

**A JOINT STRATEGIC PLAN
FOR MANAGEMENT OF GREAT LAKES FISHERIES**

by the

**CANADA DEPARTMENT OF FISHERIES AND OCEANS
ILLINOIS DEPARTMENT OF CONSERVATION
INDIANA DEPARTMENT OF NATURAL RESOURCES
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
NATIONAL MARINE FISHERIES SERVICE
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
OHIO DEPARTMENT OF NATURAL RESOURCES
ONTARIO MINISTRY OF NATURAL RESOURCES
PENNSYLVANIA FISH COMMISSION
U.S. FISH AND WILDLIFE SERVICE
WISCONSIN DEPARTMENT OF NATURAL RESOURCES**

JUNE 1981



Great Lakes Fishery Commission

Miscellaneous Publication 1981-01

A Joint Strategic Plan for Management of Great Lakes Fisheries

Citation: GLFC (Great Lakes Fishery Commission, Editor. 1981. A joint strategic plan for management of Great Lakes fisheries. Available from: <http://www.glfc.org/pubs/misc/jsp81.pdf> [accessed (enter date)].

Great Lakes Fishery Commission
1451 Green Rd.
Ann Arbor, MI 48105

June 1981

ISSN: 1553-8087

ACKNOWLEDGEMENTS

The Steering Committee acknowledges with sincere appreciation the support received from the Committee of the Whole and the Great Lakes Fishery Commission. The excellent professional staff and services they made available to the Steering Committee and Work Groups made the development of the Strategic Great Lakes Fishery Management Plan interesting and rewarding.

All those who participated in the planning process are commended for the input and some deserve special recognition. Ralph Abele's timely words of wisdom and clarity of thought were very helpful. John Hall's role as observer and representative of non-fishery interests helped balance the planning perspective. There are undoubtedly several more participants that deserve special credit, but none more than Work Group C. This team chaired by John Cooley and so ably staffed by C. A. (Bill) Haxell, Raymond Hubley, Douglas Jester, Tim Millard, Jon Rittgers, William Shepherd and Rich Thomas, developed the core of the plan. They deserve a standing ovation from the Great Lakes fishery agencies and their respective publics.

Special thanks go to Mrs. Beverly Grant and Mrs. Mary Hirst for their unstinting stenographic labor, and to Mrs. Ruth Koerber for final copy.

The Steering Committee believes this plan, when implemented, will open an era of complementary environmental and fishery management effort that will be of lasting benefit to the United States' and Canada's Great Lakes fishery resources.

William A. Pearce
U.S. Chairman

Andrew H. Lawrie
Canadian Chairman

TABLE OF CONTENTS

BACKGROUND.	1
A COMMON GOAL STATEMENT FOR GREAT LAKES FISHERY AGENCIES	3
GREAT LAKES FISHERY ISSUES	4
Lost Fishing Opportunities	4
Instability of Fish Communities	4
Sea Lamprey	5
Overharvest	5
Invasion and Introduction of Exotic Species	5
Inadequate Environmental Quality	5
Land Uses	5
Water Uses.	6
Atmospheric Inputs	6
Competition and Conflicts among Users of the Fishery Resources	6
Allocation among Jurisdictions	6
Commercial Fishing versus Sport Fishing	6
Native People versus Other Users	6
Access to the Resource	7
STRATEGIES FOR GREAT LAKES FISHERY MANAGEMENT	7
Consensus Strategy	7
Accountability Strategy	8
Environmental Management Strategy	8
Management Information Strategy.	8
STRATEGIC PROCEDURES	9
CONCLUSION	10
LIST OF APPENDICES.	11

**A JOINT STRATEGIC PLAN
FOR MANAGEMENT OF GREAT LAKES FISHERIES**

BACKGROUND

In recent years varied interest groups have become active and influential in determining the uses and environmental management of the Great Lakes. The ecosystem approach to Great Lakes management, accepted by the Great Lakes Fishery Commission and the International Joint Commission, recognizes that any impact on a part of the system may to some degree affect an entire lake, connecting channels, and even the entire basin. Hence, lakewide-basinwide perspectives have been recognized as essential to effective management. To alert all interest groups to fishery resource needs, provincial, state, and federal fishery agencies agreed that a strong, practical, strategic Great Lakes fisheries management plan should be developed to ensure the public's fishery resources receive full recognition and consideration in the present and proposed activities of any user and that the plan should prove particularly beneficial in coordinating environmental and fishery agency Great Lakes management efforts into a complementary process, thus helping to protect and, where possible, to enhance Great Lakes fishery resources.

