

39.—THE SHAD FISHERIES OF THE HUDSON.**By FRED MATHER.**

[Report of a trip to the principal shad-fisheries of the Upper Hudson River, made at the request of Mr. E. G. Blackford, in June, 1884.]

FISHKILL AND NEWBURGH.—These cities, lying opposite each other, were visited on June 5. At Fishkill, John Neal keeps boats to let and has fished for shad for twenty years. This year the water cleared quickly and the season was poor; the run was short and was about over so far down the river. He fished from April 15 to June 1, with drift-nets; did not get one ripe fish this year; some years he has had four or five ripe ones in a day; usually throws them overboard; thinks that on ordinary seasons ripe fish may be got from May 21 to June 1; took about 1,200 this year, and the price averaged 15 cents each.

George Lucas lives at Sherman's Dock, 1 mile north of Newburgh. He says that ripe fish are usually caught about the 25th of May, but he only took three specimens this year. Still, he thinks we might arrange to get eggs with a row-boat from the gill-netters who drift in shoal water. He confirms Mr. Neal's statements regarding a light catch. He took 2,000 fish this year, but usually takes 3,500. He stops fishing June 1. He thinks that 10,000 fish were taken in his vicinity by all fishermen, and that a fair season's work would be about 18,000.

RHINEBECK AND RONDOUT.—These two places are also opposite, and the season's catch was light. Charles Butler says that the highest catch by one boat this year, with drift-nets, was 2,000. He got one ripe fish this season and last year had two or three. F. H. Carr has fished with drift-nets for six or seven years, usually from April 1 to June 10 or 15, and uses two to three boats. He considers that 2,000 to 2,500 to a boat is a fair season's catch; seldom gets spawning fish; only two this year. About twenty boats fish from Rhinebeck and Rondout; some of the men go down to Staten Island at the beginning of the season. About 35,000 shad were taken here this year.

KINGSTON TO CATSKILL.—Between these places the best shad grounds of the purely fresh waters of the Hudson lie. John A. Earls, of Catskill, has fished for eighteen years. Last year (1883) was very good, but this year was bad; in fact, it was the worst in ten years, and did not yield over half the shad that were caught last year. He has taken 2,000 in fishing from the Narrows to Catskill; he drifts in the Narrows and in the Highlands, but uses seines here. The catch of herring (alewives) was as large this year as any, but the catch of shad was below the average. Often takes ripe fish on "Kingston Middle Ground," which is above

Kingston Point about one-quarter of a mile. ("Middle ground" is a term used by the fishermen of the Hudson to denote a bank or shoal in the middle of the river, with a channel on each side. The "Middle Ground" is therefore in shoal water above Kingston.) He thinks that if eggs are obtained here, they must be taken from drift-nets. They fish here in from 30 to 35 feet of water. He has "any amount of spawn" after May 1, and thinks we can get plenty of it. John Pindar, of Catskill, says that the shad catch has fallen off for two years. He fishes with ten seines and fourteen drift-nets, from the Narrows to Catskill, and has taken 7,500 shad; thinks that some ripe fish might be taken in the Highlands, but not enough to pay, because the fish are all dead when taken from the drift-nets. He believes that "Kingston Middle Ground" is the best shad ground on the Hudson, although the catch was not large there this year. Eggs might be got between Rhinebeck (Kingston) and Tivoli. From Catskill I took a row-boat some 3 miles up the river, where Mr. Jonathan Mason was hatching shad behind an island on the eastern shore. He was having good prospects and had a fine lot of eggs. On June 13 his eggs were obtained some 2 miles above, around the northerly point of the island and 4 miles above Catskill, on the western shore. He was getting eggs from Pindar's fisheries.

HUDSON.—At Hudson, Mr. Matthew Kennedy, one of the game protectors of the State, is a large shad fisherman. He employs from twenty to thirty men during the season. He fishes with seines on "Hudson Middle Ground," and the catch this season is the poorest in twenty years. He took between 7,000 and 8,000 shad, but has taken as high as 18,000 (in 1878). Last year's catch was 8,000; in the year before (1882) it was 12,000. Mr. Kennedy thinks that Stockport is the most likely place to get eggs. While here I accompanied Mr. Kennedy on a steamer down to Rhinebeck and below, while he and his men removed and seized twelve pound-nets which were set in the river contrary to law. The fishermen above complained that these nets were injuring the fishing, as no doubt they were, because they fished night and day, while the seines and gill-nets were not in the water all the time. This form of net is new to the shad-fisheries of the Hudson. The previous year two were put in, and their success emboldened others. The raid of Mr. Kennedy will, no doubt, end this form of illegal fishing, as each of the twelve nets cost no less than \$150, and some of them cost much more.

