

John Clevenger of the Michigan Department of Natural Resources, Fisheries Division, displays a chinook salmon wounded by a sea lamprey.

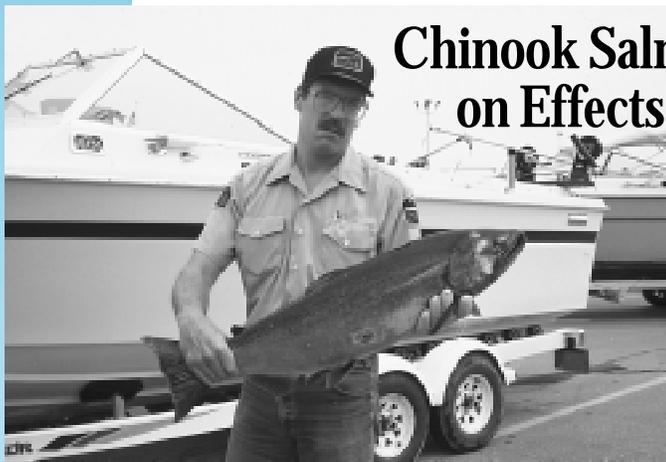


Photo: USGS

Chinook Salmon Study Focuses on Effects of Sea Lamprey Attacks

reductions in abundance after the sea lamprey became established, even though only the lake trout was harvested commercially. Removal of the top level predators allowed the alewife, another invader from the Atlantic Ocean, to become established as the most abundant species in the Great Lakes.

By the mid-1960s, the success of the sea lamprey control program allowed chinook salmon to be stocked into the Great Lakes to reduce the excessive numbers of alewives that periodically died and fouled the beaches. Moreover, the success of the chinook salmon stocking program, particularly in Lakes Huron, Michigan, and Ontario, created a fantastic sport fishery that did not previously exist.

Wounding rates by sea lampreys vary among prey species and even vary for a single species among lakes. Sea lamprey wounding rates on chinook salmon are generally low in Lakes Michigan and Ontario, but higher in Lake Huron. This is probably due to the low abundance of preferred prey (lake trout) in Lake Huron. However, scientists do not know the effect of sea lamprey attack on overall chinook salmon mortality. The study now taking place at the Hammond Bay Biological Station is designed to fill that information gap. This study is carried out by observing the survival rate of chinook salmon attacked by a sea lamprey in the laboratory.

Immature chinook salmon are better suited to study the effects of sea lamprey attack than

CHINOOK, CONTINUED ON PAGE 6 

By Bill Swink

THE TARGET LEVELS of sea lamprey control in the Great Lakes are influenced by the number of fish killed, as indicated by the level of wounding and survival of the most commonly attacked host species, such as lake trout, whitefish, and chinook salmon. Knowledge of how well chinook salmon survive attack is key to allocating control efforts to minimize the damage caused by sea lampreys in the Great Lakes.

To learn more about the sea lamprey's effect on chinook salmon, the Hammond Bay Biological Station, in cooperation with the Great Lakes Fishery Commission, is examining the effect of single sea lamprey attacks on immature chinook salmon, similar to studies conducted previously on lake trout, rainbow trout, and burbot.

Lake trout and burbot were the only two major deepwater predators in the Great Lakes before the invasion of the sea lamprey. Both fish species suffered drastic, simultaneous

Recent Publications

International Sea Lamprey Management on the St. Marys River
Fact sheet

Fishing for Solutions
Sustainability of Commercial Fishing in the Great Lakes, Great Lakes United Conference Proceedings

Lake Trout Rehabilitation Guide for Lake Huron
Report of the Lake Huron Technical Committee

New Online

www.glfc.org

Binational Policy and Action Plan for the Protection and Enhancement of Aquatic Habitat in the Great Lakes
Draft

Gross Signs of Tumors in Great Lakes Fish
A Manual for Field Biologists

Calendar

GLFC Interim Meeting
December 1-3 Toronto, ON

Upper Lake Committee Meetings
March 22-25 Milwaukee, WI

Lower Lake Committee Meetings
March 30-April 1 Niagara Falls, NY

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From the Chair...

