

Future of the Seaway.—The basic limitations of the Seaway are to be found in a navigation season of about 230 days only (from the middle of April to the middle of December) imposed by climatic conditions, and in the dimensions of the locks and canals. The latter in time will have to be adjusted to the future technological requirements of shipping. The capacity of the Welland Canal is being improved by the construction of the tie-up walls which enable ships to move quickly into the locks and to have more ships in the canal at one time.

A teletype system, installed during the winter of 1959 and connecting all locks on both the St. Lawrence and Welland systems, makes it possible to report quickly on the situation of any ship, e.g., a delay due to trouble, and to give information to port authorities as to probable arrival of ships so that berthing space may be allocated in advance for quicker loading and unloading. Moreover, with a tendency for larger vessels to use the Seaway, tonnage will increase more rapidly than the actual number of ships.

It appears now to be physically possible to keep the Seaway and its ports open throughout the year, although the maintenance of ice-free locks is as yet uneconomical. However, the more successful the Seaway becomes in terms of increased traffic and lowered transportation costs, the greater will be the incentive to lengthen the navigation season. It is expected that, with increased movement of iron ore, grain, coal, etc., about 50,000,000 tons of cargo will pass annually through the St. Lawrence Seaway within a decade. This build-up in traffic will, of course, be gradual and will result from the growth of the general economy of the mid-Continent and of Canadian foreign trade. But it can be claimed that the St. Lawrence Seaway is already performing the role for which it was designed—to be a low-cost waterway leading into the heart of the Continent, for Canada, the United States and other countries.

Subsection 5.—Marine Services of the Federal Government

The services covered in this Subsection deal with aids to navigation, including the maintenance of the St. Lawrence River Ship Channel, steamship inspection, pilotage service, sea-faring personnel and the operations of the Canadian National (West Indies) Steamships Limited.

Aids to Navigation.—Included under aids to navigation are the lighthouses and the whole system of marine danger signals on the East and West Coasts of Canada, on Hudson Bay and Strait, the St. Lawrence River and Gulf, the Mackenzie River and Arctic passages, the inland rivers and lakes, and at the entrances to harbours—a very extensive system designed to provide safe navigation in all Canadian waters. In addition, a pilotage service is maintained in waters where navigation is difficult; this service is described at p. 862. A further aid to safe navigation is found in the chains of radio signal and direction-finding stations described under Marine Navigation in Chapter XIX, pp. 897-898. Lists of aids to navigation, with the exception of very minor ones, are published by the Department of Transport.

15.—Marine Danger Signals Maintained in Canada, Years Ended Mar. 31, 1958 and 1959

NOTE.—In addition to the aids to navigation listed, approximately 10,400 unlighted buoys, balises, dolphins and beacons are maintained. Lists of marine danger signals maintained from 1929 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Type of Signal	1958	1959	Type of Signal	1958	1959
	No.	No.		No.	No.
Lights.....	3,162	3,022	Hand fog horns and bells.....	137	105
Lightships.....	4	4	Lighted and combination lighted whistling and bell buoys.....	932	1,119
Light-keepers.....	924	980	Whistling buoys.....	31	30
Fog whistles and sirens.....	25	32	Bell buoys.....	112	110
Diaphones and tyfons.....	247	267	Fog guns and bombs.....	6	4
Mechanical bells and gongs.....	49	20			