

dam and drew off the water to drain the pond for a meadow, catching barrels of eels of all sizes. These instances cited prove to me that eels do not all return to salt water to spawn, but spawn wherever they find suitable places in ponds or streams.

MILLRIPT, PIKE COUNTY, PA., August 23, 1886.

74.—STATISTICS OF THE SEA FISHERIES OF FRANCE FOR THE YEAR 1884.*

[Abstract.]

VESSELS AND MEN.—During the year 1884 there were engaged in the fisheries 23,929 vessels or boats, with a tonnage of 162,467 tons and manned by 87,179 men. To these should be added 346 Italian fishing vessels, manned by 1,098 men, who engaged in fishing on the coasts of the fifth district. In addition to these, 53,713 persons (men, women, and children) engaged in fishing on the shores. These figures, as compared with those of 1883, show an increase of 4,855 men, 1,667 vessels, and 11,142 tons.

The value of the products of the fisheries amounted to 87,961,124 francs [\$16,976,496.93],† that is to say, a decrease of 19,265,797 francs [\$3,718,298.82] from 1883. The decrease was especially noticed in the cod, herring, and sardine fisheries, and was caused by the course of the sales, which were difficult and not very profitable, owing to the epidemic which visited the south of France in 1884.

The products of the cod fisheries (Newfoundland and Iceland), and of the herring, mackerel, and anchovy fisheries, as well as of all those kinds designated by "other fish," amounted in 1884 to 149,661,099 kilograms [329,942,859 pounds], and in 1883 to 133,131,046 kilograms [293,500,705 pounds], showing an increase in 1884 of 16,530,053 kilograms [36,442,154 pounds].

There was also an increase in 1884 of 75,844 hectoliters [214,639 bushels] of other shell-fish, 214,344 crustaceans (lobsters, &c.), 256,069 kilograms [564,529 pounds] of shrimps, and 41,116 cubic meters [1,451,806 cubic feet] of marine fertilizers; while there was a decrease of 736,550,973 sardines, 38,388,451 oysters, 97,371 hectoliters [275,560 bushels] of mussels, and 643,551 kilograms [1,418,773 pounds] of fish designated "other fish."

COD FISHERIES.—Retarded by the ice, all our vessels had not yet arrived on the fishing grounds by the middle of June. The general mildness of the winter of 1883-'84 caused in the arctic regions an un-

* "*Statistique des pêches maritimes.*" Paris, 1885. Translated from the French by HERMAN JACOBSON.

† Throughout this article reductions have been made according to the following equivalents: 1 franc=19.3 cents; 1 kilogram=2.2046 pounds; 1 hectoliter=2.83 United States bushels; and 1 cubic meter=35.31 cubic feet.

usual breaking up of the ice, the result of which was a very noticeable fall of the temperature on the coasts of Newfoundland. About the middle of September the northeast coast was covered with snow, and Conception Bay, near St. John's, was so blocked up with ice as seriously to interfere with navigation. In the beginning of October there were still icebergs on the Grand Banks. To this circumstance must doubtless be attributed the scarcity of codfish on the coast, while they were found in great abundance on the banks, especially south of Newfoundland. The bank fishers made good hauls, as did also the vessels equipped at St. Pierre. During this year the coast which extends from Cape St. John to White Bay was much more frequented by the cod than the remaining portion of the French shore.

In spite of the increase in the number of vessels, and the large quantity of codfish reported, the Newfoundland fisheries did not yield the desired results. This condition of affairs is due to the circumstance that the prices which the cod fetched in the markets were not very remunerative, both on account of the large quantity of fish and the check which the trade of the Mediterranean ports of France and Spain experienced by reason of the cholera.

We have unfortunately to deplore the loss of two vessels from the port of St. Malo. One (packet No. 2) foundered during the fishing season, and 11 men were lost out of the 20 composing the crew. The other (the *Sénorine*), fitted out for long voyages, which carried passengers for the St. Pierre and Miquelon fisheries, was a total loss, with the entire crew of 53 men.

THE HERRING FISHERIES.—From the beginning of the fishing season (about June 15) herring appeared in large numbers on the coasts near Lerwick and Aberdeen, but they were of an oily quality. Further on in the season, from August 15 to September 15, the majority of the French fishing vessels were engaged on a stretch of 60 miles, from St. Abb's to Sunderland and on the Dogger Bank, where they found a constantly increasing number of herring of an excellent quality. Finally, during the latter part of October the herring fishers approached Yarmouth, where soon after they closed the fisheries by salting the fish on board. Towards the end of this month the first vessels began the fresh fisheries (catching herring without salting them) in the channel, and continued till some time in January, 1885.

Those vessels which salted the fish on board made on an average about four voyages with full cargoes of fish. But the simultaneous arrivals of a large number of fish crowded the markets with fresh herring, while the stock from the preceding year was far from being exhausted. The result was that the vast majority of the fish did not find any buyers, and had to serve as fertilizers.

THE SARDINE FISHERIES.—During 1884 sardines appeared on the coasts at long intervals, and then only for a short time. Those fisher-

men who principally engage in these fisheries, and particularly those who had special vessels constructed for this purpose, felt the failure of these fisheries very keenly. Moreover, the high price of bait tended to swallow up the small profits which were realized. In some parts of the country some of the fishermen abandoned these fisheries in order to devote themselves to catching those kinds designated by "other fish," and given below under the heading "Fisheries for fresh fish."

In spite of the fact that sardines were scarce the prices did not rise much. Several establishments for canning sardines did no work at all. The consequence was that the families of the fishermen, who compose almost exclusively the population of some of our coast villages, were, during the winter, reduced to abject want.

FISHERIES FOR FRESH FISH.—These fisheries (comprising turbot, halibut, sole, flounder, ray, gurnet, mullet, eel, salmon, lamprey, sturgeon, tunny, &c.), which at the beginning of the season were not very productive, owing to long-continued calm during the summer, gave better results during the winter. The products of these fisheries were somewhat less than during the preceding season, but found a ready and profitable sale. The increase in the prices was caused in part by the large number of tunnies caught by the fishing vessels, and delivered to the factories at higher prices than those which could be obtained in 1883. The fisheries carried on by vessels with seines also contributed their share towards this increase.

OYSTER FISHERIES.—In 1883 there were sold 157,666,246 oysters (French and Portuguese), the yield of the coast and boat fisheries, which realized 2,266,578 francs [\$437,449.55], while in 1884 there were sold 119,277,795 oysters for 1,744,935 francs [\$336,772.45]; consequently there was a decrease from last year of 38,388,451 oysters and 521,643 francs [\$100,677.10]. During 1884 the total number of oysters (French and Portuguese) from parcs, tanks, and ponds, as well as from the coast and boat fisheries, sold during the season amounted to 529,768,767, yielding a sum of 13,577,926 francs [\$2,620,539.72].

The season of 1884 commenced under favorable auspices; but the epidemic which visited Southern France and Spain caused a very noticeable decrease in most kinds of business. The sale of oysters was consequently not so active as during the preceding years, and the prices of course fell very considerably. In spite of these drawbacks oyster culture continued to make progress. The harvest of oyster spawn was unusually rich in the River Auray, whose beds always contain an abundance of oysters. The same was the case at La Teste, Cancale, the Island of Oléron, at Marennes, and in the principal centers of oyster production, where the raising of oysters is carried on at a constantly increasing rate.

PARIS, FRANCE, *November 4, 1885.*