Burton Ayles

Commission Seeks Comment on Habitat Policy

The protection and rehabilitation of aquatic habitat in the Great Lakes are crucial to the health and diversity of our valuable fisheries. Too often, however, loss of fishing habitat—resulting from development, agriculture, waste disposal, and myriad other activities—plague the quality of the Great Lakes fisheries and hinder rehabilitation.

In an effort to define and promote the habitat needs of fish communities, to work with other fish management and environmental agencies to meet those needs, and to create the means for charting progress in meeting those needs, the Habitat Advisory Board of the Great Lakes Fishery Commission has prepared a draft Binational Habitat Policy and Action Plan. The Great Lakes Fishery Commission invites your comments on this plan.

“Since the 1940s, the rate-of-loss of aquatic habitat in the Great Lakes has accelerated,” the draft policy notes. “[Stresses] on aquatic habitat continue, and without establishing the value and importance of habitat, further exploitation and deterioration are likely to occur. New technologies and human population trends are on a collision course with maintenance and rehabilitation of quality fisheries in the Great Lakes.”

To address habitat problems and rehabilitation needs, the draft policy identifies authority, implementation strategies, and tactics which can effect a net gain in aquatic habitat. For

How to comment on the draft habitat policy

Where can I get a copy of the draft habitat policy?

On the internet: www.glf.org/habitat.htm

Write, call, fax, or e-mail a request to:

Great Lakes Fishery Commission

2100 Commonwealth Blvd, Suite 209

Ann Arbor, MI 48105

734-662-3209 x10 734-741-2010 (fax)

rmshutt@glfc.org

How do I submit comments?

On the internet:

Online form: www.glf.org/habitat.htm

Regular mail or fax:

Mail/fax to address listed above

When do I need to complete my comments?

The comment period ends October 15, 1998

instance, to define and achieve optimum fish habitat, the draft policy calls for agencies to prioritize scientific needs that support the achievement of Fish Community Objectives. The draft policy calls for fisheries agencies to engage in an on-going dialogue with environmental agencies through the Lakewide Management Plan process and it expresses the need to identify the quantity, quality, and location of essential fish habitat. The policy also delineates several methods to stop further habitat loss, to mitigate potential losses, or to restore degraded habitat.

The commission relies on the help of government agencies, users, environmental organizations, conservation groups, and the general public to guide its decision-making process. We welcome and value your comments about this policy. ≈



American Fisheries Society Honors Karen Mumford

Karen Mumford, a student at the University of Minnesota, received the American Fisheries Society J. Francis Allen Award for an outstanding research proposal. The GLFC has been supporting Mumford's work.

Karen Mumford, a doctoral candidate at the University of Minnesota, received recently the American Fisheries Society's J. Francis Allen Award. The award is presented annually to a female Ph.D. student in the field of fisheries who submits an outstanding research proposal. Mumford's research — to analyze the link between human values and biodiversity — is being conducted with the support of the Great Lakes Fishery Commission and other cooperators. The recent biodiversity workshop (see p. 6) was co-organized by Mumford and relates to the research she is conducting. The Great Lakes Fishery Commission is proud to congratulate Karen for this award. ≈



Gary Klar Receives Highest Safety Award

Commissioner Jamie Rappaport Clark, Director of the Fish and Wildlife Service, presents Gary Klar with the 1998 Safety Champion Award.

Gary Klar, chief of the Marquette Biological Station, was the recipient of the U.S. Department of Interior's 1998 Safety Champion Award. Commissioner Jamie Rappaport Clark, Director of the Fish and Wildlife Service, presented the award to Gary during the commission's recent annual meeting in Chicago. Clark noted that the FWS stations under Klar's supervision (which include Marquette, Ludington, and the sterile male facility) exhibit an outstanding department-wide safety record. Terry Morse and Denny Lavis serve as safety officers at the Marquette and Ludington stations, respectively. The commission commends Gary for his commitment to safety and congratulates him for this prestigious recognition. ≈

From the Advisors...

Multi-partisan, Binational Political Activism Raises Profile of Sea Lamprey Control

While science is the foundation of the U.S. and Canadian sea lamprey control program, a fact of life is that political support drives the process.

BY Paul Wendler

INTERNATIONAL SEA LAMPREY CONTROL is fortunate to enjoy multi-partisan political support throughout the Great Lakes basin, largely because the program is based on science, is successful, and is the backbone of the rebounding Great Lakes fishery. Without political support, funding for this effort could evaporate and the fishery would revert to a state of collapse.

