Strategic Vision
of the
Great Lakes
Fishery Commission
for the Decade
of the
1990s

The Great Lakes Fishery Commission was established by the Convention on Great Lakes Fisheries between Canada and the United States, which was ratified on October 11, 1955. It was organized in April 1956 and assumed its duties as set forth in the Convention on July 1, 1956. The Commission has two major responsibilities: first, develop coordinated programs of research in the Great Lakes, and, on the basis of the findings, recommend measures which will permit the maximum sustained productivity of stocks of fish of common concern; second, formulate and implement a program to eradicate or minimize sea lamprey populations in the Great Lakes. The Commission is also required to publish or authorize the publication of scientific or other information obtained in the performance of its duties.

February 1992

Miscellaneous Publication 1992-01

Strategic Vision of the Great Lakes Fishery Commission for the Decade of the 1990s

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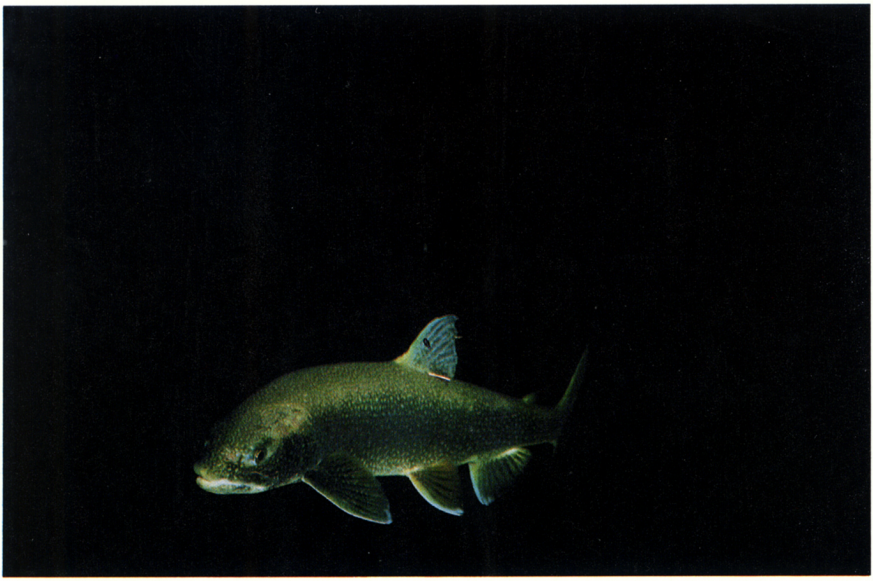

Spawning lake trout on Gull Island Shoal, Lake Superior

Strategic Vision of the Great Lakes Fishery Commission for the Decade of the 1990s

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When I dipt into the future
far- as human eye could see;
Saw the Vision of the world, and
all the wonder that would be.

Alfred Lord Tennyson,
Locksley Hall

EXECUTIVE SUMMARY

The ecological and institutional complexity of managing the Great Lakes has caused the Great Lakes Fishery Commission to review current programs and to sharpen its focus on the future. This Strategic Vision was produced to communicate the results of this process. It provides an explicit statement of the focus, intent, and direction of Commission programs from 199 1 through the year 2000 and renews the Commission's conviction that an ecosystem approach is essential for successful management of the Great Lakes. A key part of this approach requires that existing relationships must be strengthened and new partnerships must be established between the Commission and its stakeholders - if the challenges of the future are to be surmounted. The Strategic Vision is composed of specific statements covering three areas:

1) Healthy Great Lakes Ecosystems,

2) Integrated Management of Sea Lamprey, and

3) Institutional/Stakeholder Partnerships.

Each vision statement has equal priority and should be interpreted in context with the other two. Associated with each vision statement are milestones that describe measurable key events that will occur by certain dates if the Commission is successfully achieving its Strategic Vision. An intensive assessment and evaluation of progress towards achievement of the Strategic Vision will be conducted twice by the Commission and completed by April 15, 1995, and April 15, 2001.

A scene from the past—a lake sturgeon fishery.

The vision statements are:

1. Healthy Great Lakes Ecosystems

   The Commission shall encourage the rehabilitation and protection of healthy aquatic ecosystems in the Great Lakes:

   - that are based on foundations of naturally reproducing fish populations and self-regulating fish communities,

   - that provide sustainable benefits to society, and

   - that support fisheries having increased contributions from wild fish.

   The conservation of biological diversity through rehabilitation of native fish populations, species, communities. and their habitats has a high priority.

2. Integrated Management of Sea Lamprey

   The Commission will provide an integrated sea lamprey management program that supports the Fish Community Objectives for each of the Great Lakes and that is ecologically and economically sound and socially acceptable.

3. Institutional/Stakeholder Partnerships

The Commission will encourage the delivery of complementary programs focussed upon achievement of Fish Community Objectives as adopted by the Lake Committees for each Great Lake through:

- leadership from the Lake Committees,
- coordination of fish management programs,
- development of coordinated programs of research,
- integration of sea lamprey and fish management programs,
- recognition of Fish Community Objectives by environmental agencies as they implement their programs, and
- strengthened and broadened partnerships among fish management agencies and non-agency stakeholders.