The Great Lakes Fishery Commission was the logical forum in which the plan should be developed by the United States and Canadian fishery agencies. From the start, the plan recognized the constitutional and other legal responsibilities of the management agencies to manage their respective fishery resources. In early 1978 the Great Lakes Fishery Commission's Council of Lake Committees, representing fishery management agencies, strongly recommended that the Great Lakes Fishery Commission take the initiative in coordinating a United States-Canada Great Lakes fishery management planning effort. The council agreed and all members stated they were willing to make specific commitments to assist the Great Lakes Fishery Commission in an international planning effort for the fishery agencies.

The commission accepted the council's request and by August 1978 had taken the following actions: approved necessary Great Lakes Fishery Commission funding; recognized that agency commitment to the plan must be secured from high-ranking fishery agency officials; recognized that these officials and their staffs should be involved from the beginning so that the product would be their plan and the originators would then become advocates and implementers; and decided that the plan would be strategic in scope, forming an umbrella under which operational plans could be developed for each of the lakes and connecting channels.

High-ranking natural resource administrators from agencies with Great Lakes fishery responsibilities were invited to the secretariat in October 1978 to discuss the scope of the proposed activity; the roles and responsibilities of the Great Lakes Fishery Commission, participating agencies, interested agencies, interested organizations, and the

public; committee structure and terms of reference; and to confirm the commitment from the involved agencies. An Interim Steering Committee was created and charged to: a) identify the broad key problem areas that must be addressed to comprehensively manage the Great Lakes fishery resources now and in the future; b) develop the planning process to be used for the plan; and c) develop the framework of what should be included in the plan.

At the second meeting of the administrators in February 1979 the Interim Steering Committee reported that identification of key problem areas should not be its responsibility, but did propose a planning process and framework. The administrators formed themselves into the Committee of the Whole, one member from each agency. They approved the proposed planning process and framework with minor changes and reserved for themselves final review of the plan before submission to the Great Lakes Fishery Commission and the agencies.

The administrators decided the membership of the Steering Committee would include a representative from each state, the United States Fish and Wildlife Service, and the National Marine Fisheries Service, plus two each from the Province of Ontario and Canada Department of Fisheries and Oceans; named the members; and charged them to select co-chairmen from Canada and the United States to carry out the planning process, to produce a plan by appointing work groups, reviewing products, communicating with jurisdictions and making whatever other effort was necessary to meet their charge.

The Committee of the Whole recognized that responsibility for obtaining needed public input was rightfully that of the individual management agencies with jurisdiction over the fisheries. The need for a popular version of the plan was also recognized to ensure broad public awareness. It might also be desirable for the Great Lakes Fishery Commission to hold public meetings at some appropriate time to help obtain support for the plan.

The Great Lakes Fishery Commission's Secretariat acted as coordinator and secretary to the Steering Committee during planning sessions. Three work groups were formed from able, experienced and responsible fishery staff members assigned by the agencies represented on the Committee of the Whole. Work Group A developed the common goal statement presented in this report. Work Group B, with input from Work Group A, developed the major issue statements. When the two work groups had completed their assignments, Work Group C was formed from their membership to develop drafts of the strategy section of the plan. The final draft incorporating the material prepared by all three work groups was presented to the Steering Committee in October 1980 and the plan itself was prepared for distribution to the Committee of the Whole by November 15 for consideration at the Great Lakes Fishery Commission's December 1980 Interim Meeting.