Because it is important to interact with our elected officials, it is particularly gratifying to note that politicians in the United States and Canada have taken a particularly strong interest in the program. Recently:

- Michigan Senator Spencer Abraham visited the Great Lakes Fishery Commission office in Ann Arbor to meet with the staff and to gather information about the program. Senator Abraham, with the support of Senator Levin, successfully convinced the U.S. Senate to proposed an increase in funds for sea lamprey control on the St. Marys River.
- At the invitation of the Michigan Sea Lamprey Control Funding Task Force, Michigan Congressman Jim Barcia met with members of angling organizations, advisory committees, Dow Chemical, and GLFC staff in Saginaw, Michigan, to discuss the sea lamprey problem in Lake Huron, caused by the St. Marys River.
- Ontario Member of Parliament Paul Steckle brought the Standing Committee on Fisheries and Oceans — a committee made up of Members of Parliament from across Canada — to the Great Lakes for a series of field hearings on the needs of the program. This was the first time this committee has visited the Great Lakes region.
- Michigan Governor John Engler visited the U.S. Fish and Wildlife Service's sea lamprey control display during the Upper Peninsula State Fair, shortly after he proposed state funds for sea lamprey control on the St. Marys River. Michigan's contribution, which was approved by the legislature, made it possible for sea lamprey control on the St. Marys River to move forward.

The Great Lakes fishery benefits tremendously from the attention and support of our elected officials. These recent activities and the steadfast support from legislators around the region, are vital to the protection and sustained use of our natural resources. ≈

Paul Wendler is an advisor to the Great Lakes Fishery Commission. He serves on the Lake Huron Advisory Committee (to the Michigan Department of Natural Resources) and as a member of the Michigan Sea Lamprey Control Funding Task Force.



Senator Spencer Abraham (R-MI) visited the Great Lakes Fishery Commission secretariat in Ann Arbor to discuss sea lamprey control and fishery management.



Congressman Jim Barcia (D-MI) met with Gavin Christie, left, and Marc Gaden, middle, of the Great Lakes Fishery Commission staff to follow-up on his meeting in Saginaw with anglers and conservation groups.



MP Paul Steckle (Lib.-Huron-Bruce), right, discussed the sea lamprey problem with Wayne Easter, Chairman of Parliament's Standing Committee on Fisheries and Oceans. Steckle recently brought the committee to the region to investigate Great Lakes fishery issues.



Governor John Engler (R-MI) got a first-hand look at sea lampreys during a visit he made to the U.S. Fish and Wildlife Service's sea lamprey display at the Upper Peninsula State Fair. Also pictured, Jennifer Zaenglein, Fish and Wildlife Service.

Photos: GLFC, FWS, Paul Steckle

Mayflies Are Back in Lake Erie!

**“Nuisance” Insect Benefits
Fishery, Indicates General
Health of the Ecosystem**

by Jill E. Jentes

Jill Jentes is Assistant Editor
of Ohio Sea Grant's newsletter
Twine Line.

MAYFLIES (HEXAGENIA) ARE BACK IN LAKE ERIE after a long absence and while they might be a nuisance to those who live near the water, their resurgence reminds us that we have come a long way in improving the health of the Great Lakes. True, for a few weeks out of the year swarms of these winged animals coat awnings and streets, but consider what increased mayfly abundance really means for the Great Lakes: fish now have more food to eat and the lakes — once too polluted to produce these insects in significant numbers — are now much cleaner than they were even a decade ago.

Mayflies constitute one of the more important groups of bottom-dwelling animals in Lake Erie. Plentiful and unique, mayflies are insects that spend almost their entire lives as larvae (or nymphs) in lakes or streams. Remaining in this stage for a year or more, these insects emerge from the water to spend a short time — from a few hours to a couple of days — as adults before dying.

Mayflies Make a Comeback

Dan Schloessler of the U.S. Geological Survey's Great Lakes Science Center is an expert on mayflies. He notes that mayflies are routinely used for monitoring water quality because they are relatively immobile, long-lived, and sensitive to environmental stress. At one time, mayflies were abundant in the shallow regions of Lake Erie. Severe pollution, however, caused many mayfly species to virtually disappear in the mid-1950s.