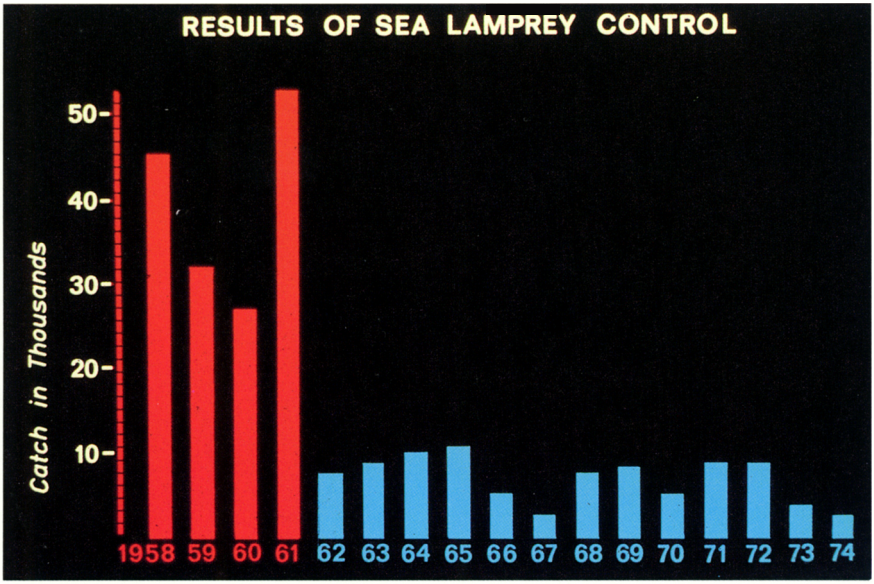
INTRODUCTION

Background

European colonization of the Great Lakes basin during the past 200 years and attendant urban, industrial, and agricultural development have caused remarkable changes in the lakes' flora and fauna and associated habitats. Today, the lakes have aquatic communities that are structurally and functionally volatile and that exhibit rapid changes in species number and abundance. Many of these communities exhibit reduced numbers of native species and a greatly expanded base of non-native species. Sudden changes in abundance of native and non-native species have occurred over periods of only 1O-20 years. A few examples since 1950 are as follows:

- non-native sea lamprey contributed to the collapse of many native fish populations and their predominantly commercial fisheries,

- sea lamprey were suppressed to levels allowing restoration of some commercial fisheries and development of excellent recreational fisheries,



Reduction of sea lamprey in Lake Superior.

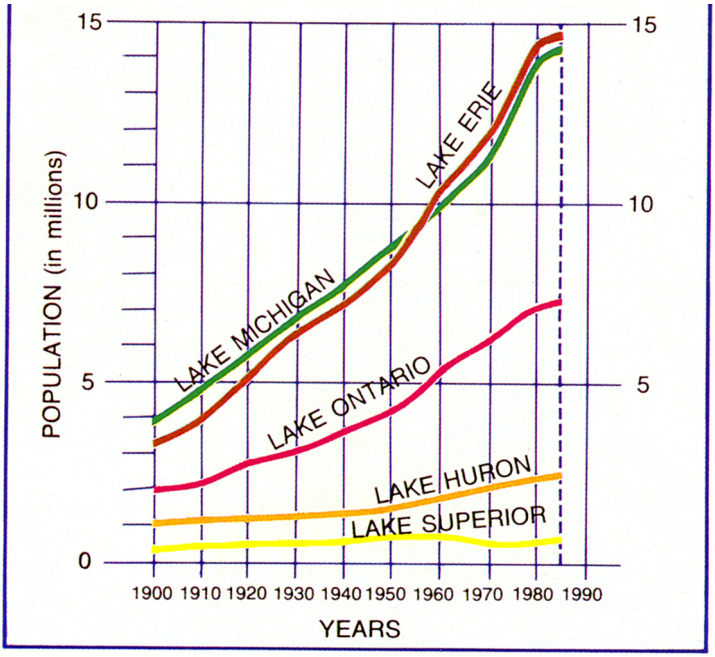
- lake trout were lost from the lower lakes, but were saved from extinction in Lakes Superior and Huron,

- deepwater ciscoes collapsed and then partially recovered in Lakes Michigan and Huron and currently support an important commercial fishery, and

- blue pike were lost forever from Lakes Erie and Ontario.

During this same time period, societal demands on the Great Lakes ecosystem caused by human population growth and economic activity have seriously impaired the ecosystem and altered fisheries. For example, nearshore fish habitat has been damaged by coastal development and persistent toxic chemicals in aquatic food chains discouraged the consumption of fish by humans.

These and many other events were so profound that they have challenged and broadened the thinking of fishery experts. Successful fish management of the Great Lakes is now viewed as an activity focussed on the lakes as ecosystems. As a result, effective management requires the coordination and integration of efforts of many governmental agencies. Fishery-management decision makers now must consider the potential effects on the whole system rather than only the effects within jurisdictional boundaries.



The Great Lakes, An Environmental Atlas and Resource Book

Population growth in the Great Lakes basin since 1900.

The authors of the Convention on Great Lakes Fisheries recognized more than 35 years ago that joint and coordinated efforts by the United States and Canada were essential to sustain fishery productivity in the Great Lakes. Signed in 1954, the Convention established the Great Lakes Fishery Commission to effect five general duties (from the Convention):

> *(a) to formulate a research program or programs designed to determine the need for measures to make possible the maximum sustained productivity of any stock of fish in the Convention Area which, in the opinion of the Commission, is of common concern to the fisheries of the United States of America and Canada and to determine what measures are best adapted for such purpose;*
>
> *(h) to coordinate research made pursuant to such programs and, if necessary, to undertake such research itself;*
>
> *(c) to recommend appropriate measures to the Contracting Parties on the basis of the findings of such research programs;*
>
> *(d) to formulate and implement a comprehensive program for the purpose of eradicating or minimizing the sea lamprey populations in the Convention Area: and*
>
> *(e) to publish or authorize the publication of scientific and other information obtained by the Commission in the performance of its duties.*

The Commission remains committed to accomplishing these duties.

Changes in cultural values over the past 35 years have paralleled the rapid ecological changes within the Great Lakes. These societal changes shape the type of strategies and actions the Commission may consider to fulfill the general duties described in the Convention.

