

great deal of time is taken up in steaming between each haul of the net and to the different areas to be worked, and in taking soundings in order to ascertain the depth and character of the bottom before making each haul; and, again, it is only possible to make short hauls, so as to be able to get over the coast-line which has to be worked.

The total quantity of fish brought in by the "Nora Niven" during this three months' cruise was 46,750 lb.

The practical results and information obtained during this cruise will undoubtedly prove of great value to the fishing industry, while the very large areas of splendid trawling-bottom which were discovered off different parts of the coast and at the Chatham Islands; the extensive trawling-grounds discovered in the Bay of Plenty, teeming with schnapper, tarakihi, and other fish; and the very satisfactory results obtained in line fishing and trawling at the Chatham Islands, more than justify the expenditure on the expedition. The negative results obtained in certain localities have also considerable value, as they will prevent owners of fishing-vessels from spending time and money in trying grounds which have been proved during this cruise to be either unsafe or unprofitable.

There is no doubt but that the result of this cruise will have the effect of encouraging more capital and energy being put into the fishing industry. Already a new trawling and fishing company, with a capital of £20,000, is being floated in Dunedin, and two new trawlers of the most modern type have been ordered from England by two other firms. It is also understood that one of the largest firms connected with the fishing trade intend commencing operations on an extensive scale at the Chatham Islands.

I have the honour to submit this report to you in the following order:—

- (a.) A general account of, and remarks on, the result of the cruise.
- (b.) A summarised report on each section of the coast worked from Stewart Island to the Mercury Islands and Chathams.
- (c.) A detailed account of each day's work and haul of the trawl-net.
- (d.) Particulars of the locality, depth, and nature of the bottom, in respect of each haul of the trawl-net.
- (e.) Record of fish taken in the trawl-net.
- (f.) A list of the fish taken in the trawl-net, and stations where they were obtained.
- (g.) Record of fish taken with hook and line.
- (h.) Record of fish taken with set-nets.
- (i.) Table of distances steamed and trawled during the cruise.
- (j.) Weather and temperature observations made during the cruise.
- (k.) Particulars of soundings made apart from those taken at the trawling-stations.
- (l.) Charts marked MD. 3121, showing in red lines where trawl-net worked, and in red figures soundings in fathoms.

The Secretary, Marine Department, Wellington.

L. F. AYSON,
Chief Inspector of Fisheries.

SUMMARISED REPORT ON THE SECTION OF THE COAST FROM STEWART ISLAND TO OTAGO HEADS.

Trawling operations were commenced to the east of Stewart Island on the 10th June, and the grounds were tested out to over 100 fathoms. On an average rough bottom was found out to about seven miles off shore; beyond that distance an even sand bottom was found to exist, and the water deepened gradually out to about forty-five miles off shore, when it suddenly dropped down to 185 fathoms. The shallowest water worked in was 37 fathoms, and the deepest trawled over was 110 fathoms. A very large extent of good trawling-bottom exists to the east of Stewart Island, extending out to about forty miles east from Port Adventure, and about fifty miles in extent from north to south. The quantity and variety of fish taken on this section was, however, rather poor, and consisted of ling, hapuka, and kingfish.

In 1900 the "Doto" worked from Bluff to Waipapapa Point, and some very good trawling-grounds were found, and market-fish were taken in considerable quantities. From Waipapapa Point to Nugget Point we worked from inshore out to 100 fathoms. The result, both as regards the character of the bottom and supply of fish, was unsatisfactory. The configuration of the coast-line indicates rocky bottom for some distance off shore, and this was found to be the case. Beyond this limit of the rocky bottom out to 100 fathoms the bottom was found to be mostly shingle and coarse sand. In Molyneux Bay good results were obtained, both as regards the fish-supply and character of the bottom. Three hauls of the net were made without breaking a mesh. The soft sand and mud bottom indicated good sole and flounder grounds, but the results of the hauls were rather disappointing with regard to the quantity of these fish taken. I am of opinion that during the summer and autumn months good hauls of these fish would be obtained. Large quantities of red-cod, dogfish, and elephant-fish were taken at every haul. From Molyneux Bay to Cape Saunders we found a considerable extent of good trawling-bottom, and a fair supply of market-fish were taken. There is, however, a large extent of hard shingle bottom along this section. From Cape Saunders to about eighteen miles due north of Otago Heads good bottom was found out to 102 fathoms. Tarakihi was the principal fish taken from 25 to 60 fathoms, and ling and kingfish were taken out to 102 fathoms. The best trawling-grounds off the Otago coast extend from Cape Saunders to some distance west and north of Otago Heads, and extend from inshore out to about 30 fathoms. These grounds have been considerably worked by Mr. Sullivan's trawlers from Port Chalmers.