The goals and issues were developed by the work groups from questionnaires returned by all Great Lakes fishery agencies (Appendix); by attendees at a workshop conducted by the Great Lakes Basin Commission (contracted by the Great Lakes Fishery Commission) to address the non-fishery agency issues (Appendix); consultation with the Steering Committee and numerous other professional and technical persons involved in Great Lakes activities; and use of many documents such as individual fishery agency plans, particularly the Strategic Plan for Ontario Fisheries (SPOF), the Great Lakes Fishery Commission's Technical Report 37, "Rehabilitating Great Lakes Ecosystems," and other materials (Appendix).

The commission's individual lake committees will be the major action arms for implementing the strategic plan and developing operational plans. However, the Steering Committee recognizes the need for a formal review group, such as the Council of Lake Committees, to evaluate recommendations made by individual lake committees to their members' agencies and to the Great Lakes Fishery Commission that may affect two or more lakes, or connecting channels. Therefore, the Steering Committee suggests for the time being that the Council of Lake Committees be retained and their assignments also be mandated by their respective administrators, as for lake committee members. At some future date, it may be desirable to restructure the Council of Lake Committees or even replace it with another review system.

The Steering Committee believes the plan should be a very practical tool for coordinating efforts of environmental management or natural resource offices and fishery agencies to provide mutual benefits and protection of the Great Lakes aquatic system. In fact, the Steering Committee believes that there is little choice at this time in history but to accept and implement the plan as quickly as possible if we are to protect Great Lakes fishery resources from continued degradation. The Steering Committee also views the plan as a major tool to eventually help restore some of the lost Great Lakes fishery resources.

A COMMON GOAL STATEMENT FOR GREAT LAKES FISHERY AGENCIES

An essential first step in developing a common strategy for Great Lakes fishery agencies is to ensure that the agencies hold common goals. Goal statements were obtained from all of the agencies and compared for commonalities, differences and conflicts. There are no overt conflicts of purpose among agencies and relatively few differences. Differences are largely matters of emphasis or coverage. Similarities of agency goals were used to formulate a goal statement which we believe adequately represents the aims of the various agencies with respect to the Great Lakes.

To secure fish communities, based on foundations of stable self-sustaining stocks, supplemented by judicious plantings of hatchery-reared fish, and provide from these communities an optimum contribution of fish, fishing opportunities and associated benefits to meet needs identified by society for:

*wholesome food,
recreation,
employment and income, and
a healthy human environment.*

The fishery resources of the Great Lakes are held in trust for society by government. The agencies responsible for them have been charged to manage the fishery resources and fisheries to provide continuing valuable contributions to society. These contributions include such benefits as a healthy aquatic environment, aesthetic and recreational values, scientific knowledge and economic activity as well as fish and fishing opportunities.

The fishery resources have been diminished and much altered through exploitation by man, degradation of habitat and the introduction or invasion of exotic biota. Much has been done to check, reverse or compensate for this degradation but much remains to be done. The fact that environmental considerations important to such efforts are often under the jurisdiction of other agencies complicates the task facing the fishery agencies.

Stresses affecting fishery resources rarely act singly, often have complex interactions and often impact several levels of the aquatic ecosystem so that remedial management must address problems on a comprehensive whole-system basis. A natural focus of the fishery agencies, therefore, is the maintenance and development of entire fish communities which can provide improved contributions to society. Such an ecosystem approach requires management to ensure stable self-sustaining foundations, especially at forage levels, for the community while allowing for judicious stocking of hatchery-reared fish to complement or enhance natural production at higher levels, meet public demands and rehabilitate depleted stocks of desirable species.

GREAT LAKES FISHERY ISSUES

In developing strategies for achieving the goal of the Great Lakes fishery management agencies, it is necessary to identify existing and emerging issues which would impact upon attainment of the goal. The management agencies were polled to obtain an understanding of their concerns, and the Great Lakes Basin Commission was contracted by the Great Lakes Fishery Commission to conduct a workshop to provide input from other interested groups (Appendix). The major issues forthcoming from these efforts are summarized as follows.