Evidence for these cultural changes include:

- commercial fishing was reduced in most areas to allow for more recreational fishing,

- tribal groups began exercising commercial and subsistence treaty rights,

- recreational fishing opportunities in some areas were reduced so that treaty and state-licensed fisheries could share the resource,

- public concern about the Great Lakes has increased,

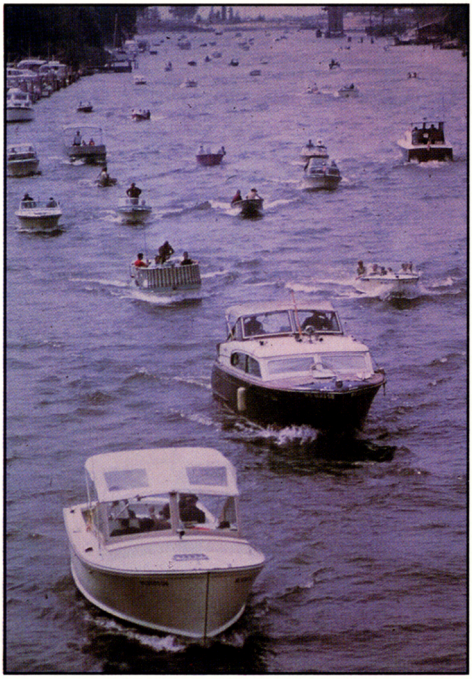
- new organizations such as the U.S. Environmental Protection Agency and Great Lakes United have been established, and

- new policy instruments such as the Great Lakes Water Quality Agreement have been adopted.

Great Lakes commercial fishing vessels.

In response to these changes, fishery agencies recognized that rebuilding the resource required greater management capability than any one agency or government could provide. As a result, in the 1980s the Commission (along with federal, provincial, state, and tribal natural-resources agencies) adopted the Joint Strategic Plan for Management of Great Lakes Fisheries as an explicit statement for cooperative fishery management on the Great Lakes.

Changes in cultural values and adoption of the Joint Plan have complicated the character of the Commission's work from its early years. Partnerships among agencies and with the public have become a requirement to meet the challenges of managing the Great Lakes as whole ecosystems. In the future, these partnerships will likely mean increased sharing of program elements of Great Lakes management. This complexity has caused the Commission to review current programs and to sharpen its focus on the future. The Commission's development and adoption of this Strategic Vision for the Decade of the 1990s are a result of that process.



Boating and sport fishing are popular on the Great Lakes.

The primary audiences for this document are the Commission's cooperator agencies and institutions, the Parties to the Convention, and the Commission itself. This document serves to communicate to federal, provincial, state, and tribal natural-resources agencies the intent and purpose of Commission actions and programs. The Strategic Vision will assist these agencies in understanding the reasons behind the decisions made by the Commission. This document also offers a clear, concise statement to the Parties to the Convention (the two federal governments) as to where the Commission believes the Great Lakes fisheries and their management should be moving.

Purpose and Organization

This document describes the focus, intent, and direction of Commission programs through the year 2000. The ecosystem approach was a key concept central to the discussions that occurred within the Commission as the Strategic Vision was developed. As a result of these discussions, the Commission adopted the ecosystem approach as a fundamental concept (page 13). From this concept, three vision statements were developed and adopted that, together, form the Strategic Vision of the Commission. The titles of the vision statements are:

1) Healthy Great Lakes Ecosystems,

2) Integrated Management of Sea Lamprey, and

3) Institutional/Stakeholder Partnerships.

Each vision statement has equal priority and should be interpreted in context with the other two. Each statement is supported by a set of milestones. Milestones describe measurable key events that will occur by certain dates if the Commission successfully achieves its Strategic Vision. Milestones do not represent a complete list of characteristics, but reflect key attributes that should occur when a vision statement has been accomplished. Those milestones listed were chosen based on their perceived importance as indicators and their ease of measurement. Their order of listing does not imply order of priority. Instead, the milestones should be viewed together with a high priority assigned to each. Milestones are to be achieved before the end of the year 2000 unless otherwise specified.

this strategic document describes what the Commission desires as a future state for the Great Lakes. The document does not include an operational plan that explains the type of actions the Commission will use or encourage to achieve this Strategic Vision. Actions taken by the Commission will vary depending on the particular vision statement. For example, the Commission will function primarily as a leader and facilitator among natural-resources agencies to accomplish the ecosystem and partnership vision statements. The Commission will especially need to rely heavily on the cooperation and coordination efforts of other natural-resources agencies. This approach is in contrast to the more direct role the Commission exercises with the sea lamprey management program. The Commission has direct authority over certain program elements as mandated by the Convention, but cooperation with other agencies remains essential in carrying out these responsibilities.

The greatest value of this document will be to the Commission itself. First, the Strategic Vision will assist in decision making. As an issue is discussed by the Commission, the key question to be answered will be "Will a proposed decision impede or enhance the Commission's progress towards achievement of milestones and the vision statements?" Every decision to be made by the Commission can be judged in this way. Second, as a result of using a uniform set of decision criteria, the Commission's programs will be consistent, complementary, and not contradictory. The Strategic Vision offers a framework to ensure that decisions, often of an incremental nature, are logically connected and support achievement of goals. The vision statements, coupled with measurable milestones, will ease evaluation of Commission programs. Regular evaluation will provide essential feedback of information to guide program redirection or correction. The Commission will conduct and report on progress towards achievement of the Strategic Vision by May 15, 199.5, and May 15, 2001. In addition, the Secretariat of the Commission shall provide annual progress reports to the Commission on achievement.

FUNDAMENTAL CONCEPT

The Commission adopts and advocates an ecosystem approach to management and research of Great Lakes fishes.

