

112.—NOTES ON THE MENHADEN FISHERY.

By OSCAR O. FRIEDLAENDER.

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

1882.

The catch of menhaden this year is about 20 per cent. smaller than last year. This is not on account of a scarcity of fish, but of the distance the steamers have to go for them. The great resort for menhaden this year is between Barnegat and the Delaware Breakwater. Just now they are at the latter place, and I think there must be an abundance of food there, especially as I have never, since entering the business, seen such fat menhaden as those caught this summer. Last year the average yield of oil was about 2 gallons to a thousand fish; this year it is between 5 and 6 gallons. Captain Powers, of the steamer *De Blois*, tells me that he never saw such a sight of fish before as he saw last Saturday about 5 miles below the Delaware Breakwater.

Our catch this season is thus far 19,305,000, with more steamers than last year, when we took 17,069,000. Last week I went out on one of the steamers to gather information. The sight of little fish was something extraordinary. For 50 miles along the Jersey coast there was one solid body of fish, which cannot be estimated by numbers; but if they all were to grow up it would give the whole fishing fleet a plenty of work for twenty years. It is detrimental to our future prospects to catch these fish now when the scrap is not worth 50 per cent. of grown fish. They yield only one-half gallon of oil per thousand fish. I have prohibited our gangs from catching them, and would decidedly recommend that purse-seining for menhaden with anything short of a 2½-inch seine be prohibited. In Virginia, which I believe is the bed of these fish, they are taken with 1½-inch seines. Some eastern men are now catching them with 1½ to 2 inch seines. We use 2½ to 2½ inch seines at present. I am satisfied that if we had not caught the young fish in 1876 we should have better fishing now.

NEW YORK, August 29, 1882.

Our factory has received this season up to date 20,250,000 fish; Jones & Co. about 23,000,000 fish; and Hawkins & Co. about 20,000,000 fish. The fish commenced to appear on our coast late, which does not preclude the possibility that they were present but unnoticed before that date.

The best fish we received came from Sandy Hook and its neighborhood. Still, I think that the fish caught between Atlantic City, N. J., and the Delaware Breakwater, if received fresh, would yield fully as much oil as those from Sandy Hook.

Monthly statement of the menhaden received by the Barren Island Manufacturing Company in 1881 and 1882, with the average yield of oil.

Month.	Number of fish received.	Average yield of oil per 1,000 fish.
1881.		
May.....	3,986,350	1.70
June.....	4,186,450	2.90
July.....	5,321,850	2.58
August.....	3,514,700	3.48
1882.		
May.....	3,144,600	2.75
June.....	3,461,800	5.12
July.....	5,999,700	5.00
August.....	10,000,000	5.60

Comparing these averages you must naturally conclude that the fish have left poorer feeding grounds for better ones. The Humphrey, of Tiverton, R. I., loaded up twice last week at Cape May, taking each time 600,000, all big fish, and other boats have caught correspondingly as many without driving away the fish or decreasing them according to all appearance.

Bluefish and weakfish never were more plenty on the Jersey coast than this year. The captain of one of our steamers caught by a mistake 1,078 bluefish, and all he got for them in the market was 3 cents a pound. As to stopping the catch of little fish, my neighbor, d'Homergue, agrees with me that they should not be caught. I, for one, would advocate legislation in that direction, making it a penalty to catch menhaden with any seines smaller than 2 $\frac{1}{4}$ -inch mesh.

It stands to reason that any little fish now caught would measure in one or two years four times the size and value, so that every million caught now could represent four millions a couple of years hence. The young fish should be protected, but whether legislation is at all desirable is not for me to say. I am satisfied that a circular from you to the United States Fish Association recommending this strongly would receive prompt action from their members. Of course I cannot speak for the Virginians.

The destruction of sharks by menhaden fishermen is worth noticing. The shark is the only fish which is now regularly found among the menhaden, and I estimate that the fleet destroys 1,500 to 2,000 sharks per week. How many bluefish, weakfish, and others would the sharks destroy if living?

NEW YORK, *September 2, 1882.*

[For additional communication in 1882 see Bulletin of 1882, Vol. II, p. 252.—C. W. S.]

1883.

The indications this spring are worthy of notice. Small and large fish have appeared all along the coast from the Chesapeake to Massachusetts. The sound and bays are full of fish. Some of the traps in

the sound have caught as many as 300,000 in one week. The eastern steamers catch more there than ours do here, though all do well. We commenced on May 14, but find the fish almost naked of oil. They yield from 2 to 3 quarts per 1,000, being hardly worth pressing. I opened menhaden repeatedly within the last four weeks. All were completely void of spawn; not a particle was found in them. According to this, these fish must have spawned where they came from, and have been starving on account of the cold season having produced no food for them, or the cold winter having destroyed it. I have requested our captains to make a daily note of the progress of the spawn. According to the high wages paid to the fishermen the season looks very gloomy for profits unless the fish fatten up, but at present it looks bad. The water is as cold as ice, as if the coast was surrounded by icebergs.

NEW YORK, *June 4, 1883.*

The weather has been a great hindrance to catching menhaden thus far this season, but from all accounts they are everywhere. The Church firm is getting its menhaden factory in order, expecting fish there this year, as very large bodies of fish have gone in that direction. Their steamers loaded up on the 9th instant at Noman's Land as deep as they could swim, but the great bulk of that immense body of fish went East. Our fleet here is doing fairly when the weather permits, but although the fish of a new run are unprecedentedly big, they are poor in oil, which is a mystery to all concerned. Our catch at the Barren Island works and the oil yield has been as follows:

Dates.	Number of fish.	Average yield of oil per 1,000 fish.
		<i>Gallons.</i>
May 10 to 20	1,085,000	0.75
May 21 to 26	716,300	0.72
May 27 to June 2	1,706,000	0.71
June 4 to 9	802,900	1.33
June 11 to 16	1,380,900	1.00

NEW YORK, *June 20, 1883.*

Big fat menhaden have appeared again on the coast of Maine. One old steamer in three days caught 300,000, averaging over 12 gallons per thousand, while our fish continue the poorest on record. Menhaden are abundant all over the coast, and our yield of oil here has not exceeded 1.71 gallons per thousand. On the coast of Rhode Island and off the eastern end of Long Island there are more fish than there are about here, and their quality is better, yielding about three gallons per thousand.

Bluefish are not very plentiful. Our catch of sharks this year is immense, and the presence of these ferocious animals in such large bodies may account somewhat for the scarcity of bluefish.

NEW YORK, *September 14, 1883.*