

the ova therefrom placed in the hatching-boxes. The temperature of the moss in the box was 44° and of the water in the hatching-boxes 54°. Of the four trays taken out the eggs in the first two were a good deal oaked together, although apparently not dead. The others looked to be in good condition. As soon as the eggs were placed in water hatching commenced, and the next morning a large number were hatched, but a very large proportion of the eggs were found to be bad and had turned color. The temperature in the hatching-boxes had increased to 60°, and a few days afterward was as high as 66°.

Great difficulty was experienced in keeping the fry in the boxes, although fine screens were used for the purpose. But as the water from the boxes discharged into the society's ponds, the fish were not lost.

Immediately after the four trays were taken out the remaining fifteen trays were repacked with ice and sent by rail 24 miles, then by express van 30 miles, to an inland lake, called Rotoiti, and a place prepared in a creek, which runs into the lake, to receive the ova.

Of the fifteen trays of ova placed in this creek a very large proportion hatched, estimated by the man in charge at two-thirds. The temperature was not taken, as both thermometers sent up were broken, but the water is much colder than in the society's boxes, and may be stated at about 48° or 50°.

The same difficulty was experienced of keeping the young fry in the hatching place, although screens were used as in the boxes; and most of them got out into the lake a few days after hatching. I am therefore unable to report on the growth and progress of the fry, except that those in the pond are growing and appear to be thriving. They have been frequently fed with blood.

Had the society received notice of the ova coming, more complete arrangements would have been made for hatching, and the results would have been better ascertained.

In conclusion, I have the honor to ask you to be kind enough to cause a copy of this report to be forwarded to Professor Baird, of the U. S. Fish Commission, with the thanks of this society, as previously conveyed to you in my letter of the 21st ultimo.

NELSON, N. Z., *March 17, 1884.*

102.—NOTES ON THE COD GILL-NET FISHERIES OF GLOUCESTER, MASS., 1883-'84.

By S. J. MARTIN.

[From letters to Prof. S. F. Baird.]

The cod gill-net fishing is most over, the fleet being reduced from 52 to 8 sail. Those remaining did well last week. The boats that used nets are now fitting out for spring fishing, and, had there been more nets, would have used them longer.

GLOUCESTER, MASS., *April 13, 1884.*

The remaining cod gill-net fishermen are doing well. Net fishing will probably be over by May 1.

GLoucester, MASS., *April 20, 1884.*

The cod gill-net fishing for this season ended yesterday morning. There have been 578,000 pounds of codfish caught in the cod gill-nets during the month of April. The amount of fish caught in nets from October 1, 1883, to April 26, 1884, has been large, exceeding the catch inshore of any previous six months. I have from time to time given you the figures. The schooner Morrill Boy, with a crew of seven men, divided into two gangs, and six nets to a man, began its winter's work on November 10, 1883, and has landed \$4,300 worth of fish. Each of the crew made \$410 clear of all expenses.

Catching fish in nets is expensive. The expenses of each of the crew of Morrill Boy were \$100. The nets alone cost \$14.50 each, and glass-ball anchors, buoy lines, and buoys had to be purchased.

Five boats that commenced work on November 1, 1883, with a total of forty-two men, did good work, each man having cleared \$400. These men fished every night. The expenses of each of these men were also \$100. There were fifty-two boats which used nets last winter, four hundred and sixty-eight men employed, and one thousand five hundred and sixty nets used. The average price of the fish landed was \$2.50 per hundred, and \$285 the average share of each man.

GLoucester, MASS., *April 27, 1884.*

Three small boats, with five cod gill-nets to a boat, set their nets in Ipswich Bay last week, after the cod gill-netters had taken up their nets for the season. They caught 38,000 pounds of large codfish, half male and half female, notwithstanding there were two days that they did not haul their nets. If all the netters had set their nets, as many fish would have been caught last week as was taken during any week in the winter. I do not know how long the fish will remain in the bay; heretofore none had been taken later than May 1.

GLoucester, MASS., *May 11, 1884.*

There have been caught in cod gill-nets during the past week 62,000 pounds of codfish.

GLoucester, MASS., *May 18, 1884.*

There were 18,000 pounds of codfish caught in cod gill-nets last week. The last fish were taken on May 20.

GLoucester, MASS., *May 24, 1884.*

During the past month there were 128,000 pounds of codfish caught in cod gill-nets.

GLoucester, MASS., *June 4, 1884.*