The ecosystem approach to decision making recognizes the interconnection of air, land, and water of the Great Lakes basin and its inhabitants. All components of the ecosystem (such as nutrients, primary production, forage fish, predatory fish, habitat, chemical contaminants, climate, and human use) interact with each other and therefore must be considered in terms of their system-level effects. This approach is consistent with the Convention on Great Lakes Fisheries, the Great Lakes Water Quality Agreement, and the Joint Strategic Plan for Management of Great Lakes Fisheries. The ecosystem approach is well suited to address complex problems with

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The great abundance of fish and the convenience of the place for fishing have caused the Indians to make a fixed settlement in those parts. It is a daily manna, which never fails; there is no family which does not catch sufficient fish during the course of the year for its subsistence. Moreover, better fish can not be eaten, and they are bathed and nourished in the purest water, the clearest and the most pellucid you could see anywhere.

Antoine de la Mothe Cadillac (1658- 1730)
Relation on the Indians, MS.

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extensive linkages such as introductions of unwanted non-native species, toxic chemicals in fish, and nonpoint pollution sources. The ecosystem approach also broadens the Commission's concept of "beneficiaries of management" from commercial fishermen and recreational anglers to stakeholders (clients plus potentially all others in the Great Lakes basin and some beyond). The three vision statements that follow were developed based on this concept.

HEALTHY GREAT LAKES ECOSYSTEMS VISION STATEMENT

The Commission shall encourage the rehabilitation and protection of healthy aquatic ecosystems in the Great Lakes:

- *that are based on foundations of naturally reproducing fish populations and self-regulating fish communities,*

- *that provide sustainable benefits to society, and*

- *that support fisheries having increased contributions of wildfish.*

The conservation of biological diversity through rehabilitation of native fish populations, species, communities, and their habitats has a high priority.

Milestones for the Ecosystem

1) No further loss of native aquatic populations or species.

2) Establishment of policies, legislation, and programs by 1995 that prevent the unintentional introduction of non-native organisms that have potential for naturalization in the Great Lakes.

3) Achievement of lake trout restoration objectives in Lake Superior, and detection of increasing levels of naturally reproduced yearlings in each of the other Great Lakes.

4) Achievement of net gains in the quality of aquatic habitats.

5) Reduction of toxic substances to levels that do not impair the health of aquatic organisms nor the wholesomeness of fish for consumption by humans and wildlife.

Rationale for the Ecosystem Vision Statement

Before 1960, a combination of overfishing, invading species, habitat degradation, and unintentional introductions resulted in a less diverse, erratic, and economically depressed Great Lakes fishery. Sea lamprey (a parasitic fish that entered the upper Great Lakes through canals) had reduced populations of large predators, particularly lake trout. Populations of non-native species (alewife and rainbow smelt) increased greatly in number and the abundance of native species (deepwater ciscoes, lake herring, emerald shiners, and yellow perch) declined. An effective method of sea lamprey control was implemented in Lake Superior in the late 1950s and was subsequently extended to the other lakes. In the mid- 1960s, massive stocking of native and introduced predatory fishes (salmon and trout) was begun to reduce alewife and smelt, create important sport fisheries, and rehabilitate native species, notably lake trout. Stocking for species rehabilitation and put-grow-take fisheries remains a key aspect of fish management in each of the Great Lakes.

Although some put-grow-take stocking programs are remarkably successful and produce great social and economic benefits, these programs were not intended to solve nor address some key problems that face the Great Lakes. A number of persistent issues remain:

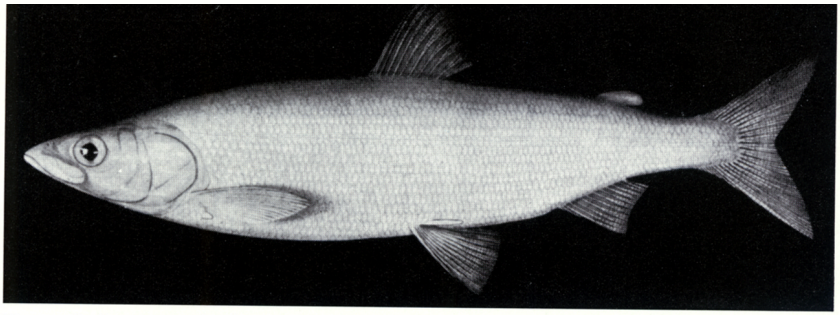
- long-term sustainability of artificially maintained fish communities,
- restoration of depleted native fishes,
- continued invasions of non-native species,
- continued loss of aquatic habitat, and
- contamination of fish by toxic substances.

Lake Michigan beach following a spring die-off of alewives

These five issues provide a focus for the development of this vision statement because they affect the predictability and sustainability of fishery benefits from the Great Lakes. Predictability and sustainability would be maximized if the pristine fish communities were reestablished. Losses of habitats, extinction of populations and species, and naturalization of non-native species clearly preclude a full recovery to pristine conditions. However, a focus on the five issues as advocated in this vision statement will improve capability for more ecosystem recovery, a process encouraged by the Commission.

Why strive for fisheries with increased contributions from wild fish? Implied here is a reduced dependency on stocked fish. Does this vision statement mean immediate cutting of programs before self-sustaining replacements become available? Clearly, the stocking programs must be maintained while self-sustaining populations are developed. Otherwise, for example, without predatory fish Lakes Michigan, Huron, and Ontario would quickly revert to an alewife dominance characterized by declines of native fishes and by diminished fishing opportunities. Reproducing fish populations offer the best prospects for maintaining food chain efficiency for sustainable production of predatory fish in the Great Lakes. Stocked fish lack the resilience of wild fish and are inherently less likely to persist in a changing environment. In this vision statement, stocked fish are seen as surrogates for wild fish, perhaps for extended times in areas where fish communities and habitats have been seriously impaired. During these periods, however, self-sustainability should remain the goal and opportunities for increased self-sustainability should be favored over increased opportunities for hatchery-based fisheries, when the two goals conflict.