Lost Fishing Opportunities

There has been a progressive depletion of many indigenous fish stocks due to one or more stresses. Various individual stocks of highly valued lake trout, whitefish, lake herring, walleye, deepwater cisco, and lake sturgeon have collapsed and been replaced by other, often less valuable species. The elimination of indigenous species such as blue pike and Atlantic salmon, as well as other fish adapted to specific environments represents a loss of genetic material which is difficult, if not impossible to replace.

Current commercial yields of fish from many areas of the Great Lakes are often substantially below historic levels and commercial fishing enterprises which formerly relied on larger, high-market-value fish now often depend on other species once considered of low value but now in significant demand.

In some areas, opportunities for recreational angling have been severely reduced and the tourist industry has suffered from the loss of sport fishing business, causing substantial reductions in employment and income. But in other areas, emphasis on stocking and innovative sport fishery management by fishery agencies have dramatically increased the economic value of the associated industry. Today, throughout most of the Great Lakes, the economic value of the recreational fishery far exceeds that of the commercial fishery.

Currently, chemical contaminants are one of the most serious problems facing Great Lakes fishery and environmental agencies (see Inadequate Environmental Quality below). In recent years, identification of contaminants in several important fish species has caused disruption of much commercial and sport fishing.

Instability of Fish Communities

Although rehabilitation of some fish stocks has begun, some stocks remain depleted, some are not self-sustaining and others lack stability. Still others, though stable, depend on management programs for their stability. Instability of Great Lakes fish stocks results from the following stresses:

Sea Lamprey. The parasitic sea lamprey, although significantly controlled in most areas, continues to have an adverse impact on high value species. Development of larval populations in lake environments and other areas where present control technology may not be effective could result in a resurgence of sea lamprey populations. The virtual dependence of the control program on lampricides makes it vulnerable to problems in chemical supply and attitudes toward regulations and licensing.

Overharvest. Inadequate assessment of fish stocks and poor control and monitoring of the harvest have led to depleted stocks and disrupted fish communities. Present day examples of this problem include the lake whitefish in eastern Lake Ontario and lake trout in southeastern Lake Superior.

Invasion and Introduction of Exotic Species. Invasion by exotics such as alewives and rainbow smelt have disrupted ecosystems and fish communities. Purposeful introductions of top predators such as salmon and trout may complement fish community structures, stabilize certain stocks of forage species and provide new fishing opportunities. Conversely, the introduction of other exotic fish can modify fish communities to the extent that fishing opportunities are severely altered or reduced.

Inadequate Environmental Quality

Degradation of water quality, destruction of physical habitat, and impairment of ecosystem components critical to the well-being of fish are major causes of impairment and destruction of Great Lakes fish communities and fisheries. In order to protect fishery habitats and ensure adequate spawning success the environmental objectives of fishery agencies must be the same as or more stringent than those of environmental agencies. Thus, the actions of both are complementary and should be coordinated.

Chemical contaminants in fish throughout the Great Lakes basin have raised continuing concern for the health of those who eat Great Lakes fish, dampened the desire to fish for recreation and rendered large quantities of fish flesh unavailable to the consumer. For example, in 1976 excessive levels of mirex in Lake Ontario fish led to a temporary ban in New York State on possession of certain species. Discoveries of other contaminants such as PCB, dieldrin, mercury and DDT have resulted in similar sequences of events.

The ecosystem view of fishery management espoused by the fishery agencies, and reflected by the 1978 Canada-United States Great Lakes Water Quality Agreement, places particular emphasis on water quality and various habitat features that are required for normal functioning of fishes and unrestricted consumption of fish by man. Attempts to secure such an environment may well place fishery interests in conflict with the interests of other water users. All agencies must address the threats to Great Lakes fishery resources posed by these conflicting uses.