The insect, however, has made a surprising comeback with its reappearance in the western basin of Lake Erie in the early 1990s. Mayfly numbers have increased drastically over the last few years from an average density of nymphs of 34 per square meter in 1995 to 404 per square meter in 1997. This increase in the number of nymphs has corresponded with an increase in the sizes of the adult swarms along the lakeshore, indicating the probability of increased numbers in future years. Incidents such as the northwestern Ohio brownout caused by mayfly interference on power transformers, and slippery road conditions due to a large mayfly hatch in 1996, have made the public take notice.

“The dramatic loss of mayflies was really a huge shift away from the natural condition of Lake Erie,” said David Dempsey, a member of Great Lakes Fishery Commission. “People too young to know what the Great Lakes were like before the pollution or before the collapse of the fishery are again experiencing the lakes as they once were. Our recent mayfly inundation reflects the magnitude of the improvements taking place in Lake Erie and is an opportunity to appreciate what we have accomplished.”

Mayflies Are an Important Link in the Food Web

Despite the inconvenience associated with increased mayfly abundance, there is a silver lining: mayflies are good for Lake Erie because they are a vital link in the food web of freshwater ecosystems. Mayflies help make energy stored in algae and other aquatic plants available to higher consumers such as other invertebrates, fish, and birds.

Studies from Ohio State University, for instance, show that yellow perch readily eat mayflies, a staple in their diet that disappeared with the mayfly decline. Schloessler adds that “mayflies are an important component of the diets of many fishes and are believed to contribute substantially to fish growth. A positive association between the abundance of mayflies and the growth of yellow perch indicates that the return of mayflies to Lake Erie will be important to the management of fisheries in Lake Erie.”

Although mayflies are a nuisance for about a month each summer, mayflies benefit sport and commercial fisheries of the western basin of Lake Erie and parts of the other Great Lakes. So, the next time you see a swarm of mayflies, or the next time you shovel a heap of them off your sidewalk, take heart in knowing that the lake is now healthy enough to produce this important source of food for the fish you catch. ≈

Lift, Separate, Incubate, and Propagate Cooperative Agreement Spawns Next Generation of Great Lakes Lake Trout

By Mike Donofrio

THE CRYSTAL CLEAR WELL WATER at the Keweenaw Bay Indian Fish Hatchery is once again filling incubation trays cradling freshly collected wild lake trout eggs, following collection trips in Lake Superior. Fishery biologists from tribal, federal, and state governments lifted gill nets from the Klondike Reef, north of Grand Marais, Michigan, Traverse Island Reef in Keweenaw Bay, and the Gull Island Shoal in the Apostle Islands to gather adult trout and fertilize the nearly 40,000 eggs taken from them as part of a cooperative agreement.

This cooperative agreement between the Keweenaw Bay Indian Fish Hatchery and the U.S. Fish and Wildlife Service has produced a new generation of wild lake trout destined to become the brood stock of the future.

Tribal staff nurtured the eggs during an extended incubation period, then transferred the young fish to tanks in January. The lake trout, representing three distinct strains, fed for weeks in the hatchery. The Service relies on the Community to isolate the three strains of lake trout for use as future brood stock. Once they reached one pound in weight, 6,000 of the fish were turned over to the Iron River National Fish Hatchery operated by the Service in northern Wisconsin.

"The wild fish are very important," said Iron River Hatchery Manager Dale Bast. "These young fish become the brood stock for the next generation of lake trout. They'll be stocked back into parts of the Great Lakes where as yet wild fish are not reproducing in sufficient numbers. Along with sea lamprey control and habitat restoration, periodic stocking of lake trout is critical toward restoring wild lake trout populations in Lakes Superior, Huron and Michigan."

The incubation process involves placing the eggs in vertical incubation trays for approximately 60 days and then, as the newly hatched fish, or 'sac-fry' increase their mobility, they are placed in 100-gallon rearing tanks. The fry are then placed on a high-protein diet to ensure proper development.

Three federal health inspections during the next 18 months will ensure the fry are disease-free before being transferred to the Iron River National Fish Hatchery. In exchange, the Service will provide 100,000 yearling lake trout and 7,000 yearling brook trout from the hatchery to Keweenaw Bay and the Community's reservation waters.

