

(b.) GENERAL REPORT BY MR. STEPHENSON.

SIR,—

Russell, Bay of Islands, 23rd December, 1907.

I have the honour to present the following report on the experimental trawling which was carried out under my control in the steam-trawler "Nora Niven," commencing in the Hauraki Gulf, Auckland, on the 17th October and ending on the 3rd December, 1907, at Wellington.

On the 17th October a start was made outside Tiri Island, in the Hauraki Gulf, and continued thence in the direction of Cape Colville, Little and Great Barrier Islands, to the outer island Hen and Chickens. After having shot the net several times in the various localities, as will be found marked on the chart, I started for the vicinity of Great Exhibition Bay, south of North Cape, and trawled back in the direction to where I left off. Twenty-three shots in all were made on this coast, trawling over about ninety miles of ocean-bottom, in depths ranging from 11 to 55 fathoms, and, excepting a small portion immediately outside Tiri Island, the grounds trawled over were found on the whole not of a suitable character for trawling, we having met with large quantities of marine growth and razorback mussels, indicating the rocky nature of bottom. The quantities of fish, and each kind, taken on this coast are as follows: 3,763 schnapper, 603 tarakihi, 473 John-dory, 73 gurnard, 418 moki, 247 leather-jackets, 54 trevalli, 32 maumau, 3 barracouta, 1 kingfish, 2 mackerel, 2 blue-cod, 2 hapuka, 4 skate, 1 sole, 1 crayfish, and 54 sharks. Immediately after the last haul was taken in on this coast the vessel was headed for Auckland, in order to allow time for blowing down and taking in a supply of coal and stores previous to trawling down the west coast, arriving at Auckland at 11 a.m. on the 26th October.

At midnight on the 30th October a start was made from Auckland going direct for Cape Maria, which was reached at 8 a.m. on the 1st November. At 9.30 a.m. the first shot was made on the west coast, five miles W. $\frac{1}{2}$ N. from Motu Pia, south of Cape Maria van Diemen, and the last in Cook Strait, twelve miles W. x S. $\frac{1}{2}$ S. from south end Kapiti Island, including West Wanganui, Farewell Spit, Cloudy Bay, and Guard's Bank. Fifty-eight shots, as will be found marked, were made on this coast and through the strait, trawling over about 285 miles of ocean-bottom, and in depth ranging from 4 to 85 fathoms. All the ground trawled over on this coast was found most suitable for trawling, except from New Plymouth to as far south as Patea and through the middle of the strait. The quantities of fish, and each kind, taken on this coast are as follows: 7,354 schnapper, 3,045 gurnard, 1,408 tarakihi, 850 trevalli, 332 kingfish, 295 sharks, 235 soles, 186 John-dory, 71 red-cod, 50 frostfish, 47 flounders, 49 skate, 40 leatherjackets, 30 brill, 32 moki, 35 blue-cod, 51 lemon-soles, 37 hapuka, 20 elephant-fish, 17 kahawai, 13 warehou, 6 turbot, 5 ling, 5 mackerel, 4 barracouta, 4 crayfish, 2 megrin, 2 octopi, 1 conger-eel, and 1 hake. Though no very large catches were made on this coast, in my opinion this can be attributed to a great extent to the possibility of the various kinds of fish being at this season of the year in very shallow water. I might also add that the fish on the west coast are of a superior quality and by far a better-keeping fish than those obtained on the east coast. No doubt this can be accounted for by the fact of the difference and nature of bottom, that on the east coast being dirty, and that on the west being a clean hard-sand bottom.

In addition to trawling for fish, a day and part of a second was spent in dredging for oysters in Cloudy Bay, and though only a few oysters were found, I am of the opinion the locality should be further tested, for with proper appliances the result might be very different. The dredge used by me proved most unsuitable, being very light and far too small.

I have, &c.,

H. STEPHENSON,

L. F. Ayson, Esq., Chief Inspector of Fisheries, Wellington.

Inspector of Fisheries.

(c.) SUMMARISED REPORT OF THE EXTENSION OF THE CRUISE OF THE "NORA NIVEN."

The extension of the charter of the "Nora Niven" dated from the 5th September, and as the vessel's boilers required blowing out and the trawl-nets overhauling before trawling was commenced again, this was done on the 6th and 7th September, and on the 9th a demonstration of the working of the nets was given to a party of members of Parliament in Wellington Harbour. On the 10th September the vessel left at 5 a.m. for the west of Cook Strait.

We arrived off Stephens Island at 2 p.m. on the same day, when soundings were taken; but, as these indicated a rough bottom, and a heavy sea was coming up, with indications of bad weather, it was decided to run into Tasman Bay and work there until the weather cleared. Anchored for the night off Separation Point, and at 6 a.m. on the 11th the anchor was taken up and soundings showing a good mud bottom the trawl-net was shot at 6.35 a.m., and four hauls were made in a line from Separation Point to Greville Harbour, D'Urville Island. The bottom right through was mud, and the hauls consisted of schnapper, gurnard, red-cod, tarakihi, soles, skate, kingfish, and barracouta.

Work was continued in Tasman Bay on the 12th, 13th, and 14th from the Croixelles Harbour in a zigzag course across to Motueka and back across the bay again to the entrance to the French Pass. With scarcely an exception good hauls of fish were made, principally large schnapper, gurnard, soles, and flounders—altogether about $3\frac{1}{2}$ tons of market-fish were taken. The bottom throughout was mud, and no obstruction of any kind was met with. The shallowest water trawled in was 10 fathoms and the deepest 30 fathoms.

As hake were taken in considerable quantities by the "Doto" in 1900, I was anxious to ascertain if they were in this bay at this season, and, if so, in what depth. None, however, were taken, and it seems probable that their season in shallow water is through the summer and autumn.