Land Uses. A wide variety of land uses adversely influences the quality of the fishery resource. Some agricultural practices and urban developments create problems of increased run-off, erosion, and loadings of nutrients, silt, and contaminants. Highway construction and maintenance causes siltation, herbicide and salt accumulation. Solid and liquid waste disposal sites represent one of the greatest present and future threats relating to contaminants in the rivers and waters of the Great Lakes. The Love Canal in New York State is a prime example of this issue.

Water Uses. Lakes and streams are used for a variety of purposes including waste disposal; domestic, industrial and agricultural water supply; navigation; recreation; and fishing. This variety of use leads to conflicts among users, water quality degradation and inter-agency conflicts, all of which interfere with the maintenance and improvement of productive levels of a fishery resource.

A variety of activities destroys fish habitat in the Great Lakes basin. Unnatural variations in lake levels cause shoreline erosion, increased needs for navigational dredging, changes in wetlands and estuarine environments, and changes in the distribution and availability of in-lake spawning and nursery grounds. Drainage projects, canal construction, stream channelization and diversions alter the physical characteristics of streams and wetlands. Dams for flood control and power generation interfere with fish migrations and may adversely affect stream conditions. Impingement and entrainment at water intakes, particularly those associated with the power generating industry, kill large numbers of fish. Mineral extraction and mining cause direct loss and disruption of fish habitat, and probable loss of spawning shoals. Dredging, navigation and associated facilities cause erosion, siltation, changes in near-shore currents, and destruction of habitat. A prime example is the loss of the largest rapids in the entire St. Lawrence-Great Lakes system by construction of the St. Lawrence Seaway and power project in 1958. With that development New York and Ontario lost an excellent walleye fishery.

Atmospheric Inputs. The recent demonstration of major inputs of airborne nutrients and contaminants from industrial and other sources well outside the Great Lakes basin emphasizes the scope and urgency of the environmental problems facing the fishery agencies. For example, acid precipitation and associated contaminant concerns are serious problems in some areas of the Great Lakes basin.

Competition and Conflicts among Users of the Fishery Resources

Difficulties in providing desired contributions of fish and fishing opportunities arise largely from the difficulty of identifying the harvestable surpluses and of allocating them to competing users. For most stocks of common concern, needed decisions will have to be based on the best scientific studies available. Fundamental to the allocation problem is an understanding of society's needs and measures of values associated with those needs. The major user conflicts over Great Lakes fishery resources are summarized as follows.

Allocation among Jurisdictions. Protection of fish stocks from overexploitation by any or all user groups is a paramount responsibility of all fishery agencies. Fishery agencies need to make joint allocation decisions on stocks of common concern. Depletion and loss of important fish stocks will continue regardless of environmental improvements unless acceptable allocation systems are implemented.

Commercial Fishing versus Sport Fishing. Commercial and recreational fishermen often compete for fishery resources. The interests and activities of one group can adversely impact those of the other. Each group is opposed to allocation decisions which appear to be unfavorable to their specific interests.

Native People versus Other Users. Conflicts exist between native people and other fishing interests over access to and allocation of the fisheries.

Access to the Resource

The shoreline of the lower Great Lakes and tributaries has been greatly altered through the construction of industrial complexes, residential development and other major works. Such practices have presented users of the fishery resources with formidable problems in gaining access to their fishery. As a result, some agencies are faced with the task of creating access for anglers and providing mooring facilities for anglers and commercial fishermen. The problem may intensify as energy costs reduce angler travel to remote fishing locations and the Great Lakes fishery continues to improve.

STRATEGIES FOR GREAT LAKES FISHERY MANAGEMENT

In recent years, fishery agencies have been successful in resolving, or partially resolving, some management problems. Certainly, the level of successful sea lamprey control in the Great Lakes is a monument to cooperative international effort. The establishment of a new salmonid sport fishery and the partial rehabilitation of the lake trout fishery are other proud accomplishments. However, the issues described earlier remain unresolved because they continue to generate problems which are intractable with existing approaches.

To assist fishery and environmental agencies in dealing with these problems, an effort has been made to identify underlying obstacles which have thwarted past efforts, to suggest broad strategies to resolve them and to propose a coherent set of procedures to initiate implementation. The fundamental strategies suggested are a consensus strategy, an accountability strategy, an environmental management strategy and a management information strategy.

