

It is gratifying to note that only two lives were lost arising out of marine casualties, and, as it happened, even these would not have been lost had the crew stuck to the ship instead of taking to the lifeboat. It is not suggested that the master of the vessel committed an error of judgment in the circumstances prevailing when he ordered the crew into the boats to effect a landing.

NOTICES TO MARINERS.

During the year eighty-one notices to mariners were issued and circulated throughout the Dominion for the benefit of shipping. These notices mainly relate to changes in the various descriptions of aids to navigation at our harbours and on our coasts, to changes in other parts of the world frequented by our ships, and to information of derelicts, wreckage, &c., shoals, rocks, or any information which is thought to be of value to shipping.

Some navigational information of a more urgent nature requires to be more promptly circulated among shipping than would be the case if such were dealt with by the usual method of issuing a notice to mariners, and in such cases an urgent navigational warning is broadcasted by wireless. This has been done on occasions when such was deemed necessary.

The issue of notices to mariners is an almost international practice, and by reciprocity provides most countries with worldwide information concerning dangers and navigational aids to shipping. This Dominion suitably reciprocates, and achieves beneficial results.

RADIO DIRECTION-FINDING FOR NAVIGATIONAL PURPOSES.

Information from older countries shows the earlier application of wireless navigational direction-finding—that of placing an expensive direction-giving instrument on shore—has not developed extensively, but in its place a less expensive system of placing radio beacons on shore has found more favour. This latter system would appear to have come to stay, although it may vary in form by some additional appurtenance of a non-radio character of such a nature as to provide a combination of sound-waves and radio-waves having simultaneous origin, the combination of these two waves providing at once both direction and distance, thereby enabling a precise position to be obtained; whereas a single radio beacon in its present form can provide direction only, which alone is of great value in foggy weather, as its practical range is enormously greater than that of other known fog-signals. The value to navigation of radio beacons is now so widely acknowledged, and in the more frequented oceans of the world so many ships are equipped with the necessary complementary instrument—that is, a radio direction-finder—that this system has become very efficient and is much in use.

With the desire to keep abreast of the times in wireless development as affecting aids to navigation, and in particular for the purpose of providing an efficient fog-signal to be of use to ships equipped with a radio direction-finder when in the vicinity of Three Kings Islands, the question of providing an efficient navigational aid so as to assist ships to navigate past Three Kings Islands in foggy weather has concerned this Department in the past, and until the development of the radio fog-beacon had reached its present state of efficiency there did not exist any system of fog-signal entirely suitable for use in this locality. As the result of this Department's tests with experimental radio beacons, at Three Kings Islands, at Cape Maria van Diemen, and in Auckland Harbour, it was decided to install a radio fog-beacon at Cape Maria van Diemen, and arrangements were made for this to be carried out in 1925. However, some difficulty was encountered in procuring an automatic signal-interrupter of a suitably robust type. Eventually this difficulty was overcome by obtaining from the Canadian Government Lighthouses Department an automatic interrupter of approved type which has been in use by that Department for some time at its radio fog-beacons.

The complete equipment is now in course of erection at Cape Maria van Diemen. On completion of the installation some tests for accuracy and radius will require to be made, and when these have been carried out this radio fog-beacon will commence to function regularly, and may then be made use of for navigation purposes by ships which have on board the necessary complementary instrument for obtaining direction.

There are not yet many of our ships fitted with a radio direction-finder, although several visiting ships are so equipped; and it is hoped that when this radio beacon has been established those ships which are fitted will make use of it, and that other ships will become fitted. The radio beacon will be operated by lighthouse-keepers who are qualified for that purpose.

This installation will make the third wireless installation at lighthouses under the control of this Department. However, in each other case (Puysegur Point and Stephen Island) the wireless has been installed for communication purposes only, and has taken the place of the more expensively maintained and less efficient telephone. But it will be possible for those installations to be adapted so as to function as radio beacons also if later such is found desirable.

It is proposed to ask for an appropriation to enable radio direction-finding stations to be established at Wellington and Lyttelton.

EXAMINATION OF MASTERS AND MATES.

During the year the examinations for certificate of competency as master or mate in the mercantile marine have been carried out at the ports of Auckland, Lyttelton, and Wellington quarterly, in such a manner that an examination is held monthly at either of these ports alternating in scheduled rotation. 52 per cent. of the examinations were performed at Wellington, 28½ per cent. at Auckland, and 19½ per cent. at Lyttelton.

During the year 133 examinations of candidates were held, an increase of twenty-eight above the number of examinations held during the previous year. Of the total, eighty-one examinations were for certificates for foreign-going ships, fifty-one for certificates in the home or coastal trade and restricted limits, and one for the voluntary examination in compass-deviation.