STOCKPORT.—This small place lies on the east bank of the river, some 2 or 3 miles above the city of Hudson. Walter Mann fishes here. For nine years he fished with seines, and for the last two has used drift-nets. He does well with the latter at night, and in fact all the gill-netters claim to take the most shad at night; and as this is the time that the fish casts its spawn, it is possible that many eggs may be got from the gill-nets, as is done on the Chesapeake by the United States Fish Commission. Mr. Mann did not take as many fish this year as last, his

catch being only 800, against 1,500 in 1883, a difference of nearly half. Taking a few years back, the fishing has been as good with him as it was ten years ago, except this year, which has been bad. He attributes the falling off to bad weather and the pound-nets set below, which are referred to as being destroyed by Mr. Kennedy. He can get spawners from June 10 to July. This year he stopped fishing on June 9 with seines, but can get fish now (June 13) and with drift-nets for many days longer.

Last year there was a good run of sturgeon, but he did not fish, because he had no nets to take them. (The gill-net for shad has a 5-inch mesh, while the sturgeon net has a mesh four times as large, or about a 10-inch mesh.) Mr. Mann will try for them this year (1884). The catch of striped bass has been good, and he has thrown away over 1,000 of them which weighed less than one pound; that is, returned them to the water alive.

COXSACKIE.—Ed. Alberton thinks that the season of 1884 has been the poorest in many years. He attributes it to the pounds about and below Rhinebeck, which this report shows were removed in the second week of June, and to the backward season. John Malone says that the inferior catch is due to the pound-nets, and does not think the weather had much to do with it. It is certain, however, that the catch of 1884 is far below that of any year within the last decade. He does not know that many spawners can be taken here, because their capture is uncertain. Some years the fishermen get a great number of ripe fish, and again they are scarce. This year they are rare. If fishing was allowed after June 15, more ripe fish would be taken.

CONCLUSION.—From the foregoing interviews, and also from conversations with men in the employ of those named, I learn several things. One is that there is an antagonistic feeling toward the New York Fish Commission because of certain alleged crossings of the shad with the alewife (herring), which they claim has decreased the size of the shad. This is a matter upon which I do not care to write at length, and will simply suggest to those seeking further information to get the views of the fishermen themselves. My well-known objections to the hybridization of fishes may render me incompetent to express an opinion concerning the value of a hybrid whose mother was a shad and whose father was an alewife.

It is certain that the catch of shad in the Upper Hudson for 1884 is lighter than for many previous years. I do not know what it was on the lower river, but as this fish is influenced in its movements by temperature, we may consider that the cold water may have been in conjunction with the causes attributed by the fishermen. It is certain that the shad, which in its migrations is ever on a search for a temperature of 60° Fahrenheit, according to Colonel McDonald, will not ascend our rivers until the melting snows above have spent their vigor, and the temperature at the mouth of the river has gone above 50° and

there is hope of a more congenial warmth above. This, no doubt, often retards the run of shad in the early season and causes a rush and a short catch later on.

Concerning the taking of eggs, it is my opinion that many can be obtained from "Kingston Middle Ground," Catskill, and Stockport, if arrangements are made before the first of June.

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40.—AN ACT TO PROTECT THE FISH IN THE POTOMAC RIVER IN THE DISTRICT OF COLUMBIA, AND TO PROVIDE A SPAWNING-GROUND FOR SHAD AND HERRING IN THE SAID POTOMAC RIVER.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after date of passage of this act, for a term of five years, it shall not be lawful to fish with fyke-net, pound-net, stake-net, weir, float-net, gill-net, haul-seine, or any other contrivance, stationary or floating, in the waters of the Potomac River within the District of Columbia.

SEC. 2. That any person who shall offend against any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon sufficient proof thereof in the police court or other court of the District of Columbia, shall be punished by a fine of not less than ten dollars nor more than one hundred dollars for each and every such offense and shall forfeit to the District his nets, boats, and all other apparatus and appliances used in violation of law, which shall be sold; and the proceeds of such sales, and all fines accruing under this act, shall be paid into the Treasury: *Provided*, That nothing in this act shall be construed to prohibit angling or fishing with the out-line or to prevent the United States Commissioner of Fish and Fisheries, or his agents, from taking from said waters of the Potomac River in the District of Columbia, in any manner desired, fish of any kind for scientific purposes or for the purposes of propagation.

SEC. 3. That from and after three months from the date of the passage of this act it shall be unlawful to allow any tar, oil, ammoniacal liquor, or other waste products of any gas-works or of works engaged in using such products, or any waste product whatever of any mechanical, chemical, manufacturing, or refining establishment to flow into or be deposited in Rock Creek or the Potomac River or any of its tributaries within the District of Columbia or into any pipe or conduit leading to the same; and any one guilty of violating this section shall on conviction as provided in section two of this act, be fined not less than ten dollars nor more than one hundred dollars for each and every day during which said violation shall continue, to be prosecuted for and recovered as provided in the preceding section.

Approved, March 2, 1885.