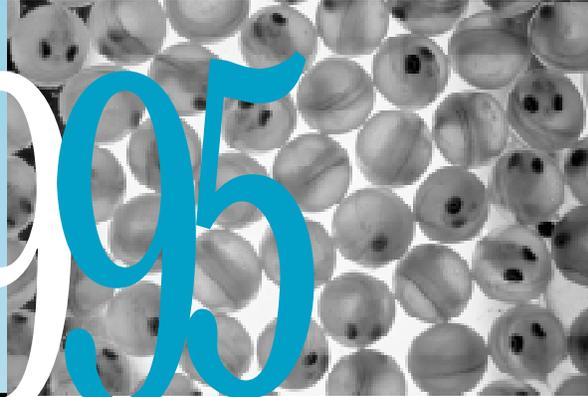


Annual Report

of the
Great Lakes
Fishery
Commission

1995



Building on Forty Years of Success

Forty years ago, in 1955, the governments of the United States and Canada negotiated and approved the Convention on Great Lakes Fisheries, the bilateral agreement that binds the two nations to sound, cooperative fishery management on the Great Lakes. In 1995, we celebrated the 40th anniversary of this landmark agreement, saluting the two governments for their ongoing commitment to rehabilitate and sustain the Great Lakes fishery. During our annual meeting in Toronto, we were honored to have U.S. Ambassador James Blanchard deliver the keynote address and emphasize the value of the cooperation our two nations enjoy.

The Convention remains the vital agreement that promotes the well-being of the Great Lakes fishery. Indeed, 40 years after the fishery was practically written off, lampreys are under control in four of the lakes—probably beyond the expectations of those who negotiated the Convention—and agencies undertake their fishery management programs knowing that many naturally produced and stocked salmonid fish will survive long enough to reproduce or to be harvested by humans.

From the Chair

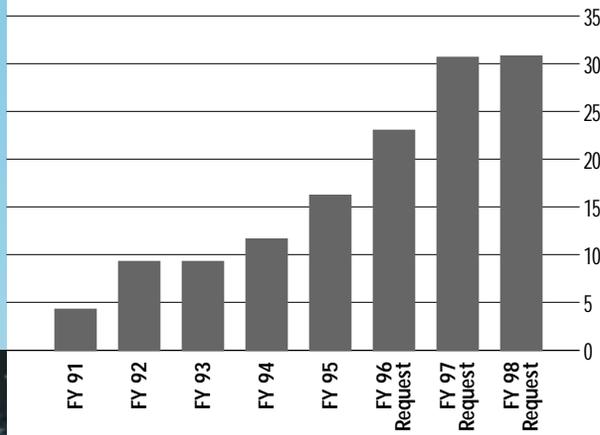
Buzz Besadny



Photos: G. Buterbaugh, USFWS;
American Fisheries Society; Marc Gaden

ALTERNATIVE CONTROL EFFORT AS A PROPORTION OF SEA LAMPREY MANAGEMENT

Proportion of the sea lamprey management program (excluding lampricide) reregistration allocated to alternative control implementation and research.



1995 was an important year for the sea lamprey control program. Although lampricides continued to be the primary means of lamprey control, the commission continued to devote significant resources and attention to reducing their use. Lampricides are expensive—costs have tripled since 1986—and the commission is sensitive to societal concerns about the use of chemicals.

The commission set a target in its Strategic Vision five years ago to reduce lampricide use by 50% (from the levels of the late 1980s) by the year 2001.

In 1995, we were about half way to achieving that lampricide reduction goal. Over the last treatment cycle, which is about 4 years long, we reduced the amount of lampricide used by about 25%. This reduction has been possible through more effective applications of TFM and through the construction of new barriers. The commission remains committed to lampricide reduction and will devote greater percentages of lamprey control budgets to alternative controls during the coming years.

Despite our successful lamprey control program, we face enormous challenges. The St. Marys River, for instance, produces more lampreys than all other Great Lakes combined. The problem is so serious to the fish communities of Lake Huron and northern Lake Michigan that fishery managers of Ontario, Michigan, and the tribes jointly resolved to cease stocking lake trout in northern Lake Huron pending effective sea lamprey control measures. The St. Marys River is the biggest threat to the achievement of fish community objectives in Lakes Huron and Michigan.

