Navigable waters have been improved greatly by dredging in channels and harbours, by the removal of obstructions, and by the building of remedial works to maintain or control water levels. Incidental to these developments of navigable waters are works to guard shorelines and prevent erosion, and for the control of roads and bridges that cross navigable channels. Ice-breaking operations are carried on at the beginning and at the end of winter to prolong the season of navigation in important waters that freeze over—particularly in connection with sea-going shipping from Montreal—and to prevent flood conditions during the spring ice break-up.

St. Lawrence River Ship Channel.—This channel extends from about 40 miles below Quebec City to the foot of Lachine Canal at Montreal, a distance of 200 miles. About 113 miles of this distance is dredged channel.

Above Quebec the channel has a limiting depth of 35 feet at extreme low water and a minimum width of 550 feet, with additional width up to 1,500 feet at all curves and difficult points, and additional anchorage and turning areas. This section comprises about 100 miles of dredged channel. Below Quebec the limiting depth of dredged channel, about 13 miles in length, is 30 feet at low tide, with a width of 1,000 feet. An average tidal range of 15 feet in this area provides ample depth for any vessel using the St. Lawrence route. Above Quebec maintenance requirements as a result of silting in this dredged channel are relatively minor but below the city silting is more pronounced because of tidal action.

The ship channel is well defined by buoys and the centre marked by range lights, permitting uninterrupted day and night navigation throughout the open season from about mid-April to early December. The movements of all shipping, weather and ice conditions and obstructions to traffic throughout the St. Lawrence waterway from Fame Point, Que., to Kingston, Ont., are recorded and made available to all concerned through a series of reporting stations known as the Marine Reporting Service.

A fleet of ice-breaking vessels is maintained to facilitate the movement of shipping between Montreal and the sea during the opening and closing of navigation, and to alleviate flood conditions in low-lying areas.

18.—Seasons of Open Navigation on the St. Lawrence Ship Channel, 1939-58

NOTE.—Figures from 1882 are given in the corresponding table of previous Year Books beginning with the 1934-35 edition.

Year	Channel Open, Quebec to Montreal[1]	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour	Year	Channel Open, Quebec to Montreal[1]	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour
1939	Apr. 29	Apr. 29	Dec. 12	1949	Apr. 7	Apr. 7	Dec. 15
1940	" 23	" 24	" 5	1950	" 18	" 18	" 7
1941	" 14	" 19	" 17	1951	" 11	" 13	" 13
1942	" 17	May 2	" 16	1952	" 12	" 13	" 10
1943	" 29	" 24	" 13	1953	Mar. 30	" 2	" 21
1944	" 20	Apr. 21	" 9	1954	Apr. 15	Mar. 30	" 15
1945	" 1	" 9	" 3	1955	" 17	Apr. 5	" 15
1946	" 1	" 12	" 18	1956	" 13	" 2	" 17
1947	" 16	" 19	" 5	1957	" 8	" 4	" 18
1948	" 10	" 19	" 10	1958	" 6	Mar. 30	" 23

[1] "Channel Open" means the route can be navigated although there may be floating ice in the river.

Steamship Inspection.—The Steamship Inspection Service, provided for under Part VII of the Canada Shipping Act, is responsible for the administration and carrying out of the provisions of the Act respecting the periodic inspection of power-driven ships and the issue of inspection certificates; the assignment of load lines; the conditions under which dangerous goods may be carried in ships; the protection against accident of workers employed in loading and unloading ships; the prevention from pollution of Canadian territorial and inland waters by oil from ships; and also for the administration and carrying out of the provisions relating to the certification and employment of marine engineers. The Service has a headquarters staff at Ottawa and staffs of inspectors at the principal ocean and inland ports.