Many native fish species are now extinct in some or all of the Great Lakes, and these extinctions result in a loss of biological diversity. Examples include the deepwater sculpin and Atlantic salmon in Lake Ontario and lake trout in Lakes Michigan and Erie. A more stable fish community that provides sustainable benefits to society will require improved, coordinated efforts to prevent further losses of native species and populations and to restore, where feasible, those which have become depleted or locally extinct. Fortunately, substantial progress in the restoration of native species has occurred in the Great Lakes (e.g., in Lake Superior for lake trout, in Lake Erie for walleye, and in Lake Michigan for yellow perch and deepwater ciscoes). The Commission will continue to support efforts to prevent further losses of native species and to restore those that have been depleted.



Coregonid Fishes of the Great Lakes, W. Koelz

Formerly important in the commercial fisheries of Lakes Huron and Michigan, the deepwater cisco is now **extinct**

The accidental introduction of non-native species has been a disruptive force in the Great Lakes ecosystem. The unintentional introduction of non-native species (such as the ruffe, spiny water flea, and zebra mussel) can cause ecosystem perturbations that result in unstable fish communities, reduced diversity of native biota, and reduced societal benefits. Sea lamprey and white perch are examples of this process at work. The Commission will continue to work towards prevention of accidental introductions of non-native species. The 1990 joint report by the International Joint Commission and the Great Lakes Fishery Commission on non-native species and the shipping industry is an example of this commitment.

Zebra mussels attached to a native clam

To produce sustainable benefits to society, the remaining habitats essential to healthy aquatic ecosystems must be protected and those that are degraded must, where feasible, be restored. Protection and restoration of habitat are fundamental to the existence of viable populations of native species and to the diversity of aquatic communities. Of particular importance, improved stream habitats will encourage natural reproduction and a reduced dependency on hatcheries for introduced species such as rainbow trout and the Pacific salmons and native species such as brook trout, walleye, and Atlantic salmon. Although stocking programs have kindled public interest in the Great Lakes, the tremendous success of these programs may blind society to the need for protection and restoration of Great Lakes habitats. To attain full restoration of Great Lakes fish communities, stocking of hatchery fish should be viewed as an interim or supplemental management tool until degraded habitat and natural populations are rehabilitated.

The presence of persistent toxic substances in the aquatic food chain (including the flesh of fish) threatens the social and economic benefits currently realized from Great Lakes fisheries and may reduce the potential for restoration of fish species and populations. Some fish are so contaminated that they are deemed unsafe for consumption by humans. Contaminants in fish may affect the reproductive capability of fish populations and hinder achievement of restoration objectives for native species such as lake trout. Consumption of Great Lakes fish also affects the health of birds and mammals in the basin. The Commission believes that the potential for detrimental ecosystem and societal effects from toxic substances requires a specific milestone.

Partnerships with other agencies and institutions are essential for the achievement of the ecosystem vision statement by the end of the decade. Stocking, fishery regulation, aquatic-habitat management, species restoration, control of non-native species, and reduction of toxic chemicals are responsibilities shared by a variety of federal, international, provincial, state, and tribal agencies. Development of complementary programs among agencies that support this Strategic Vision will be encouraged by the Commission. For example, the Commission will support coordinated efforts by agencies to implement the Great Lakes Water Quality Agreement to reduce or eliminate existing toxic discharges and to remediate, where feasible, contaminated sediments.

INTEGRATED MANAGEMENT OF SEA LAMPREY VISION STATEMENT

The Commission will provide an integrated sea lamprey management program that supports the Fish Community Objectives for each of the Great Lakes and that is ecologically and economically sound and socially acceptable.

Milestones for Sea Lamprey Management

I) Establish target levels of sea lamprey abundance by 1994 that maximize net benefits of sea lamprey and fisheries management.

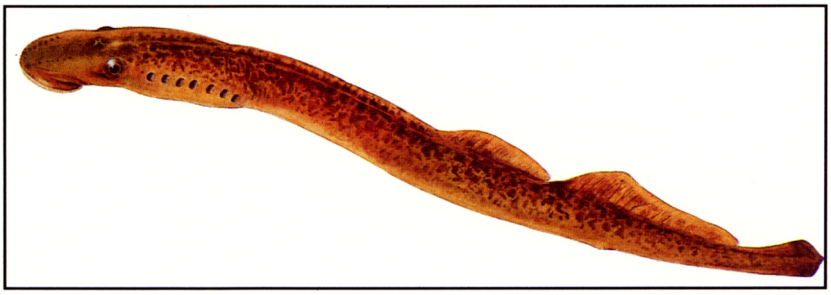
2) Suppress sea lamprey populations to target levels through an optimal program of control, assessment, and research. This program will be characterized by:

a) maintenance of lampricide registrations with environmental agencies,

b) development and use of alternate control techniques to reduce reliance on lampricides to 50% of current levels,

c) development of quantitative assessment and improved control technologies for lentic areas and connecting channels, and

d) improvement of information gathering and research through program coordination among sea lamprey control agents, fish management agencies, other agencies and private groups, and researchers.