The good news is, we are now poised to launch a treatment program that will address this very serious lamprey problem. State-of-the-art assessment efforts using Global Positioning Systems have allowed us to accurately map larval densities in the river. A dye study, to take place in 1996, will provide more information about how we might apply lampricides. The information we gather will allow us to plan and implement a cost-effective, environmentally safe lamprey control effort on the St. Marys River.

1995 was also a successful year in the effort to build and enhance partnerships. The commission's committee of advisors—which is nominated by state governors and appointed by the U.S. Section of the commission—exhibited new activism and initiative, to the benefit of the resource. In August, 1995, for instance, U.S. Advisor Convener Dick Kubiak and Alternate Commissioner David Dempsey convened a special meeting to focus on how to better involve advisors in the commission's activities. The meeting was a success and participants introduced several new ideas to achieve that goal. The commission welcomes this rejuvenated advisor spirit and our gratitude extends to Dick Kubiak and the others who attended the meeting for their tireless work to make it happen.

A review of the key Joint Strategic Plan for the Management of Great Lakes Fisheries (SGLFMP) also began in 1995, reaffirming the commitment of the states, the tribes, the two federal governments, and the province of Ontario to work together for a truly ecosystem-based managed fishery. The Great Lakes Fishery Commission has been proud to facilitate the development, implementation, and review of this partnership agreement.

As we move into the future, we face the challenge of having to deliver a bigger program with fewer dollars. We have proven time and again that ecosystem-based cooperative management on the Great Lakes is vital. We have chosen to work together, ultimately for the good of the resource.



The St. Marys River remains the last major uncontrolled source of sea lampreys in the Great Lakes.

Sea Lamprey Control

Under the Convention on Great Lakes Fisheries, the Great Lakes Fishery Commission has the responsibility to develop and implement a program to control sea lampreys in the Great Lakes. To carry out that mandate, the commission uses an integrated management of sea lamprey (IMSL) approach that involves the U.S. Fish and Wildlife Service (FWS), the Canadian Department of Fisheries and Oceans (DFO), the U.S. National Biological Service (NBS), the tribes, the Province of Ontario, and the states in the sea lamprey control program planning process.

Together, under contract to the commission, DFO and FWS conduct the actual stream treatments. In 1995, the two agencies:

- treated 48 tributaries with lampricides;
- surveyed 294 Great Lakes tributaries, inland lakes, and lentic areas to assess TFM treatment or barrier effectiveness, to plan future TFM treatments, and to establish production capacity of streams; and
- operated lamprey traps in 73 tributaries, capturing 73,415 spawning-phase sea lampreys.

Fish community objectives for sea lamprey populations as set by the Lake Committees are being met in Lakes Superior, Erie, and Ontario. The uncontrolled population of sea lamprey larvae produced in the St. Marys River is responsible for an unacceptably high population of parasitic lampreys in Lake Huron that is compromising lake trout rehabilitation in that lake. In addition, parasitic sea lampreys are more abundant in the northern part of Lake Michigan than in the south and likely are a threat to lake trout survival in the rehabilitation refuges and zones.

Further progress was achieved in development of an effective strategy to control sea lampreys in the St. Marys River. The third year of the larval and habitat mapping was completed with 56 square kilometers surveyed to date. Trials with the new granular Bayer formulation showed larval populations could be reduced by 51-86%. Designs for new adult traps were completed and a rhodamine dye study to predict the effectiveness of a TFM treatment was planned.

As part of the development of the control strategy for the St. Marys River, the commission agreed to fund year I of a lampricide transport model research proposal and will fund year II based on success of the first year if the commission decides to proceed with the dye study in 1996.

Field trials of the sterile male release technique continued in Lake Superior and the St. Marys River. The sterilization facility continues to meet the needs of the program; 23,379 male lampreys were sterilized and released in streams in 1995.

