

## 38.—THE FISHING INDUSTRY OF LAKE ERIE, PAST AND PRESENT.

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The subject suggested by the president of our State fish commission as the topic of this paper is one of wide range and too extensive in scope to be thoroughly discussed in the time which I may occupy in courtesy to the gentlemen of this convention, all of whom will doubtless have subjects and matters of great importance to the fishing industry to bring up for consideration. I shall therefore be as concise as the subject will allow, and not trench on your valuable time more than is absolutely necessary.

The early fishing in the waters of Lake Erie was crude in character and limited in operation. Up to the year 1850 fishing was mainly confined to the waters of the bays, inlets, and rivers tributary to the lake, with some feeble efforts at gill-net fishing by small row or sail boats operating near the islands, reefs, and along the shore of the lake. There is no authenticated record that prior to that time any steam craft was used in connection with the fisheries of the lake, nor, in fact, until some years after that period.

Fishing, as an industry of any considerable importance in Lake Erie, may fairly be dated from the year 1850, although it did not attain to any great magnitude until some years after that.

Pound-net fishing commenced about that time, and from the very start gave new impetus to the business; this was in consequence of the fact that the fish product became at once much larger, was produced in a more merchantable condition, and continued over a larger period of time each year, thus enabling the dealer to send his fish with greater regularity and in much better condition to the markets of the country. By reason also of being able to furnish the inland dealer with a constant and certain supply of fresh fish, wholesale dealers in all the large cities established themselves, thus becoming distributing-points for the fish food of the waters of Lake Erie and enabling the consumers living at distant points to obtain a valuable addition to their food supply and in a wholesome condition.

The growth of the industry from the period above mentioned was steady and certain. Each year witnessed new and improved methods in catching, preserving, and marketing the fish. In the early years, in fact until the year 1867, all the fish brought to the local markets for handling, in amounts exceeding the requirements for immediate shipments, had to be salted, thus getting to the consumer in a very inferior condition as a food product. About this time the system of freezing fresh fish and storing them in refrigerating rooms for winter consumption was put in practice at

Sandusky, Ohio, by West & Smith, and in a few years the system became general and many hundred tons of fish formerly lost to the trade were marketed fresh during the winter months, when fishing becomes impossible or impracticable.

I am dealing with this question from a commercial standpoint, because from no other has the subject material interest to any very considerable portion of our people. The fishing industry is of vital interest to the citizen generally for two reasons only: It furnishes a source of employment for a large amount of labor and capital, and it produces a large and valuable food product, at low prices to the general public, through the channels of trade the outgrowth of this great industry.

From the statistics furnished by the U. S. Fish Commission we find that 178,411 persons are annually employed in fishing and fisheries in this country, with a capital investment of \$55,699,278, indicating that nearly one-sixtieth of our population are engaged or directly interested in this business as a means of livelihood. It is no wonder, then, that this subject is attracting such widespread interest among the best thinkers of our land, and that State and National Governments are giving to it the serious and watchful attention its importance so clearly merits.

Until recent years the fish supply of Lake Erie was so great that the question of its becoming exhausted was thought of only as a possibility, and but little was done looking towards maintaining the supply. The whitefish that once swarmed in its waters in vast numbers, being most sought for by reason of their greater value, was the first of the fishes to show material decrease; the pike, the pickerel, and the bass also gradually decreased, while other fishes, such as the herring and blue pike seemed to increase, probably owing to the fact that they were very little sought for because of the low price paid fishermen for them.

About 1869 the first herring were frozen for winter trade. Twenty tons of these fish were frozen that year by Ferdinand Geisdorf, of Sandusky, Ohio, and marketed in Pittsburg, Pa., where they met with such favor by the trade that all the firms operating in fish in Sandusky froze quite a quantity of herring the following season; so from the year 1870 may fairly be dated the time when herring became one of the principal, if not the principal, fish of commerce from the fisheries of Lake Erie. Hitherto it had been classed among the cheap and undesirable fish taken by our fishermen, and the greater part of the catch saved to the trade was marketed as a salted product. The herring rapidly advanced in favor, and the fishermen turned their attention more particularly to its capture. Hitherto it had only been taken in pound nets, almost the exclusive method of fishing used in the western half of Lake Erie from 1850 to 1888, a period of thirty-eight years.