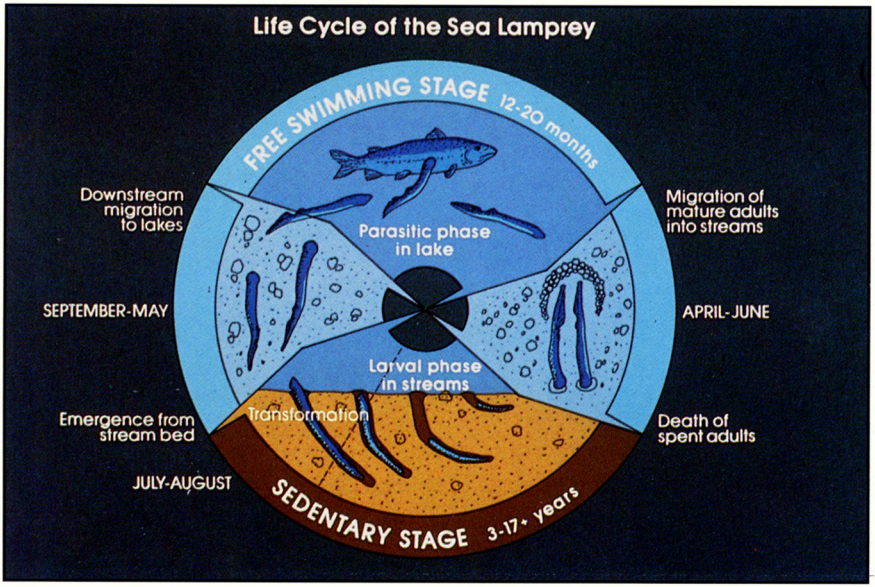


New York State Department of Environmental Conservation

An adult sea lamprey.

Rationale for the Sea Lamprey Vision Statement

Healthy aquatic ecosystems with sustainable benefits for society can be achieved through strategic planning and implementation of necessary management activities. Fish Community Objectives, developed by fishery agencies as part of the Joint Strategic Plan for Management of Great Lakes Fisheries, define characteristics desired from successful fish management efforts. The sea lamprey management program is a key fishery management activity that must be complementary to and coordinated with other fish management activities-if achievement of community objectives is to be realized.



In 1982, the Commission adopted a policy statement that embraced the application of integrated pest management concepts within the sea lamprey control program. Development of the sea lamprey vision statement and milestones reaffirms this policy and identifies specific implementation steps, Target levels of sea lamprey abundance will be established that maximize net benefits of sea lamprey and fishery management. Benefits include the economic, social, and ecological value of fish saved from sea lamprey predation. Costs include expenditures for control and environmental costs such as mortality of nontarget organisms and habitat degradation associated with construction of lamprey-spawning barriers in streams. Effective assessment and expanded research will be required to determine costs and benefits.

Canadian Department of Fisheries and Oceans

Sea lamprey barrier on Gilmet Creek, a tributary to Lake Superior.

The Commission shares with the public the concern for the introduction of chemicals into the environment. The Commission's sea lamprey program uses the periodic application of lampricides into Great Lakes tributaries as the primary tactic for control of sea lamprey populations. Extensive tests on the environmental safety of lampricides indicate no long-term, detrimental effects to the ecosystem. Lampricides can temporarily suppress populations of some sensitive invertebrate and vertebrate species in streams, but in turn have made possible the recovery of native species in the Great Lakes and the success of the fish-stocking programs. Nonetheless, public apprehension about pesticides is a compelling reason to seek alternatives to lampricides. Therefore, the key focus in the sea lamprey program over the next decade will be the research, development, and application of new methods of sea lamprey control that do not depend on lampricides. In-stream barriers to spawning lamprey and the release of sterile male lamprey are two examples of supplemental control technologies (neither method could completely replace lampricides) that the Commission is currently developing. A target level of lampricide use for the year 2000 has been set at 50% of current use (defined as average annual use over a complete stream-treatment cycle). This target is optimistic, but is necessary to convey the seriousness of the Commission's commitment to a reduced dependency on lampricides.

Current control methods are either ineffective or costly in some types of habitats that harbor larval lamprey. Examples include estuarine areas adjacent to tributary mouths and connecting channels between the Great Lakes (large rivers such as the St. Clair River). Control methods for some estuarine areas of Lake Superior require annual treatments of tributary streams to kill sea lamprey larvae before they can migrate downstream to estuaries where treatment is difficult. In comparison to routine treatments, typically conducted every four years on average, annual treatments for estuarine control are costly. Alternative methods of control are needed for these areas to reduce cost and improve effectiveness. Connecting channels between the Great Lakes, such as the St. Marys River between Lake Superior and Lake Huron, can contribute large numbers of sea lamprey and pose special difficulties for control due to their large size. Application of these new methodologies will be based on integrated pest management concepts and on optimization procedures used in setting sea lamprey-suppression targets for existing methodologies.

U.S. Fish and Wildlife Service

The Commission's research facility on Hammond Bay, Lake Huron.

The Commission's vision statement for sea lamprey management is one of full implementation of integrated pest management concepts over the next decade. The close relationship between sea lamprey management efforts and other fishery management activities will require cooperation and coordination among all partners concerned with Great Lakes fishery management. Forums for planning and implementing these interactions will include Lake Committees and their Lake Technical Committees. Close coordination between Canadian and United States sea lamprey control agents is essential to the delivery of a cost-effective sea lamprey management program. The efforts of the two agents must be fully coordinated to the maximum extent possible. During the 1980s, the sea lamprey program did not expand as needed because Canada and the United States operated in a climate of fiscal restraint. Anticipating continued restraint, the Commission will seek an expanded relationship with the groups and individuals it serves. This relationship will improve prospects for program support and for collaborative, cost-effective measures.

INSTITUTIONAL/STAKEHOLDER PARTNERSHIPS VISION STATEMENT

The Commission will encourage the delivery of complementary programs focussed upon achievement of Fish Community Objectives as adopted by the Lake Committees for each Great Lake through:

- *leadership from the Lake Committees,*

- *coordination of fish management programs,*

- *integration of sea lamprey and fish management programs,*

- *development of coordinated programs of research,*

- *recognition of Fish Community Objectives by environmental agencies as they implement their programs, and*

- *strengthened and broadened partnerships among fish management agencies and non-agency stakeholders.*

Milestones for Partnerships

1) The Commission will achieve and foster partnerships necessary to effectively accomplish the following:

   a) Fish Community Objectives for each Great Lake and connecting water will be available for distribution by the Commission in 1992,

   b) State of the Lake Reports for each Great Lake and connecting water will be published by the Commission in 1993, 1996, and 1999,

   c) quantifiable environmental objectives will be included by 1993 within the Fish Community Objectives established by the Lake Committees, and

   d) priorities for fishery research will be established and disseminated by 1993.

