

Subsection 4.—Aids to Navigation

Included under this heading 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 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 under marine services at p. 792. As a further aid to safe navigation, there are chains of radio signal and direction-finding stations which are described under radiotelegraphy at pp. 839-840. 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, 1946-52

NOTE.—In addition to the aids to navigation listed, approximately 9,006 unlighted buoys, balises, dolphins and beacons are maintained. A table showing marine danger-signals maintained during the years ended Mar. 31, 1929-40, is given in the 1941 Year Book, p. 581. Figures for 1942 will be found in the 1948-49 edition, p. 716, and for 1943-45 in the 1950 edition, p. 766.

Type of Signal	1946	1947	1948	1949	1950	1951	1952
	No.	No.	No.	No.	No.	No.	No.
Lights.....	2,107	2,320	2,469	2,491	2,778	2,841	2,861
Lightships.....	6	8	8	8	8	8	8
Light-keepers.....	1,132	1,122	1,120	1,094	1,416	1,353	1,131
Fog whistles.....	13	8	9	11	18	22	23
Sirens.....	3	2	2	2	3	3	3
Diaphones.....	170	169	169	176	207	212	213
Fog bells.....	49	39	37	38	43	44	46
Hand fog horns.....	149	135	137	137	134	133	127
Hand fog bells.....	4	9	10	10	10	10	12
Gas and combination gas, whistling and bell buoys...	435	541	552	585	618	655	681
Whistling buoys.....	41	40	39	39	38	38	37
Bell buoys.....	123 ¹	118	112	113	109	110	113
Fog guns and bombs.....	13	12	12	11	11	10	9
Fog alarm stations only.....	13	10	10	11	15	15	15

¹ Includes one submarine bell.

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. The largest task of this nature has been the St. Lawrence River Ship Channel. An extensive floating plant is in service to maintain and improve the deep-water channel from Montreal, Que., to the sea for ocean-going shipping. 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.