Fishing with gill net was confined to the large-mesh nets used in catching whitefish and trout, as herring was too cheap a fish to pay gill-net fishermen to catch, and such nets were mainly operated in the deep water of the east end of the lake. They continued to operate these large-mesh gill nets until the whitefish and trout were practically destroyed. In the meantime the herring, blue pike, and sauger actually increased in numbers in the waters of the lake. Notwithstanding pound-net fishing kept increasing from year to year, these fish continued to increase until the gill-net fishermen commenced fishing their small-mesh nets in the western part of Lake Erie, at a time when these fish are on the road to their spawning-grounds, which mainly lie in the western part of the lake.

To prove this statement we beg to refer you to statements taken from the books of eight of the leading fish-dealers of Ohio, doing business in the cities of Huron, Sandusky, and Toledo, showing the yearly catch since 1888, since which time only has gill-net fishing, in the part of the lake referred to, been carried on as business of any magnitude. The following exhibit shows the actual catch of the different varieties of fish by these eight firms, figured in pounds from 1888 to 1892, inclusive:

Years.	White-fish.	Wall-eyed pike.	Sauger.	Catfish.	Herring.	Perch.
1888.....	834,951	608,514	2,037,655	218,446	10,801,802	507,098
1889.....	526,366	555,700	1,784,134	138,732	10,272,945	401,210
1890.....	313,753	535,800	1,439,380	87,965	9,638,795	656,365
1891.....	360,980	523,500	1,962,000	99,535	7,280,792	1,027,110
1892.....	320,202	349,148	2,203,627	39,780	1,900,868	775,790

This shows that while the annual catch varied some and steadily lessened in amount, there was no startling decrease until the year 1892, and it was then more especially noticeable in the herring catch, which was over 7,000,000 pounds in 1891 and less than 2,000,000 pounds in 1892.

The western half of Lake Erie has always been considered the great fishing-ground of the lake, made so by reason of that portion of the lake being the natural spawning-ground for the fishes it contains and for the abundance of fish food found in its waters. More of the species spawn in the spring than in the fall season—in fact, it may be said that the entire period from March 1 to the middle of June is covered by some one of the species as a spawning season, and while it is clearly impracticable to stop the catching of fish at such times, still the fisherman could be easily required to so operate their nets as not to prevent the fish from reaching their spawning-grounds. In the fall the fish again visit this locality in large numbers, some varieties for the purpose of depositing their eggs, while others, no doubt, come because the shoal waters of the western portion of the lake cool quicker, and to feed off the eggs of the spawning fish as well as the natural food so abundantly found on the reefs and shoals.

This statement of facts clearly shows that the fishes of Lake Erie make regular pilgrimages to the western half of the lake in the spring and fall season, and that nearly all the varieties of fish inhabiting its waters are found there in quantities during both of these periods.

To make a close season at either of these times would prevent the fishermen taking those fish that are not spawning, as well as those that are, which would not only be unjust to the fishermen, but injurious to the trade, which demands a steady and constant supply. In fact, to make the spawning season of the different fishes a closed season would practically put a stop to fishing in the western half of Lake Erie at the time when the fish are produced in their best condition to the trade, and when, by reason of more favorable conditions for shipping, the consumer gets the fish in much finer condition than is possible in the summer months, the time when none of the fishes spawn.

There are two principal systems of fishing operated by commercial fishermen in these waters—the pound net or stationery net, and the gill net or movable net.

The pound net is composed of three separate parts—the leader, the heart, and crib or pound. The leader is from 50 to 60 rods in length, the heart from 6 to 8 rods

in length, and the crib from 28 to 30 feet square. The mesh of pound nets, as now used, is from 5 to 7 inches for all parts of the net except the crib, which is the part daily raised. All except the very largest fish can go through the leaders and hearts at will, and undoubtedly do so, and can swim under the crib of every pound on Lake Erie, thus preventing no fish, except the very largest, from passing through.

Of course, those fish that follow the leader, which is from 50 to 60 rods long, and then into the hearts and finally get into the crib, are probably nearly all saved to the fisherman. But what practical pound-net fisherman will say what proportion of the fish, after striking a leader to a pound net, will make the journey along the leader and then through the heart, and finally swim through the tunnel into the crib, and what proportion will go through this large-mesh leader and finally escape altogether.

Thus it is that while pound nets present something of an obstacle to the onward progress of the fish seeking a proper place to deposit their spawn, they do not present an absolute bar to their progress, by reason of the large-sized mesh used as above indicated; while gill nets, being a small-mesh net, set in long lines along the bottom of the lake, present an absolute wall to the further progress of the fish, thus diverting them from their natural course, and, in fishing parlance, breaking up and destroying the schools.

