

Lake Superior Lampreys Continue Decline

Long the scourge of commercial fishing in the Great Lakes, the sea lamprey, *Petromyzon marinus*, is far less common in Lake Superior today than thirteen years ago when controlled population study was initiated. A record low catch of 1,911 adult lampreys for early April through mid-July, 1974, compares with nearly 51,000 trapped during the same period in 1961. Catches for each year since then have averaged 7,200. The lampreys—which parasitize lake trout and other large species—are trapped at barriers near the mouths of streams, which they enter for the purpose of spawning.

The sea lamprey is originally a marine fish, but in historic times the species wandered into Lake Ontario, where it easily adapted to the freshwater habitat. It was first observed in Lake Erie in 1921. In 1934 it was found in Lake St. Clair, in 1936 in Lake Michigan, in 1937 in Lake Huron (although presumably it had entered Huron before Michigan). In 1945 the first lamprey was caught in Lake Superior and by the following year it was known to occur in all parts of all the Great Lakes.

The lamprey feeds on host fishes by attaching to them by means of an oral sucking disc; within the disc are sharp teeth. Saliva dissolves the tissues, which are then absorbed by the lamprey. Even if a victimized fish survives the attack, it remains permanently scarred and unfit for market.

In 1946, after Lake Huron's lake trout population had been severely reduced by the parasite, the Michigan Conservation Commission ordered a thorough investigation. TFM, a chemical that selectively kills lamprey larvae was first tried in Lake Superior's tributary streams in 1958; within three years the adult lamprey population in that lake was reduced 80 percent. By that time lake trout had virtually disappeared from Lakes Michigan and Huron, and in Lake Superior had been reduced by 90 percent. Whitefish, deep-water ciscoes, and walleyes were also severely affected by the lamprey. (In more recent years, the overabundance of alewives is largely attributable to the drop in populations of lake trout and other species that prey on alewives.)

Although lamprey control and heavy plantings of hatchery-reared stock have restored

lake trout abundance to pre-lamprey levels in a few areas of Lake Superior, the trout are just now showing faint signs of becoming self-sustaining. Naturally produced trout in Lake Superior now make up 5 to 6 percent of the catch. Additional reasons for optimism exist with the recent evidence of lake trout spawning in Lake Michigan.

Total eradication of the lamprey from the Great Lakes by present methods is unlikely, since lampreys—notorious for their ability to adapt to unfavorable conditions—are able to maintain their life cycle in bays and inlets.

While lamprey populations have been greatly reduced, the remaining ones are getting bigger, reports Bernard Smith, director of the lamprey eradication program centered in Marquette, Mich. "They're larger than anything we've ever seen before, even when they first came into the lakes in the 1930s and 40s," said Smith.

"Trash" Fish for Cheap Protein

As trout, whitefish, and walleyes are struggling for a comeback against the lamprey, researchers have found that underutilized fish, such as suckers, burbot, and alewives can be made acceptable for consumers. The latter three species are not popular because they often have a muddy or fishy taste. Suckers and burbot are also considered "ugly," and suckers simply have too many bones to suit the average palate.

But food scientists at the University of Wisconsin have discovered that these unpopular species are rated as "very acceptable" by consumers when canned, smoked, or pickled, or when processed into frozen fillets or fish sticks.

Wisconsin researchers R. C. Lindsay, D. Stuiber, and V. L. Carlson found that smoked and pickled suckers were rated as "quite acceptable," and suckers with the bones removed were popular when minced and smoked or as fish sticks. Burbot was acceptable as frozen fillets, fish sticks, and poached chunks. Smoked alewives are comparable to sardines, the researchers found.

The availability of these species, however, is seasonal. Burbot and suckers can generally be harvested only during spring spawning. Burbot are common only locally, as in the Green Bay area. Alewives, which are abun-

dant, are not ordinarily caught in the winter-time. Natural stocks of burbot and suckers are greater in Canadian lakes than in the Great Lakes.

Currently alewives are used only for oil and in meal for animals. Suckers are sometimes marketed as "fresh water mullet."

Aldrin Suspended by EPA

The manufacture of the pesticide aldrin or its metabolite dieldrin was suspended on August 2 by the Environmental Protection Agency (EPA). On the basis of tests with laboratory animals, EPA Administrator Russell E. Train has determined that "the present estimated average human dietary intake of dieldrin subjects the human population to an extremely high cancer risk."

As a result of the suspension, production of some 10 million pounds of aldrin—scheduled for sale in 1975—has been halted. The chemical has been used principally against corn pests.

The aldrin ban is the first such action against a pesticide upon an "imminent hazard" determination and without complete hearings of petitions to permanently ban the chemical. "To await the twenty to thirty years of exposure to dieldrin necessary to determine the ultimate effect is only to wait until the damage to an entire generation of humans is complete," remarked Train. "We reject the 'body count' approach to protection against cancer or other long-term threats to public health."

... but asbestos dumpings continue into Lake Superior

Meanwhile a known carcinogen—asbestos—continues to be dumped into Lake Superior, thus contaminating the water supplies of some 200,000 area residents. The pollutant is present in residues from the processing of taconite—a low-grade iron ore that is being processed at Silver Bay, Minnesota, on Lake Superior's north shore. Reserve Mining Company is owner of the plant. The effects of oral ingestion of asbestos fibers has not been demonstrated, although it is known that the fibers have the ability to pass through the walls of the gastrointestinal tract.



1974. "Aldrin Suspended by EPA." *Field Museum of Natural History bulletin* 45(9), 14-14.

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