The Barrier Task Force worked on expanding the development and use of sea lamprey barriers. Currently, 52 barrier dams have been constructed or modified on Great Lakes tributaries to stop sea lamprey migration. In 1995, three barriers were constructed and one existing dam was modified to prevent passage of spawning sea lampreys. The commission continued with a program to research and develop innovative barrier designs that improve fish passage while preventing lamprey migration.



Photo: NYDEQ

A TFM application, Chippewa River, Michigan

Photo: Mike Millar



Fishery Management, Research, and Environment

Achieving the Convention's goals for an improved and sustained fishery depends on promoting healthy ecosystems and sound fishery management. Based on advice from the Sea Lamprey Integration Committee, the Board of Technical Experts, the Habitat Advisory Board, the Lake Committees, and the Great Lakes Fish Health Committee, the commission formulates a research program to determine the need for measures to make possible the maximum sustained productivity of fish stocks. Based on that research, the commission promotes measures that improve the Great Lakes ecosystem and that help fishery managers succeed in their programs.

In 1995, the commission approved research projects under the following categories:

1) Alternative Control

- Fish passage in velocity and electrical barriers
- Pheromones and light as lamprey attractants
- Behavior of sterilized male lampreys
- Controlling and preventing sea lamprey transformation

2) Barriers

- Fish community impacts of low head barriers

3) Internal Research

- Development of liquid formulation of Bayluscide
- Light as a lamprey attractant
- Sterilants used in the Sterile-Male-Release-Technique
- Sources of males for the sterilization program
- Natural enemies and host resistance to lampreys
- Spawning behavior of Atlantic lampreys
- Registration of lampricides and lampricide safety
- St. Marys River control options

4) Board of Technical Experts Research

- Role of biodiversity in managing Great Lakes fishery resources

5) Integrated Management of Sea Lamprey Protocol

- Benefits of sea lamprey control (value of fish)
- Trout mortality due to lamprey

6) Other partnerships

- Fish community impacts of inflatable (adjustable-crest) barriers
- Evaluation of the Sterile-Male-Release-Technique
- Lampricide transport in the St. Marys River



Photo: DFO

Adjustable-crest sea lamprey barrier





Michigan Fish Chief John Robertson addresses GLU's Commercial Fishing Conference. Joining him on a panel discussion (left to right) are Tom Busiahn of the U.S. Fish and Wildlife Service, Marg Dochoda of the Great Lakes Fishery Commission, and Alternate GLFC Commissioner David Dempsey of the Michigan Environmental Council.

Photo: Marc Gaden

This research provides vital information for the commission and fishery managers in the Great Lakes to develop science-based fishery programs. In 1995, the commission undertook several initiatives to promote healthy ecosystems. For instance, the commission

- adopted and distributed a statement on toxics in the Great Lakes;
- supported a Great Lakes United (GLU) conference on commercial fishing, which was held in December 1995;
- committed funds from the Coordination Activities Program for Lake Ontario Fish Community Objectives: Technical Synthesis, to better understand recent dramatic changes in Lake Ontario's aquatic community;
- as the basis for management objectives and activities, supported development of a prediction model for Lake Huron under the Coordination Activities Program;
- approved obligation of funds to support development of Lake Committee environmental objectives through partnerships with the Habitat Advisory Board, the Board of Technical Experts, and the U.S. Environmental Protection Agency and Environment Canada (SOLEC 1996);
- sent a letter to the governments of Canada and the United States repeating the need for tighter implementation of ballast management plus development of innovative ballast technologies, in light of the recent appearance of juvenile specimens of two species (Chinese mitten crab and European flounder) not known to reproduce in freshwater;
- supported the organization of the International Joint Commission's session on exotics by Marg Dochoda (GLFC), Joe Leach (OMNR), and Ed Mills (Cornell U.); and
- encouraged the Great Lakes Fish Health Committee to alert interested private researchers to the continuing need for an EED diagnostic tool.

Exotic organisms often enter the Great Lakes through discharge of ballast water from oceangoing vessels.



