

1901.
NEW ZEALAND.

REPORT ON EXPERIMENTAL TRAWLING.

(BY L. F. AYSON, INSPECTOR OF FISHERIES.)

Presented to both Houses of the General Assembly by Command of His Excellency.

SIR,—

Wellington, 11th July, 1901.

I have the honour to present the following report on the experimental trawling operations undertaken on behalf of the Government round the coasts of the North Island during the months of February, March, April, and May of this year.

The object of the expedition was to continue the experimental survey of the coasts of the colony which was commenced last year, with the object of ascertaining what extent of trawling-grounds exist in certain localities off the coast of the North Island, and to acquire information on the distribution of our food-fishes, and assist the fishing industry by placing the information gained on record for the guidance of those interested.

The Council of the Otago Institute arranged that one of their members (Mr. A. Hamilton) should accompany the trawling expedition again this year, and Mr. Hamilton came on to Gisborne with that intention; but, unfortunately, business recalled him at once to Dunedin, and he was unable afterwards to get away.

Owing to the great extent of clean sand bottom which was trawled over throughout the cruise, the quantity of biological specimens I was able to collect was rather small. These have been sent on to Dunedin for identification, and a preliminary report on these specimens by Professor Benham is appended hereto.

Although Captain Nielsen never quite recovered from the effect of the illness he experienced at the commencement of the cruise, yet there was never any delay on that account, and he displayed his usual skill and energy in carrying out the work.

General Account of the Cruise.

The steam-trawler "Doto" (C. A. Nielsen, captain and trawling-master), which had been used for similar experiments last year, was chartered from the Nelson Fishing Company for a period of eight weeks, to be extended, at the option of the Minister, for a further period of one or two months. I inspected her at Nelson on the 23rd January, 1901, and saw that she had on board the nets and gear necessary for the purpose of the trip, as follows: Trawl-nets—one manila-twine net, 60 ft. head-line, 45 ft. spread, and 65 ft. length; two cotton nets, 70 ft. head-line, 60 ft. spread, and 85 ft. depth; one pair of spare otter boards; one purse Seine net; one bottom dredge; hooks and lines; a large quantity of twine and other material for repairing nets and gear.

Finding the vessel satisfactorily supplied in these and other respects, she was taken over for the cruise, and, having been employed for two days in making investigations with regard to the destruction of fish in Golden and Tasman Bays by the so-called sea-slime which made its appearance in great quantities during last spring and summer, and being further delayed owing to the illness of her master, Captain Nielsen, she left Nelson for Napier at midday on the 31st January.

She had a stormy passage from the French Pass to Napier, where she arrived at 6 p.m. on Sunday, the 3rd February. Captain Nielsen being too unwell to proceed further, another delay of two days was occasioned, but on the 7th February he had sufficiently recovered to proceed.

Accordingly the "Doto" sailed from Napier at 9.30 a.m. on that date for Mahia Peninsula. Bad weather compelled her to shelter under Long Point for thirty-six hours, and the net was not put down for the first haul until 11.20 a.m. on the 9th February, when it was dropped on good trawling-ground north of Table Cape, but with only very moderate results; and, as the weather continued to be unfavourable for the work, a thorough test of this part of the coast could not be attempted until the 11th. On that date several hauls were made, and, though the bottom from Table Cape to Tuahina Point is all that could be desired for trawling, the number of fish taken was not fully satisfying. It must be noted, however, that along that route crayfish were continually netted, which clearly indicates the proximity of rocky bottom, and the possibility of a reef—deeply submerged it may be—existing between those points, or seaward of them.

With the exception of Mahia Bay, the beach from the peninsula to Young Nick's Head is rocky, and close inshore the bottom is unfit for trawling. The water, too, deepens quickly, the 20-fathom line in several places being within two miles of the shore. A soft-sand-and-mud