

at the end of the spawning season of 1911; then I saw from thirty to fifty fish and a number of spawning-beds. This season I estimate there are well on to ten times as many, and much larger fish.

*Collection of Brown-trout Eggs.*—The condition of the rivers last season was unusually favourable for netting spawning-trout, and there was no difficulty in collecting all the eggs required to supply acclimatization societies. As a matter of fact, two or three million eggs could have been collected if they were required. The total number of eggs collected was a little over a million. Of this number, 930,000 eyed and fry were supplied to acclimatization societies, and the balance of the fry hatched were liberated in the Hakataramea River.

I have, &c.,

The Secretary, Marine Department, Wellington.

L. F. AYSON,  
Chief Inspector of Fisheries.

#### REPORT OF CURATOR, PORTOBELLO MARINE FISH-HATCHERY.

GENTLEMEN,—

Portobello, 7th June, 1915.

I have the honour to present this (the ninth) annual report of operations at the Marine Fish-hatchery during the year ended the 31st March, 1915.

*Lobsters.*—Of the new stock of lobsters, forty-one in number, which arrived in March, 1913, two deaths occurred during 1913, and one, a male, had died during the past year. Two deaths have also occurred amongst the survivors of the earlier shipments. As already reported, twelve, of which eight were egg-bearing females, have also been liberated in what is considered to be a suitable locality. This leaves the present stock of lobsters of both sexes in the ponds at forty-four. Eighteen females of the new shipment spawned during January and February, 1914. On examination as late as October these new-stock lobsters were found to have retained their eggs much better than those that have been confined to the ponds for a number of years, and most of them still retained their full broods.

As all the indoor tanks are now in use for the turbot, we were unable to make use of these for the hatching-out of the young lobsters. The adults were therefore allowed to hatch their broods in the large pond, as was done the previous year. The first larvæ appeared in the pond on the 15th December, 1914, and from this date until early in January vast numbers were to be seen at all depths in the large pond. Owing to the increased number of spawners, and to the fact that the adults were not handled, the past season has been a record one for the output of young lobsters, the number being estimated at ninety thousand. Many of the females have again spawned, and there is every probability of the coming season being an equally successful one.

*Crabs.*—As reported last year, nineteen of the adult crabs were liberated, and eight (four males and four females) were retained in the ponds; of these, two males died in January, 1914. The four remaining females produced full batches of eggs in the spring. On the 14th December the surface of the pond was seen to be teeming with crab larvæ. The four egg-bearing crabs were transferred to the hatching-boxes on the 16th December, and between this date and the 23rd December twelve million larvæ were hatched and liberated in various parts of the harbour, chiefly on the ebb tide. A constant lookout is being kept for the appearance of the young stages on the banks in the harbour and amongst the stomach-contents of all fishes examined.

*Turbot.*—None of the turbot died during 1913. Three have died during the past year. These three deaths occurred amongst the smallest of the stock, and in all cases were the ones that have shown the least growth or development. The cause of death was not apparent. The remaining stock are all in good condition. The largest now measure about 16 in. in length. Ling has again been used solely as food, and has proved most satisfactory. There are as yet no visible signs of the development of the ovaries, but there is every reason to hope that some of the larger ones will spawn during the coming season. Owing to the great increase in their size, further accommodation is being provided for them inside the hatchery, in the shape of a large concrete tank measuring 15 ft. by 5 ft. 6 in. wide.

*Observations on Local Fish.*—The exceptionally stormy weather experienced during the greater part of the summer interfered very considerably with this important branch of the station's functions. The launch is not sufficiently seaworthy to proceed any distance off the land excepting during the finest weather. No opportunity has, however, been lost of adding to our store of knowledge, and records of all observations have, as usual, been placed in tabulated form in a log kept for this purpose. These observations have now been carried on for a period of about ten years, and although, for various reasons, these notes are not so copious and extensive as one could desire, many valuable, interesting, and hitherto unknown facts relating to the life-history, &c., of many of our indigenous fishes have been brought to light. A report on these observations, with drawings, &c., is in course of preparation by the Chairman, Mr. G. M. Thomson, and myself.

The Board is again indebted to Mr. F. J. Sullivan in allowing me to accompany his trawlers for the purpose of securing the ova of any of the fishes taken in the trawl. From eggs collected by this means 88,000 young flounders and 322,000 young soles have been hatched and the fry liberated.

I have, &c.,

T. ANDERTON.