Great Lakes Fishery Commission

By eradicating the sea lamprey, above, the Michigan Department of Natural Resources is hoping to increase lake trout numbers in Lake Huron.

Outdoors

Lampreys are being driven out of Lake Huron

By Lynn Henning / *The Detroit News*

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During the 1930s, commercial fishermen on Lake Huron harvested five million pounds of lake trout each year. Never did the commercial haul seem to faze a native lake-trout population that was the centerpiece of a rich Great Lakes fishery.

By 1950, the lake-trout catch on Lake Huron was zero. Sea lampreys had wiped out a species that was as popular with anglers as it was with people who loved eating its delicate, white flesh.

After decades of up-and-down, good news-bad news, efforts to control lampreys, agencies from the United States and Canada could be making lasting progress against the fish-killing parasites in the one area where they yet have a foothold:

Lake Huron's northern waters, where the St. Mary's River -- it connects Lake Huron with Lake Superior -- has been a key spawning ground for lampreys.

Trapping thousands of male lampreys, sterilizing them, and sending them back into the river to make female eggs infertile, is having a devastating effect on lampreys.

Also, an innovative, computer-targeted, helicopter-applied approach to dropping lethal chemicals on juvenile lampreys has shown early evidence of being particularly effective in killing a predator that only arrived in Michigan waters 70 years ago.

"At this time, I've never felt so encouraged about lake-trout restoration and lamprey control," said Jim Johnson, head of the Michigan Department of Natural Resources' Alpena Fisheries Station.

Johnson supervises surveys of northern Lake Huron's lake trout numbers, and last year's data was more than promising.

Lamprey scars -- chilling evidence of how close a lake trout came to losing its life to the rasp-toothed animals -- had decreased from 32 per 100 fish in 2000 to eight per 100 during last spring's survey.

Roger Bergstedt, a researcher for the United States Geological Survey, and for decades one of the leading lamprey experts on the Great Lakes, said recent chemical treatments have reduced, by 50 percent, lamprey larva in the St. Mary's River.

"That may not sound like a lot," Bergstedt said, "but considering the situation, it's quite a victory."

While lamprey-eradication efforts have helped return a stable lake-trout population to

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Lake Superior, Lake Ontario, and some areas of Lake Michigan (Lake Erie's population, confined to the east end of the lake, is also stable), Lake Huron's lake trout have remained under siege.

Sport fishing has been particularly hard hit in that lampreys prefer larger lake trout. Mortality rates for big fish might be lower than with smaller lake trout -- 60 percent, perhaps, for lake trout 10 pounds and larger, while smaller trout are nearly always doomed -- but the 20- and 30-pound lakers that would otherwise thrive in a lamprey-free Lake Huron are rare.

Lake Huron's rocky northern waters are particularly critical because they remain the Great Lakes' premier lake-trout spawning region.

Perhaps a million lake trout exist in the lake, as near as DNR surveyors can guess. Before aggressive, targeted chemical-granule drops were made on specific areas of the St. Mary's River in 1998, and especially in '99, Bergstedt estimates there were five million juvenile lampreys in the river's sediment -- half of which were destined to die from the treatments.

Those young lampreys awaited maturity -- anywhere from three to seven years -- when they would rise from the muck and begin searching for an extended meal, most often a lake trout. Lampreys grind their teeth into the fish and feed for months, slowly sucking life from the fish.

To set up the chemical drops, Bergstedt and his associates spent four years plotting 12,000 locations across the St. Mary's River, using electrodes and a vacuum hose to drive lamprey larva from their burrows and pump them onto a boat deck.

Global positioning systems and computers determined exact concentrations and areas of application, then guided a helicopter to lamprey beds where the chemical was dropped.

With a $4-million budget (treating the entire river would have cost $18 million) the spot-dropping was a classic example of getting ultimate bang for the buck. It was the lampreys that felt the biggest bang -- a fatal dose of lampreycide (Bayluscite) dropped in bomb-like, timed-release granules that disperse their lethal chemical within minutes of sinking into the mud.

Sea lampreys are a salt-water native species that can adapt to fresh water. They arrived in the Great Lakes 70 years ago by way of the St. Lawrence Seaway and the then-new Welland Canal.

In their larval stage, lampreys look -- and feed -- like earthworms, ingesting debris from a lake or river bottom as they rest in their burrows. They are about five inches long when they leave those burrows as juveniles, then grow to a length of 16 inches as they spend 12-16 months in their fish-foraging adult stage.

Most lamprey attacks occur in late summer or early autumn. Lampreys will remain attached to a fish until spring, when they detach and head upstream to spawn, and die.

The mating urge is helping to doom lampreys, thanks to heavy trapping of the animals by a trio of international agencies: U.S. Fish and Wildlife Service, U.S. Geological Survey, and Canada's Department of Fisheries and Oceans.

Lampreys are attracted by water flow to traps attached to power plants along the St. Mary's River. Females are destroyed, while males are sterilized and released back into the water where they inject sterile fertilizer into spawning females.

Over the last four years, sterile males have outnumbered fertile males 3-to-1, Bergstedt said, decreasing successful spawning by 82-90 percent.

Yet, it is an unprecedented, allied attack by state and federal interests that might stand as the greatest threat to lampreys.

Michigan Gov. John Engler's administration during the late '90s allocated $3 million for the effort, a significant step for a state that had always looked at lampreys as a federal problem.

The Great Lakes Fishery Commission chipped in with another $2 million, thanks to

Michigan's congressional delegation -- Sen. Carl Levin, and Rep. Jim Barcia, D-Bay City have been particularly strong -- that has supported lamprey funding without exception, and across party lines.

It's one more reason why Bergstedt, having spent more than a generation fighting a death sentence for lake trout, looks now at the existing situation and says: "As far as I'm concerned, it's one of the most satisfying things I've ever been involved with."

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