presence of icebergs to passing ships by radio. Canada has her own problem in this connection—that of combating ice which accumulates in the lower gulf of St. Lawrence prior to the opening of navigation to Quebec and Montreal each spring. For this purpose a patrol service is maintained in the Gulf during the ice period each year by the ice-breakers *Mikula* and *Montcalm*. These vessels cruise in the vicinity of Cabot straits, observing ice conditions and broadcasting to ships a synopsis of location and drift of the ice, and recommending routes to follow. When it is impossible for ships to circumvent the ice fields by devious routes, the ice-breakers are prepared to open up lanes through the ice.

On the west coast of Vancouver island co-ordination of the different services of the Department of Marine was undertaken a few years ago, and as a result line telephone, land patrol, sea patrol and the lifeboat service were all linked together by radio to provide an efficient life-saving organization. In addition to the direction-finding station already established, three radiophone stations were installed at lighthouses and at a life-saving station, thus providing a network of communication assuring instant assistance in case of disaster.

Due provision has been made for the safe navigation of the large volume of shipping which may shortly find its way through the Hudson strait and bay. The Department has completed the establishment of four direction-finding stations in that area, enabling radio-equipped vessels to navigate the strait and bay in all kinds of weather. Further observations covering navigation conditions in the Hudson bay and strait during the 1929 season of navigation were made and have been compiled in book form.[1] Copies may be procured upon request from the Department of Marine.

For the benefit of navigators, to whom time within a fraction of a second is necessary if reasonable accuracy is to be attained in computing observations on celestial bodies, three Canadian stations, two on the west coast and one on the east coast, transmit time signals twice daily at advertised hours.

Numerous fishermen have fitted their vessels with receiving sets and for their benefit the Department has inaugurated a special broadcasting service embodying such information as weather forecasts, storm warnings, market prices of fish, etc. Three stations are used for this purpose, Louisburg (VAS), Sambro Lightship (VCX) and Saint John, N.B. (CFBO), augmented by a broadcasting service undertaken by the fishery patrol steamer *Arras*, which accompanies the fishing fleet to the Grand Banks during the summer season.

A transoceanic commercial radio beam service is carried on by the Drummondville, Quebec, station, which maintains communication with Great Britain, Australia and the United States.

To ensure the safety of the lives of the passengers and crew, all passenger steamers and certain freighters plying to and from Canadian ports must carry radio equipment manned by competent operators in possession of a certificate of proficiency in radiotelegraphy. The Department maintains a complete radio inspection service to enforce this regulation, and members of the inspection staff located at various ports through the Dominion are responsible for checking the efficiency of radio equipment on ships and for seeing that only competent operators are carried. Examinations for certificates of proficiency in radiotelegraphy are conducted by the Radio Branch and approximately 2,546 such certificates have been granted to date. Table 69 shows the name and situation of the Government-owned radiotelegraph stations in Canada and Newfoundland. In former editions of the Year Book licensed private commercial stations were also