

by-laws under these Acts have been prepared, but, owing to pressure of work in connection with the forthcoming session of Parliament, they have not yet been issued.

Steam Navigation.—Passenger certificates have been issued to 128 steamers, of 12,672 tons and 4,866 horse-power, being in the aggregate 19 steamers, of 2,508 tons and 929 horse-power, more than were surveyed last year. Regulations for the guidance of inspectors and surveyors and engineer-surveyors have been prepared, but, owing to press of work, as stated above, have not yet been issued. It is a matter for congratulation that there have been no serious accidents to the boilers or machinery of any vessel holding a passenger certificate.

Harbours.—Various repairs, &c., have been carried out in connection with the harbours. The buoys at Manukau have been all lifted and cleaned. In connection with the visit of Sir John Coode, plans, &c., necessary for him to frame his reports have been sent in respect of the following places:—New Plymouth, 26th July, 1878; Milford Lagoon, 18th November, 1878; Patea, 18th November, 1878; New River, 17th December, 1878; Thames, 17th December, 1878; Hokitika, 14th January, 1879; Bluff, 11th March, 1879; Tauranga, 8th April, 1879; Napier, 3rd May, 1879; Greymouth, 30th June, 1879. The necessary data for Wairoa, and Gisborne, Poverty Bay, are being procured by the Department. Sir John's report on New Plymouth Harbour has been received, and forwarded to the Harbour Board at that place.

Naval Training School.—The report of the manager is forwarded herewith. The remarks made by me last year relative to the criminal element in the school still hold good. I should be glad to see Kohimarama weeded of all boys tainted with crime. A good many desertions took place during the year; but recently, since the boys have been more freely apprenticed to shore trades, the number has greatly decreased. A contract has been let for building a small schooner for an exercising vessel, and it is expected that she will be ready for use in three or four months' time.

Weather Reporting.—I forward herewith a report by Captain Edwin, of the Weather Reporting Office. The system of warnings is still found very useful to seamen, and Captain Edwin's report gives a great deal of valuable information.

Wrecks and Casualties.—During the year, 82 casualties were reported to this office, 78 of which occurred on or near the coasts of the colony. Of these, 32, affecting vessels of an aggregate of 5,634 tons, were cases of total wreck; while 46, affecting vessels of 6,504 tons in all, were of partial loss only. The number of lives lost on or near the coasts of the colony was 25—viz., 7 from the "Kaiuma" (lost with all hands), 4 from the "Felixstowe," 2 each from the "Geelong" and "Merlin," and 1 each from the "Jane," "Star of the Sea," "Margaret," "Saucy Kate," "Forest Queen," "Mary Bannatyne," "Patea," "Glenelg," "Herald," and "Wakatipu." Eight casualties were reported as having occurred beyond the colony, consisting of 2 total wrecks, with an aggregate tonnage of 94, 2 partial losses (tonnage 1,250), and 4 cases of loss of life only—viz., 1 each from the "Lebu," "Bella Mary," "Wave Queen," and "Dochra."

Returns.—The usual returns, showing expenditure, wrecks, casualties, &c., are appended hereto, as is also the usual wreck chart.

I have, &c.,

R. JOHNSON,

Secretary.

The Hon. the Minister having Charge of the Marine Department.

Enclosure 1.

Captain EDWIN to the Hon. the MINISTER for MARINE DEPARTMENT.

SIR,—

Wellington, 18th August, 1879.

I have the honor to submit the fifth yearly report of the Experimental System of Storm Warnings for your perusal, and respectfully desire to draw your attention to the Return No. 1, which gives the percentage value of the warnings issued to each station during the year; and as this is the first occasion upon which it has been possible to show results for a consecutive period of twelve months, this return may be considered as giving more definite information than those previously published. Complete returns for the whole year have not been received from three stations, which are therefore not included in this table; but their values of correct forecast per cent. for the broken periods are as follows:—Direction of wind—at Taupo, 97.43; Tauranga, 86.66; Bluff, 75.51. Force of wind—Taupo, 30.71; Tauranga, 66.67; Bluff, 36.36. Barometer movement—Taupo, 68.75; Tauranga, 83.33; Bluff, 76.31; and 50.00 of sea movement at Tauranga. The yearly mean for the whole colony is given at the foot of the table. The percentage for force of wind is, as usual, lower than any of the other values; but the results of forecast of barometer movement and wind direction are the best tests of the reliability of weather forecast, as few places are exposed to all winds, and it therefore follows that should gales prevail from those directions from which many of the stations are protected by the formation of the adjacent country, the force as given in the returns will naturally be lower than would otherwise be the case; but the movement of the barometer would not be affected by these conditions: thus showing that, although no bad weather may have been experienced at the station which received the warning, yet there is a great probability that other places in the vicinity have experienced it. Two instances of this are shown in the return—viz., Naseby and Nelson; both of these are very sheltered positions, and, although the value of force is low, the result of barometer forecast is quite in accordance with the results of other places less protected from wind. The force value at Naseby is exceptionally small. The sea forecast shows a good result, and the information afforded by it has proved useful at the bar stations and roadsteads; and I have been informed by Captain McLellan, the Harbour-master at Lyttelton, that warnings of approaching sea sent to him in June last were received in time to enable vessels to be prepared; yet all of them dragged, and one went ashore, a disaster which rarely happens in such a sheltered port. Sea-forecast result is also of value as evidence of there having been bad weather near the colony, though not felt as a gale; in such cases there is much sea on the coast, with moderate weather. This table also shows the proportion of gales which were experienced at the various places without any warning having been given. Of these Castlepoint shows the greatest number that have ever been registered at any place since the returns were first published; the mean is 1.25 per cent., but last year it was 0.40 per cent. for nine months.

Return No. 2 gives the results during a corresponding period of six months in three years, the longest period for which I am able to give any such information; and Return No. 3 gives a comparison