Partnerships

Improving partnerships, to enhance coordinated fishery management and thus, to improve and sustain the fishery, has remained a major priority for the commission for more than two decades. Fishery agencies have long recognized that threats to the Great Lakes fishery resource and opportunities for rebuilding the resource required greater management capability than any one agency could provide. At the request of Ontario and the Great Lakes states, the commission convened natural-resource-agency administrators, directors, and ministers to oversee the development of the Joint Strategic Plan for the Management of the Great Lakes Fisheries (SGLFMP). This strategic plan has worked very well since its inception in 1980.

Under the strategic plan, the states, the province, and the tribes identified the commission's lake committees, which meet annually, as their major action arm for achieving joint objectives under the strategic plan. In 1995, the Lake Committees took the following actions:

THE COUNCIL OF LAKE COMMITTEES recommended tighter implementation of existing ballast management and regulations and supported the development of new technologies for the shipping industry. The council expressed deep concern about proposed cuts in Great Lakes research capabilities.

The council held a special meeting in November to develop a unified strategy to deal with the European ruffe in light of its appearance in Lake Huron in the summer of 1995. At this special meeting, the council commended the Fish and Wildlife Service and the National Biological Service for their efforts to deal with the ruffe problem and agreed to recommend changes to the existing ruffe control strategy so that fishery agencies can be better equipped to deal with the ruffe's impending widespread presence in the lower Great Lakes. Specifically, the council recommended that

- chemical controls should not be used to control ruffe colonization of the Great Lakes because ruffe are no longer contained to Lake Superior;
- ballast water management plans should be revised to include affected (Lake Huron) ports, and should continue in order to slow the spread;
- research and assessment should focus on evaluating the impact of ruffe on fish communities;
- agencies should take any measure that will improve resilience of fish communities against invasion or domination by ruffe; and
- agencies should educate the public about ruffe so that harvesters will be able to recognize, kill and report ruffe when caught.

THE LAKE ERIE COMMITTEE agreed that Ohio would take the lead in analysis of agency data using CAGEAN modeling to examine effects of exploitation on white bass.

THE LAKE HURON COMMITTEE finalized the establishment of a lake trout refuge on Six Fathom Bank and asked its Law Enforcement subcommittee for assistance in selecting enforceable perimeters. The committee won commission support to help model and understand the long-term viability of food stocks for fish in Lake Huron.

THE LAKE MICHIGAN COMMITTEE, upon request of the Lake Michigan LaMP, agreed to assist with LaMP ecosystem objectives to ensure consistency with the Lake Michigan Committee's fish community objectives. The committee pledged to develop a lakewide stocking and harvest strategy that would ensure proper management without threat to native species.



European ruffe migrated from Lake Superior to Lake Huron in 1995.

Photo: Gary Cholwek

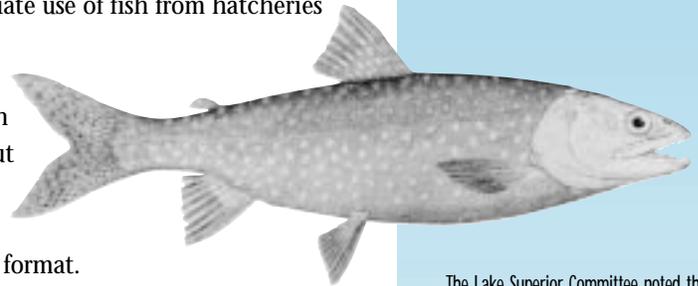


U.S. Advisors convened a special meeting in August, 1995 to develop procedures for improving advisor participation. Advisors Vermont Johnson from Wisconsin (left) and Dick Reuss from Illinois (middle) were among the advisors who participated in the August meeting. The commission welcomed Mike Ryan from Indiana (right), Stuart Sivertson from Minnesota (not pictured), and Anne Spacie from Indiana (not pictured) to the Advisory Committee in 1995.

Photo: Marc Gaden

THE LAKE ONTARIO COMMITTEE directed its technical committee to continue to evaluate the feasibility of reintroducing native prey species. The committee asked the Great Lakes Fish Health Committee to provide guidance on appropriate use of fish from hatcheries or watersheds infected with whirling disease.