The fry, which grow about one-half to three-quarters of an inch each month, recently underwent their first health inspection. "The health inspection involved collecting 60 fish from each strain

Fish reared at the Keweenaw Bay Indian Fish Hatchery are transferred to the FWS Iron River Fish Hatchery through a cooperative agreement.



Photos: Keweenaw Bay Indian Community

and testing for bacterial and viral diseases," said Service Biologist, Becky Lassee. The diagnostics were performed by the Service's Fish Health Laboratory in LaCrosse, Wisconsin.

The health inspection produced a disease-free status for the lake trout being held at the Community's hatchery. The health inspection also indicated that healthy lake trout do exist in Lake Superior and their offspring can be successfully reared at the Community's hatchery. Two more health inspections are scheduled for later in 1998.

The agreement between the U.S. Fish and Wildlife Service and the Keweenaw Bay Indian Community is scheduled to conclude in September, 1999. At that time, fish will be moved from the Keweenaw Bay facility to a federal hatchery. It is clear from this partnership that isolating strains of salmonids for use in the Great Lakes will continue to bolster federal and state hatchery stocks. ≈

Mike Donofrio serves as Biological Services Director for the Keweenaw Bay Indian Community.

Great Lakes Fishery Commission Sponsors Biodiversity Workshop

By Becky Cudmore

In 1995, the Board of Technical Experts of the GLFC sponsored a three-year biodiversity study. The objectives of the study were to assess the changes in the composition of the Great Lakes fish community, examine the food web and ecological implications of these changes, and relate these changes to shifts in human values and management concepts. One of the goals of the study was to develop recommendations to Great Lakes resources managers that would incorporate the role of biodiversity in sustainable, consumptive and non-consumptive uses of the fishes. A significant part of this study involves organizing workshops to incorporate the experience and knowledge of fishery managers and citizens from around the Great Lakes. The first two workshops were held for academics and resource managers around the Great Lakes.

The third and final workshop for invited citizen interest groups was held April 22-24th in Ann Arbor, MI to discuss biodiversity and its role in the management of the fishes of the Great Lakes. Workshop organizers were from the GLFC Biodiversity Task.

The workshop was structured with plenary sessions where task members presented their research and results to date, followed by small break-out discussion groups. Participants were encouraged to provide their views and knowledge surrounding issues of biodiversity. Lunchtime guest speaker, Marc Gaden, GLFC, updated participants on the latest sea lamprey control efforts in the St. Marys River.

Some of the emerging themes from the workshop included more public education and awareness, the need for greater coordination of information between interest groups and researchers, and the need for consistent definitions of concepts.



Photo: Karen Mumford

The Biodiversity Task of the Great Lakes Fishery Commission's Board of Technical Experts held a workshop recently to focus on the role of biodiversity in sustainable, consumptive and non-consumptive uses of the fishes. Workshop organizers include (l-r) Amy Schick (Duke U Marine Lab, NC), Dr. J. Baird Callicott (U of North Texas), Lisa Eby (Duke U Marine Lab, NC), Becky Cudmore and Dr. E.J. Crossman (Royal Ontario Museum), Karen Mumford (U of Minnesota), and Dr. Larry Crowder (Duke U Marine Lab, NC).

By all accounts, the workshop was a great success and workshop organizers wish to thank all participants for their useful insights and feedback on project findings. Workshop proceedings are expected to be completed by fall 1998. ≈

Becky Cudmore is a researcher at the Centre for Biodiversity and Conservation at the Royal Ontario Museum. She is currently working on the Board of Technical Expert's Biodiversity Task.

CHINOOK, CONTINUED

mature, spawning chinook salmon. In late summer and autumn (from September to November), sea lamprey growth and host mortality are at their peaks, but large, mature chinook salmon are already in the spawning streams and dying of natural causes. Immature chinook salmon that are still in the lake are more susceptible to mortality from sea lampreys during this period of rapid sea lamprey growth. Hence, benefits of sea lamprey control accrue to the fishery mainly through the increased survival of these immature fish. Also, medium-sized immature chinook salmon are easier to handle in the laboratory and provide the minimum survival rates for this species. Experience with other prey fish species indicates that survival rates are significantly higher for the largest fish tested, so use of only large, mature fish may underestimate the effect of sea lamprey attacks.

