, and some minor lights between Cape Rosier and Matane, on the south shore of the St. Lawrence.

The total cost of maintenance of the Nova Scotia lighthouses, during the fiscal year, was, \$100,953.83; and of construct on, \$90,181.79; total, \$191,135.59. The number of persons employed was 113.

Prince Edward Island Lights.—Since the 1st July, 1873, the date of the admission of this Island into the Confederation, the cost of the lighthouse service has been defrayed by the Dominion Government. There were in the Island 9 lighthouses, and 8 minor or harbour lights. Steps have been taken to carry out such repairs and improvements as may be required, in order to bring the lights up to the standard of the other Dominion lights.

British Columbia Lights.—There were at the date of the last report only 2 lighthouses in operation in B. Columbia; one at Race Rocks and one at the entrance of Esquimault Harbour. There was also a lightship stationed in the Straits of Georgia, at the entrance of the Fraser. A new lighthouse at Cape Beald, near Barclay Sound, facing the North Pacific, was expected to be put in operation on 1st July, 1874. Another is being built at Point Atkinson, near

the entrance of Burrard Inlet. Nine persons are employed in the service. Thirty-nine buoys are maintained in the District, 15 of them, of iron, weighing nearly a ton, for the sand bars of the Fraser river. The total cost for the fiscal year was \$18,207.09.

Oil for Lighthouses.—The oil required for the use of the lighthouses was purchased from Messrs. F. A. Fitzgerald & Co., of the Union Petroleum Co., Ont. The quantity was 28,407 gallons for Nova Scotia, 5,282 S. Shore New Brunswick, 22,435 for lighthouses below Quebec, Gulf of St. Lawrence, Straits of Belleisle and North Shore New Brunswick, 25,297 for Montreal and lighthouses above. Total 81,421 gallons. A supply of sperm oil was sent out from England for the lights in British Columbia, they not being arranged for refined Petroleum; but it is recommended that this shall be used in all future lights as being more economical and giving a better light than any other oil, 75,000 gallons will probably be the requirements for 1874.

Dominion Steamers.—There are 7 steamers under the control of the Department. The Napoleon and Druid are generally stationed at Quebec for service in the River and Gulf. In 1873, the Napoleon made 2 trips to the Straits of Belleisle, besides several trips down the River and Gulf and along the North Shore of New Brunswick. She carried oil, gunpowder, fuel and other supplies for the lighthouses. The Druid supplied lighthouses on the river and attended to the buoys. The Lady Head has been employed in attending on Sable Island and supplying the Lower Province lighthouses, the Sir James Douglas, in British Columbia, principally on the east coast of Vancouver's Island carrying mails, passengers, &c. Her expenditure was, during the fiscal year, \$15,981.72, and the receipts from her, including Post Office subsidy, \$15,218.07. For the other three steamers the expenditure was \$76,757.62. The Richelieu, formerly employed by the Trinity House, Montreal, has been thoroughly repaired and loaned to the Harbour Commissioners, Montreal. The cost for maintenance and repairs was \$8,059.47. Two small screw steamers are stationed at Quebec for the service of the River Police.

METEOROLOGICAL OBSERVATIONS.

This branch has only been in operation in Canada as a Government service for 2 or 3 years. For the last fiscal year \$37,000 was voted for the expenditure of the Branch. There are 12 stations which report by telegraph 3 times a day to Toronto. The information is examined and despatched to Washington, and in return daily reports of the state of the weather are given, and notice of anticipated storms sent to the Director at Toronto. It is expected that this officer will hereafter be able to make up his own reports without waiting to hear from Washington. Probably the Headquarters of the Branch may have to be removed to Ottawa, to be under the immediate supervision of the Department. As the desired results with reference to the notices of storms have not yet been satisfactorily obtained, arrangements have been made for displaying storm signals at 33 stations in the Dominion. Dr. Smallwood, of Montreal, whose services as a meteorologist have been for many years so valuable to the country, died in September, 1873. It has been arranged that Mr. C. H. McLeod,