THE LAKE SUPERIOR COMMITTEE adopted lake trout stocking criteria, noting that stocking could be curtailed or even eliminated in some areas because of the success of the lake trout rehabilitation program. As requested, the committee provided the Binational Program (Lake Superior LaMP) with aquatic ecosystem indicators and feedback on objectives and proposed format.



The Lake Superior Committee noted the success of lake trout rehabilitation in Lake Superior.

In 1995, the signatories to SGLFMP, with the assistance of the Great Lakes Fishery Commission, started a comprehensive review of the Joint Strategic Plan to identify ways in which the agencies can improve their working relationships. The review will extend into 1997.

1995 was also an important year with respect to the U.S. Committee of Advisors. Under the Great Lakes Fisheries Act of 1956, the U.S. Section of the commission appoints advisors (based on nominations from the state governors) “to examine and be heard on all proposed recommendations, programs, and activities relating to [the lake they represent].” Advisors have been an important part of the commission’s decision-making process, and in 1995, advisors reviewed the way they operated and pledged greater involvement in the commission’s activities.

To formulate their review, the U. S. Advisors requested that a special committee composed of commissioners, secretariat staff, one advisor from each lake (Vermont Johnson, Gordon Zuverink, Paul Wendler, Don Arcuri, Richard Schleyer), and an advisor acting as convener (Richard Kubiak) meet during the summer of 1995 to develop procedures for improving the effectiveness of advisors in supporting the program of the commission. This meeting took place in August, 1995, and advisors:

- agreed to review, clarify, and update their terms of reference;
- requested that the Great Lakes Fishery Commission provide space on annual meeting agendas, whenever necessary, for advisors to present issues;
- asked the commission secretariat to continue to provide advisors with timely and accurate information about current issues;
- agreed to encourage submission of relevant articles to the commission’s newsletter; and
- agreed to provide input to the secretariat on communications initiatives.

Budget

Like most agencies, the commission must work within the confines of fiscal constraint. Agencies are being asked to deliver more program with fewer dollars. To better secure program delivery in times of tight budgets, the commission pledged to work with the governments to identify efficiencies, to identify alternative sources of funding, and to set up endowment fund(s) for sea lamprey and fishery research.

In 1995 the commission received the following contributions from the governments of the United States and Canada (in U.S. dollars):

	U.S.	CANADA	TOTAL
Sea Lamprey Management and Research	\$8,173,750	\$3,748,177	\$11,921,927
Administration and General Research	\$629,250	\$549,250	\$1,178,500
TOTAL	\$8,803,000	\$4,297,427	\$13,100,427

Awards and Honors

During the commission's Annual meeting in Toronto, the commission honored former commissioners Jim Cady, Paul Sutherland, and Harry Whiteley for their dedicated service to the commission. Also receiving awards at the annual meeting were U.S. Ambassador to Canada James J. Blanchard for his leadership in international cooperation to restore and maintain the Great Lakes ecosystem; Alan Sawyer, for his dedication to the Sea Lamprey Integration Committee; Rosalie Schnick, for her leadership in the lampricide registration program; and sea lamprey control agents Kim Fredericks, Gary Klar, Dennis Lavis, Larry Schleen, and Terry Bills (accepting group awards) for reducing TFM use.



Commission Chair Buzz Besadny honors former commissioners at the annual meeting. Left to right: Buzz Besadny, Paul Sutherland, Harry Whiteley, and Jim Cady.

Photo: Marc Gaden

The Great Lakes Fishery Commission was established by Convention between Canada and the United States in 1955 to improve and perpetuate fishery resources.

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ANNUAL REPORT CONTRIBUTING EDITORS

Gary Klar, USFWS
 Larry Schleen, DFO
 Robert Young, DFO



GLFC Commissioner Gail Beggs (far left) presented group awards to (left to right) Terry Bills (NBS), Kim Fredericks (NBS), Larry Schleen (DFO), Terry Morse (USFWS), and Dennis Lavis (USFWS) for work to reduce TFM use.

Photo: Barb Staples