2) Stakeholder participation in Commission activities will be enhanced and characterized by the following:

   a) Canadian advisors representing key stakeholder groups will be established by 1992,

   b) the role of United States and Canadian advisors will be reviewed to identify ways to broaden representation and improve opportunities for participation by 1993, and

   c) a communication strategy that promotes stronger and broader partnerships with stakeholders will be implemented by 1992.

Rationale for the Partnership Vision Statement

This vision statement is considerably different from the other two because of emphasis on relationships instead of programs. As a result, the milestones stated are not viewed as key program achievements but rather as checkpoints that are reflective of effective partnerships. Much more important than the specifics of these milestones will be the process required for achievement. This process should build and maintain these partnerships. In particular, achievement of the first milestone will require natural-resources agencies to work together and the Commission to function as a facilitator/leader.

This vision statement addresses three types of relationships among the Commission, governmental agencies and other institutions, and the public-at-large:

1) those between the Commission and agencies/institutions,

2) those among agencies and other institutions that affect Great Lakes management and research, and

3) those with the public.

Improving these relationships will be challenging for the Commission. The Commission must first develop and maintain effective working relationships between itself and other agencies and institutions involved with the Great Lakes. Second, the Commission has sought (especially during the last 15 years) improved working relationships among state, provincial, tribal, and federal fishery agencies to enhance coordination and to foster lakewide approaches to management. Many of the Commission's recent activities are a direct product of the implementation of the Joint Strategic Plan for Management of Great Lakes Fisheries developed together with these partners. Third, the Commission must seek to strengthen partnerships with the public and itself and other fishery agencies. Healthy, effective partnerships of these three types are essential for the successful achievement of the other two vision statements.

In the late 1970s, fishery agencies recognized that threats to the Great Lakes fishery resource and opportunities for rebuilding the resource required greater management capability than any one agency or government could provide. The agencies agreed that a strategic management plan was

necessary and requested that the Commission lead the development process. The Commission convened natural-resources-agency administrators, directors, and ministers as a Committee of the Whole to oversee development and implementation of the plan. The Joint Plan was adopted in the 1980s by federal, provincial, state, and tribal natural-resources agencies (the Committee of the Whole), and stands as an explicit statement on cooperative fishery management for the Great Lakes. In this partnership vision statement, the Commission reaffirms a commitment to the intent, processes, and goal stated in the Joint Plan and to the partnerships required for its successful achievement. Several elements of the vision statement have evolved directly from the Joint Plan:

- establishment of Fish Community Objectives,
- leadership from the Lake Committees,
- improved coordination of fish management/research programs, and
- greater involvement with environmental quality.

Ontario Ministry of Natural Resources

Public involvement in stream improvement on a Great Lakes tributary.

These elements strive to build the first two types of partnerships: those between the Commission and other agencies and those among the other agencies and institutions. A high priority will be given to the strengthening of existing partnerships among natural-resources agencies and the Commission.

Fish Community Objectives and the State of the Lake Reports identified in the first milestone are products requested from the Lake Committees by the Committee of the Whole in 1980 and 1986, respectively. These products will assist the Committee of the Whole as it reviews and evaluates progress in the implementation of the Joint Plan. The Fish Community Objectives have been a difficult assignment for the Lake Committees. The Commission was requested by the Committee of the Whole to facilitate and help the Lake Committees in the development of these key elements of the Joint Plan. The first milestone reflects the Commission's desire to assist the Committee of the Whole, its willingness to help the Lake Committees, and its commitment to the Joint Plan. Achievement of this first milestone will require strong partnerships among all those involved.

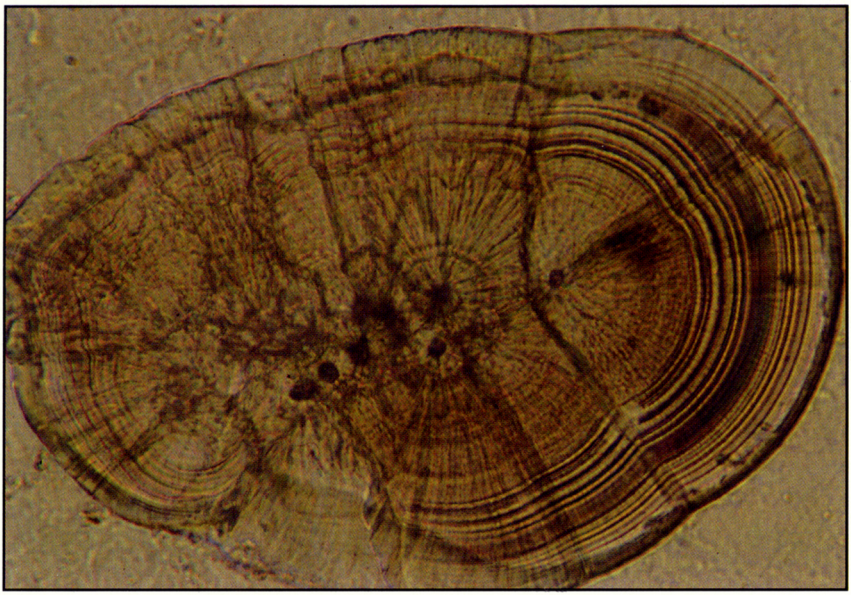
Ontario Ministry of Natural Resources

Fishery manager discussing a restoration project with a fishing-club representative.