The laboratory studies on chinook salmon mortality from sea lamprey attack began in September, 1997. Unfortunately, poor weather and stressed fish contributed to poor salmon catch and less-than-optimal



Scientists at the Hammond Bay Biological Station — located on the shores of Lake Huron near Rogers City, Michigan — are investigating the effects of sea lamprey wounding on chinook salmon.

laboratory testing conditions. This year, efforts to catch more salmon for study are being increased. Personnel of the U.S. Geological Survey and the U. S. Fish and Wildlife Service will be collecting salmon from Hammond Bay on Lake Huron and transporting them immediately to the Hammond Bay Biological Station. Individual chinook salmon that survive capture will be isolated in a tank with a sea lamprey, where the lamprey will be allowed to feed until it detaches or kills its host.

Previous studies showed mortality from a single sea lamprey attack ranged from

45 to 60% for lake trout, from 60 to 80% for burbot, and was about 50% for rainbow trout. The range in mortalities within a species was most likely caused by differences in water temperature and host size; larger animals were better able to survive attack. Collecting similar information for chinook salmon will further enhance our understanding of how sea lampreys affect Great Lakes' fish stocks and help determine the level of sea lamprey control needed to maintain the fishery. ≈

Bill Swink is a research scientist at the U.S. Geological Survey's Hammond Bay Biological Station.

Native Fish Found in U.S. Lake Ontario for the First Time in 50 Years

By Bob O’Gorman and Randy Owens

A small five and a half inch fish has caused a whale of a delighted stir since U.S. Geological Survey (USGS) Great Lakes Science Center scientists hauled the fish up from depths of nearly 500 feet in April. It marked the first time the deepwater sculpin, a species once abundant in Lake Ontario, had been seen in the U.S. waters of the lake in more than 50 years.

THE REAPPEARANCE OF DEEPWATER SCULPIN is one of many recent signs that a recovery of Lake Ontario’s native fish community is under way.

The fish, a mature female, was caught in a trawl towed along the lake floor 492 feet below the surface. It was identified by USGS scientists working aboard the USGS Research Vessel KAHO during a spring fishery investigation.

Despite annual surveys by USGS and the New York Department of Environmental Conservation from 1978-1997, the deepwater sculpin had not been captured in the U.S. waters of Lake Ontario since 1942. Likewise, exploratory fishing in the U.S. waters of southern Lake Ontario during 1964 and 1972 failed to capture any specimens. In the Canadian portion of Lake Ontario, the fish is extremely rare — only six deepwater sculpins have been reported in Canadian waters since 1972 — three in 1972 and three in 1996.

Abundant in Lakes Huron, Michigan, and Superior, deepwater sculpins are rare in Lake Ontario. Although the fish was plentiful in Lake Ontario in the early 1900s — to the point that it was considered a



The deepwater sculpin, once a vital link in the Lake Ontario ecosystem, was deemed extirpated in 1960s. Scientists at the U.S. Geological Survey discovered its return to Lake Ontario.

nuisance — its populations plummeted in the 1950s and it was deemed extirpated in the 1960s. The collapse of Lake Ontario deepwater sculpins was most likely because of predation on their young by alewife, a non-native fish that invaded Lake Ontario from the Atlantic Ocean via navigation canals.

Deepwater sculpins are native in the Great Lakes where, as their name implies, they occupy the deepest waters. The small scaleless fish have a broad, flattened head and a long slender body. According to Scott and Crossman, in *Freshwater Fishes of Canada*, the deepwater sculpin is considered

a glacial relict because it originally occupied arctic, marine, or brackish waters and was pushed southward in front of advancing ice sheets. As the ice retreated, deep lakes, along with sculpins, were left behind.

Deepwater sculpins are an important link in the offshore food chain, eating bottom-dwelling invertebrates and, in turn, being eaten by lake trout, historically the lake’s top predator. According to Scott and Crossman, there is little doubt that this small fish was an important food for lake trout before the virtual disappearance of this latter species from much of the Great Lakes. The re-emergence of sculpins could again prove to be vital in the food chain as top predators rebound.

