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DESTRUCTIVE SEA LAMPREYS CONTINUE TO INCREASE IN GREAT LAKES

Destruction of the Great Lakes fishing industry — the nation's richest source of fresh water fish for commerce and recreation — is threatened unless an effective control of the sea lamprey is developed within the next few years, Albert M. Day, director of the Fish and Wildlife Service, Department of the Interior said today.

In a report to Secretary of the Interior J. A. Krug, Day said that the lamprey is continuing to increase at an alarming rate, and already Lake Huron trout, hardest hit by the attack, has practically disappeared from the commercial catch. The total United States and Canadian commercial production of fish from the Great Lakes is around 100 million pounds annually. More than 5,000 U. S. fishermen and 2,000 boats are normally engaged in the industry.

The sea lamprey is an eel shaped parasite with a suction cup mouth, which sucks the blood of lake fishes, leaving them either dead or so badly scarred that it is almost impossible for commercial fishermen to dispose of them.

The sea lamprey problem was first brought before Congress in a hearing held in Washington in June 1946. Concerned over the threat to the $12 million a year Great Lakes fishing industry, Congress passed Public Law 672 to engage in a program for the control of the lamprey, in conjunction with bordering States and other cooperators.

A Great Lakes Sea Lamprey Committee was formed, consisting of representatives from Wisconsin, Minnesota, Pennsylvania, Indiana, Illinois, Ohio, New York, the Province of Ontario, and the U. S. Fish and Wildlife Service. Dr. John Van Oosten, of Ann Arbor, Michigan, chief of the Service's Great Lakes Fishery Investigations, was elected chairman. This international committee drew up a research program and field investigations were started.

From 1895 to 1935 lake trout production was quite steady in the United States waters of Lake Huron, averaging 1,720,000 pounds per year. From 1936 to 1939 the yield dropped to 1,345,000 pounds. In 1940 the take fell below 1,000,000 pounds and continued to fall in each succeeding year until it reached a new record low in 1948 of less than 5,000 pounds. A similar fate befell lake trout in the Canadian waters of Huron. No known factor other than sea lamprey depredations can account for this complete collapse of this fishery.

Lake Michigan trout is facing the same situation. From 1879 to 1945 the average annual take was somewhat over 6 million pounds. In 1946 it dropped to less than 4 million, in 1947 to less than 2½ million, and in 1948 to a little more than 1 million pounds, or one-sixth of the normal catch.

In Lake Superior the trout yield has not yet been noticeably affected by the lamprey but biologists predict that unless the parasite can be controlled, Superior trout will face extermination in a few years.

The lake trout is a popular "fighting" fish which reaches a large size. "Deep-sea" sport trolling for it has expanded greatly in the last decade. It has been estimated that economically the sport fisheries of the Great Lakes are on a par with commercial operations.

Now that the lake trout is so reduced in abundance, the sea lamprey is beginning to attack other species of fish such as the whitefish, walleyes, herring, chubs, black bass, suckers, perch, bullheads, and catfish. This shifting of hosts by the parasite is unfortunate, say Service biologists, for not only do the sea lampreys divert their attacks to other species but fishermen must likewise change their fishing habits. In Lake Michigan, gill net fishermen who formerly set nets for trout must now fish almost entirely for chubs and whitefish. These diverted attacks by both sea lampreys and fishermen place a heavy drain on all of the more valuable Great Lakes species of fish and threaten the existence of the entire industry.

So far no satisfactory solution has yet been found to the problem of control. Weirs and traps were found to be effective in certain streams, but such methods are expensive, are slow in exterminating a run, and are generally not applicable in many of the streams where spawning lampreys enter. At the present it appears that a combination of methods must be employed to eradicate or control the pest in most streams, and efforts must be concentrated on major runs. Certain fundamental questions have already been answered by research men but others must await further investigations.

During the 1949 season the spawning run of lampreys trapped by a two-way weir on the Ocqueoc River in Northern Michigan amounted to nearly 25,000 on July 18, when the run was largely completed. This is twice the 1948 estimate and two and one-half times the 1947 estimate, according to Mr. Day.

The Ocqueoc weir was constructed by the Service in 1947 to trap adult lampreys on their upstream spawning migration and young lampreys on their way to Lake Huron to begin the parasitic phase of their life. It is operated by personnel of the Michigan Department of Conservation.

Evidence of how rapidly the sea lamprey is spreading is contained in numerous reports received by the Service. The presence of mature or spawning sea lampreys has been verified in 92 streams in Michigan, and reliably reported in 18 others. Lampreys have also become established in two inland lakes, Burt and Mullet, and were present in Lake Charlevoix and Pentwater Lake.

A similar situation exists on the Wisconsin shore of Lake Michigan. Reports received by the Service from the Wisconsin Conservation Department, which operates a weir on Hibbard Creek (Door Peninsula), reveal that lampreys are on the increase their. In the Kewaunee and Michicott Rivers, the 1949 runs were extremely large although neither river had previously had an important run.

A considerable number of lampreys have invaded Indiana streams, the Service has been advised, sizeable run having entered the Little Calumet River in late May.

Commercial fishermen report that the lampreys are becoming more abundant in th Lake Huron and Lake Michigan. "Unprecedented concentrations" were observed in northwestern Lake Huron and the Straits of Mackinac in the fall of 1948.

Dr. Frank W. Jobes, fishery research biologist for the Service at Ann Arbor, Mich., reported, "From September 21 to October 9, 1948, we found large-mesh gill nets—the standard gear for the capture of lake trout—being fished only at the ports of Charlevoix, Northport, and Leland, Mich., and Waukegan, Ill. Only 529 lake trout were found in the catches of 29 gangs of nets."

On the Wisconsin shore of Lake Michigan, gill-net fishing for lake trout has been almost entirely abandoned and the catches of trout in pound nets are only a small fraction of those of former years.

The lamprey is not native to the upper four Great Lakes. Stocks now found in these waters are undoubtedly the progeny of lampreys that passed through the Welland Canal into Lake Erie where they were reported off Merlin, Ontario, in 1921, and at Sandusky, Ohio, in 1927. The lamprey reached the St. Clair River by 1930 and was in Lake Michigan off Milwaukee by 1936. In 1937 a large spawning run was observed in the Ocqueoc River. The first specimens from the U. S. waters of Lake Superior were reported from the western end of 1946. Now present in all of the Great Lakes, the parasite is most abundant in Huron, Michigan, and Ontario where it is found down to depths as great as 65 fathoms.

It has been discovered that sea lampreys cannot be utilized for the market. Preliminary analyses indicate that both their vitamin A potency and oil yield are much too low for commercial exploitation. It is possible that some lampreys can be used for reduction purposes. A small quantity can be sold to biological supply houses. Cooking tests failed because of the soft body of the lamprey and its extreme susceptibility to fungus infection. A Canadian canning test, however, has shown some promise of success.

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