



Great Lakes Fishery Commission

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Great Lakes Fishery Commission reflects on 100 years of invasive sea lampreys above Niagara Falls

Sea lampreys were first discovered in Lake Erie 100 years ago, marking the beginning of their assault on the Great Lake fishery

Ann Arbor, MI—This coming Monday, November 8, 2021 is the one hundredth anniversary of the first capture of the invasive, destructive sea lamprey above Niagara falls, marking the start of a consummate ecological disaster for the Great Lakes. Those harmed most directly by sea lampreys—commercial and recreational fishers—faced an existential threat and pressed politicians in both Canada and the United States to take action. The result was the 1954 *Convention on Great Lakes Fisheries*, a treaty between the two nations that created the Great Lakes Fishery Commission and, in part, charged the commission with developing and implementing a sea lamprey control program. Although the sea lamprey threat remains, the control program has been remarkably successful, leading to reductions in sea lamprey populations by more than 90% in most areas of the Great Lakes and supporting today's \$7 billion fishery.

On this centennial of the sea lamprey invasion, a new paper in the *Journal of Great Lakes Research* reflects on the history of sea lampreys in the Great Lakes, the unparalleled program to bring the invader under control, and the next frontiers in managing the harmful species. The paper is available at https://authors.elsevier.com/a/1e0TM_8fAfNb48.

Sea lampreys are native to the Atlantic Ocean. They first invaded the Finger Lakes of New York and Lake Ontario in the mid-1800s through manmade canals. Scientists and fishers at the time noted with considerable alarm the damage sea lampreys were causing in that region, but Niagara Falls served as an impenetrable barrier to points further upstream; people thought the problem would at least be contained. A major renovation to the Welland Canal, the artificial connection between Lakes Ontario and Erie, allowed sea lampreys access to waters above Niagara Falls.

On November 8, 1921, Ontario commercial fisher Alexander Crewe was pulling nets full of lake whitefish from central Lake Erie when he noticed a lamprey much larger than the native species he was used to seeing. He sent the specimen to the University of Toronto for identification, thus providing the first report of the invasive sea lamprey above Niagara Falls. Throughout the next two decades, sea lampreys spread, unchallenged, throughout Lakes Michigan, Huron and Superior,



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wantonly killing hundreds of millions of pounds of fish along the way.

Although the sea lamprey invasion is arguably one of the worst ecological disasters in history, the crisis also gave rise to the collective realization that the health of the Great Lakes would require ongoing cooperation among governments, scientists, and users of the resource, and served as a catalyst for the development of the collaborative fishery management regime that exists today.

“It’s easy to forget just how dire the viability and productivity of the Great Lakes fishery became following the sea lamprey invasion into Lake Erie and the upper lakes,” said Professor William Taylor of Michigan State University, chair of the Great Lakes Fishery Commission. “It is our job as citizens, managers, researchers, policy-makers, and stewards of our shared natural resources to remember and remind others of what happened and why it happened once sea lampreys became established in the Great Lakes. We must learn from our past mistakes and successes to ensure the sustainability of the Great Lakes fishery and enhance the value of the resource to the Great Lakes community in the United States of America and Canada.”

The three and a half decades between the discovery of the first Lake Erie sea lamprey and the formation of the sea lamprey control program were some of the bleakest on record for the Great Lakes fishery. With only one in seven fish surviving a sea lamprey attack and, at the time of highest abundance, 85% of fish not killed bearing the unmistakable scar indicative of an attack, the need for a large-scale response was palpable. Commercial and recreational fishers pleaded with Congress and Parliament for action. The *Convention on Great Lakes Fisheries of 1954* created the binational Great Lakes Fishery Commission and charged the commission with developing and implementing a comprehensive sea lamprey control program, based on science.

“Today, sea lamprey control in the Great Lakes is remarkably successful,” said James McKane of Kitchener, Ontario, vice-chair of the commission. “Over the past six and a half decades, the Great Lakes Fishery Commission and its partners have reduced sea lamprey populations by 90% in most areas of the Great Lakes, saving millions of pounds of fish each year and contributing to the rehabilitation of fisheries that were once on the brink complete collapse. The early pioneers of sea lamprey control shared an unyielding commitment to science and innovation, which continues to unite and drive program staff today. Without sea lamprey control, the \$7 billion fishery would cease to exist.”

“In the 100 years since the first sea lamprey was discovered in Lake Erie, the people of the Great Lakes region have shown that is not only possible but also necessary to come together as stewards of the Great Lakes fishery through active engagement in science, policy, and politics to protect our natural resources,” concluded Commissioner Taylor. “It was a tough way to learn this lesson but one we ought not to forget.”