The capture of this fish is another indication that Lake Ontario is becoming much healthier. The numbers of two other formerly abundant native fishes — burbot and emerald shiner — are increasing in survey catches. Also, hatchery lake trout are beginning to successfully reproduce after more than a decade of failure.

All of these positive signs appear linked to a decline in the abundance of non-native alewives and a shift in their distribution to deeper water. Because the larvae of many native fishes (including larvae of the deepwater sculpin) occupy shallow water, these changes have helped reduce predation on the young of native fishes, allowing their populations to start recovering.

The reappearance of the deepwater sculpin gives us evidence that the ecosystem is becoming healthier. It also gives us optimism that deep-rooted environmental damages — like the decline of our valuable native species — are reversible. We should be enormously encouraged by the return of this tiny fish. ≈

Crews working aboard the USGS vessel KAHO discovered the existence of deepwater sculpins in Lake Ontario.



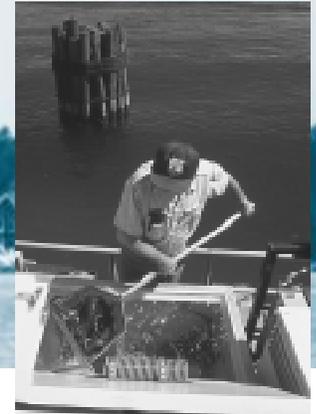
Photos: USGS

Bob O’Gorman and Randy Owens are research scientists at the U.S. Geological Survey’s Lake Ontario Biological Station.

First Round of Sea Lamprey Spot Treatments Begins on the St. Marys River



In July 1998 the commission added Bayluscide spot treatments (applied by helicopter, left) to the sea lamprey control effort on the St. Marys River. These treatments, along with the ongoing sterile-male-release-technique (below) and trapping, comprise the St. Marys River sea lamprey control program.



Photos: GLFC and David Kenyon, Michigan DNR

By Marc Gaden

TO HELICOPTER PILOT "SPARKY" STIMART, the first major application of Bayluscide on the St. Marys River was all in a day's work: load the helicopter, choose a plot, apply the lampricide. Just like crop-dusting.

For the millions of anglers in the Great Lakes, the application was a major step toward the recovery of the Lake Huron fishery. With this first round of Bayluscide treatment and with on-going releases of sterilized male lampreys and increased trapping efficiency, the Great Lakes Fishery Commission and its agents are now in the midst of regaining control of the last major undercontrolled population of sea lampreys in the Great Lakes.

The sea lamprey problem caused by the St. Marys River is indeed significant: the St. Marys River produces more sea lampreys than all other Great Lakes tributaries combined. Water quality improvement over the past few decades, along with an increased abundance of forage and sport fish in the lake, has allowed sea lamprey populations produced in the St. Marys River to balloon to levels similar to those seen before sea lamprey control began in the 1950s. Sea lampreys from the St. Marys River migrate into Lake Huron and northern Lake Michigan by the hundreds of thousands and feast on fish there. The problem is so severe that more than half of the lake trout in Lake Huron are killed by

sea lampreys alone. (See GLFC 1997 Annual Report, p. 3.)

This past July, Bayluscide spot treatments — carried out by helicopter with the help of global positioning technology — started. Spot treatments will also take place in 1999. By all accounts, the first Bayluscide application was a tremendous success. Agents demonstrated that Bayluscide can be applied with precision to the sea lamprey hot spots and that the lampricide is effective as expected.

"We were extremely pleased with the recent Bayluscide application," said Terry Morse of the U.S. Fish and Wildlife Service, the treatment supervisor. "We met our expectations for effectiveness and far exceeded our expectations for efficiency. Next year, when we apply Bayluscide to a larger area of the St. Marys River, we will be able to carry out the application with accuracy and expediency because of what we learned from the first round of treatment."

"Now that we have added Bayluscide to the sterile-male-release-technique and trapping on the St. Marys River, all methods of sea lamprey control are in place and proceeding as scheduled," added Larry Schleen, a supervisor with the Department of Fisheries and Oceans. "We are very excited about what this will mean for the fishery." ≈

The Great Lakes Fishery Commission was established by Convention between Canada and the United States in 1955 to improve and perpetuate fishery resources. FORUM is published by The Great Lakes Fishery Commission. For a free subscription to FORUM, or to provide change of address information, please contact the Commission at 734-662-3209.

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