Enhanced partnerships need to be forged from those that already exist between fish management and environmental agencies of the Great Lakes. Recently, environmental agencies have begun development of ecosystem objectives, often without involving fishery managers. Similarly, fishery managers have established fishery management goals often without recognition of the critical role environmental agencies must play if fishery management goals are to be achieved. Over the next decade, the Commission will work towards the maintenance of effective linkages between environmental agencies (such as Environment Canada, the U.S. Environmental Protection Agency, and the International Joint Commission), fish management agencies, other agencies (such as the Council of Great Lakes Governors), and itself. For example, the establishment of Fish Community Objectives by the Lake Committees may serve as useful additions to the objectives adopted by environmental agencies to guide their programs. Similarly, fishery agencies can support environmental agencies by adoption of complementary environmental objectives and quantitative indicators. By working together, a synergism can be generated that should accelerate the achievement of mutual goals.

Stronger partnerships also need to be forged between the Commission and the public. The Commission defines a stakeholder as someone affected by the quality and productivity of the Great Lakes ecosystem, especially the fishery. As part of this vision statement, the Commission desires to strengthen and broaden its partnerships with non-agency stakeholders. In the United States, legislation provides for the appointment of advisors representing interest groups and agencies. Formal links with the public and the Commission will be improved by the addition of Canadian advisors. The Commission will also seek to enhance opportunities for United States and Canadian advisors to offer guidance to Commission programs. In the past, the Commission's primary contact with the public was with sport and commercial fishermen. Although this contact is essential and must continue, the Commission has had only limited communication with representatives of environmental organizations such as Great Lakes United and the Lake Michigan Federation. The Commission will devote more attention to working with all organizations concerned with Great Lakes rehabilitation, not just those interested in participation in the fisheries.

Effective communication is essential for achievement of all the vision statements. Communication requires careful consideration of message content, selection of channels to send messages, recognition of intended audience, and listening for responses to the messages. The process is complicated by the wide diversity of audiences interested in Great Lakes fish management. A communication strategy shall be developed (and adopted) to improve communication and to cultivate partnerships between the Commission and stakeholders concerned with Great Lakes fishes.



C. Bowen, National Fisheries Center—Great Lakes

Magnified cross section of the earstone of a fish. Pronounced rings, which serve as internal marks, result from intentional exposure to changing temperatures during the fry stage.

The Commission also maintains a long-standing commitment to assist communication among scientists and between scientists and resource managers. Sponsorship of symposiums and workshops and publication of results are examples of this type of communication.

GLOSSARY

aquatic community

The biological component of an aquatic ecosystem including bacteria, algae, plants, invertebrates, and fish. These components are interrelated and affect each other through food chains and the cycling of nutrients.

biological diversity

A term relating to the amount of genetic diversity and its organization within species and to the total number of species.

Convention on Great Lakes Fisheries

An agreement made in 1954 between Canada and the United States to improve and perpetuate the fishery resources of the Great Lakes.

ecosystem management

A whole-system approach to management that recognizes that all living organisms, including humans, are connected to their environment and to each other.

Fish Community Objectives

Statements developed by Lake Committees that specify characteristics of fish populations in a Great Lake that are desired to be maintained or changed by the natural-resources agencies responsible for management. A set of Fish Community Objectives has been or is being established for each Great Lake. These objectives were a requirement specified by the Joint Strategic Plan for Management of Great Lakes Fisheries.

fishery

A term used to describe the human use of a group of fish. It may include the catching, preparing, and selling of fish.

integrated pest management

A type of pest control that seeks to suppress pests at levels ecologically, economically, and socially acceptable; to maximize net benefits to society; and to minimize the use of pesticides.

Joint Strategic Plan for Management of Great Lakes Fisheries

A plan originally signed in 1980 and adopted by federal, provincial, state, and tribal natural-resources agencies to guide management of fisheries in the Great Lakes.

Lake Committees

Committees of natural-resources managers that address issues of common interest about Great Lakes fisheries. Five Lake Committees exist, one for each Great Lake, and each is comprised of one representative from each management authority.

Lake Technical Committee

A committee formed of specialists (most often Great Lakes biologists) who provide technical advice to a Lake Committee.

lentic

Pertaining to static, calm, or slow-moving waters such as lakes.

native fish

Fish species that occurred in the Great Lakes before settlement by Europeans.

non-native species

A species that is introduced deliberately or accidentally to an area where it does not occur naturally.

partnership

An association or alliance among different groups of people or institutions and agencies to administer and deliver more effective programs or to seek solutions to problems.

populations

A group of individuals of the same species that interbreed. Genetic variation of a species is organized within and among populations of a species.

rehabilitation/restoration

The repair of altered or degraded aquatic ecosystems to increase their capability to sustain communities and provide benefits to society.

remediation

A process of implementing a remedy or cure for a problem such as pollution.

sea lamprey control agent

An organization contracted by the Commission to conduct a program of sea lamprey control. Historically, two agents (one in the United States and one in Canada) have delivered the program on behalf of the Commission.

Secretariat of the Commission

Employees of the Great Lakes Fishery Commission who direct, guide, and carry out the functions of the Commission's programs and activities.

self-regulating fish communities

Fish communities in which the internal regulating forces of predation and competition are exerted mainly by naturally reproduced fish.

species

A group of genetically similar individuals actually or potentially interbreeding.

stakeholders

People affected by the quality and productivity of the Great Lakes ecosystem regardless of their perception of their relationship to the Great Lakes.

State of the Lake Report

A report prepared for natural-resources agencies that states progress on the achievement of Fish Community Objectives and identifies new and emerging issues that will affect future management.

sustainable benefits

Advantages, experiences, and products that meet the needs of present society without compromising the ability of future generations to meet their own needs.

toxic chemicals

A term referring to synthetic chemical substances that are capable of causing harm at very low levels of exposure, while providing little or no benefit to plants or animals of the ecosystem.

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Cover map: John Carey, Engraver, 1828

Map courtesy of
William L. Clements Library, University of Michigan

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