Then, again, pound nets can only be set near the shore, and being stationary nets fastened to piles, can only catch the fish that come to them, while gill nets are set here to-day and there to-morrow, and always in such manner as to head off and obstruct the onward progress of the fish. Pound nets can, at best, obstruct an eighth or tenth of the lake, leaving the balance of the lake a free passage, while gill nets, in these late years, are operated in an almost unbroken line from shore to shore, and were so operated last season. Beginning at a point near Vermillion, Ohio, these lines of gill nets extended into Canadian waters, thus shutting the schools of herring off from the island region and the head of the lake, where the spawning-grounds mostly lie. This was fully demonstrated by the very small catch of herring last season in the western half of the lake.

It is evident to men operating the fisheries that unless these fish are permitted to reach the spawning-grounds, which lie all over the western portion of the lake, they must of necessity rapidly decrease in the waters of Lake Erie, and as a practical fisherman I see only one remedy, and that is to limit the fishing of nets in such manner as to leave a passageway for the fish to their accustomed spawning-grounds, and the only practical way to do this is to prohibit the fishing of any nets at a greater distance than, say, 4 miles from shore where the lake is 30 miles in width or more; and in all passageways where the distance across is 10 miles or less, nets be permitted to fish at a distance from either shore not more than one-fourth of the distance across, and that all nets be set at right angles to the shore. This would leave a wide waterway for the fish, unobstructed by nets of any kind, and thus permit their free passage to the spawning-grounds, which lie all over the western part of the lake.

The better-informed and unprejudiced fishermen are all agreed that if nets are so operated as to permit the fishes to reach their natural spawning-grounds, no system of fishing will ever reduce the supply below the present standard, and not only that, but that the fishes would soon show an increase. It may not be practical or right to say, by law, that this or that system of fishing shall prevail, but it is both practical and right to say that nets shall be so operated that the fish may, with a reasonable certainty,

reach their natural spawning-grounds, and so reproduce their kind in the natural way. I believe that the State and Government fish hatcheries are doing a good work in stocking the waters of our lakes and rivers; but the natural way is surely the better way, and any practical law looking to that end should certainly have the hearty support of all who are interested in this industry.

The States undoubtedly have certain control over our inland waters, and are in the main endeavoring to properly regulate by law the fishing and fisheries, but by reason of the great diversity of interests of the different States in connection with this industry it is the opinion of many of our best thinkers that the General Government may yet be asked to assume more control of the inland fisheries than has hitherto been considered advisable or within the scope of its powers. The fisheries of our inland waters furnish the people with a very valuable article of food, and any legislation on this subject should consider the rights and necessities of the consumer as well as the producer. The consumer has the right to be protected by law in this, that the fish shall be taken in such a manner as to warrant their being marketed in a wholesome condition. Inspectors or wardens should be appointed, with full powers to condemn all fish offered in our markets that are unfit for food, made so by the manner or season in which they are caught, or for any other cause which may be properly remedied by law. It is estimated that 8,000 tons of herring were taken from the waters of Lake Erie during the months of June, July, and August, and of that part of this product marketed in a fresh condition during this hot period undoubtedly a very considerable proportion reached the consumer in a stale or unwholesome condition, and very much of it was utterly wasted.

The State of Ohio has a closed season from June 15 to September 10, but Pennsylvania has not, and so the great slaughter and waste of herring goes on during the summer months, when this fish is of the least value as a food product, and by reason of the hot weather can only be sent in limited quantities fresh to the consumer, and then only to cities that have large markets, supplied with refrigerators for keeping them. Large quantities of young or half-grown whitefish are also taken in the summer months by gill-net fisherman, operating their nets in the deep waters of the eastern end of the lake, and are thrown away or sold as herring. The fish product of the great lakes has become such an important article of food to the vast population tributary thereto that laws prohibiting unreasonable waste or destruction of this valuable commodity of commerce should be enacted and enforced. The people generally look to commercial fisherman only for their supply of fish food, and, in a way, are as much interested in making commercial fishing a successful industry as are the men operating the fisheries.

Our law-making bodies, then, should pass laws that will not only foster and increase this great industry, but will also compel dealers and shippers to produce and send to the consumer, wherever he may be located, this valuable food product in the most perfect and wholesome condition possible. The people have a right to this protection and should enforce their just demands through the medium of their respective legislators. This industry should not be hampered by laws based on the fanciful theories of the fish-culturist or influenced by the arguments of the fish vandals who operate on the plan that all are fish that come to their nets; but the best interests of the whole public should be considered, and in the end such a system of laws would be to the best interests of the producer and the consumer alike.