Consensus Strategy

There is no intent in the plan to usurp or weaken the fishery agencies' legal responsibilities to their Great Lakes fishery resources. Through the signing of a memorandum of acceptance by all Great Lakes fishery agencies, the plan does recognize the need for formal acceptance and implementation of the plan by those agencies. The plan also recognizes the absolute need for fishery and associated agencies to be flexible, particularly at the lakewide operational level, if the plan is to be successfully implemented. The consensus strategy proposed here should help develop such flexibility, not to mention providing significant help in obtaining financial and political support for individual agency initiatives.

A frequent obstacle to effective resolution of issues is a lack of cooperative agency action. Even when a clear common purpose is agreed upon, individual agencies are sometimes unable to perform effectively for want of adequate financial or political support. Clearly, the establishment of consensus (see Appendix for a definition) among agencies would not only strengthen all of them in their individual requests for support of needed management initiatives but would also provide a good deal of incentive to act in accordance with the group interest and intent. Therefore:

Consensus must be achieved when management will significantly influence the interests of more than one jurisdiction.

Accountability Strategy

It is apparent that positive participation in the consensus management process would be encouraged by application, at the inter-agency level, of the virtually universal "management by results" process characteristic of each agency's conduct of their own affairs. This implies, of course, open disclosure of each agency's individual programs and plans in terms of operational objectives, targets and performance. This would not only provide for mutual evaluation of any management proposals which might affect another's interests but make a major contribution to the development of integrated operational programming employing the best available fisheries science and technology. Therefore:

Fishery management agencies must be openly accountable for their performance.

To implement these strategies, procedures are proposed later whereby consensus decisions should be formally agreed to by agency heads and annual agency performance reports should be formally published and made available to all interested parties.

Environmental Management Strategy

Many of today's fishery problems are related to poor environmental conditions. The improvement, health, and abundance of many Great Lakes fish stocks and safe public use of them is dependent on an ability to improve or modify degraded water bodies and prevent future environmental degradation. Many fishery agencies in the Great Lakes basin do not have jurisdiction over research and remedial programs in those areas of concern. Therefore:

Fishery agencies shall endeavor to obtain full consideration by the Great Lakes environmental management agencies of the potential impacts of their activities and decisions on fishery needs and objectives.

Management Information Strategy

Information useful as a guide to management practice is a precious commodity. Where it exists, it is vitally important that it be readily available for application wherever appropriate. However, agencies involved in fisheries and environmental management on the Great Lakes have generated a variety of data which is often inadequate for measuring and predicting the effects of management decisions on a lakewide basis. Therefore:

Fishery agencies must cooperatively develop means of measuring and predicting the effects of fishery and environmental management decisions.

Because all Great Lakes fishery agencies share similar problems, there should be basin-wide commonality in and accessibility to information collected and used to measure and predict the effect of decisions.

Many user groups are continuously imposing stresses on Great Lakes fishery resources, often without prompt response from fishery agencies. It is important that fishery management agencies make necessary decisions as quickly as possible and nothing in this strategy should be construed as suggesting that urgent decisions can be delayed until enough highly-specific scientific information is available to ensure an airtight legal case.

STRATEGIC PROCEDURES

1. The lake committees will define objectives for the structure of each of the Great Lakes fish communities and develop a means of measuring progress toward their achievement.
2. The lake committees will identify environmental issues which may impede achievement of their fishery objectives and refer these to the Great Lakes Fishery Commission.
3. The Great Lakes Fishery Commission will create an expert Fish Habitat Advisory Committee (FHAC), perhaps on the model of the commission's Board of Technical Experts, and charge the FHAC to assist each lake committee to develop environmental objectives essential to achieving its fishery objectives.
4. Each fishery agency should identify its plans for achieving the fish community and environmental objectives identified by the lake committees noting proposed collaboration with environmental and other agencies as well as its own proposed activities.
5. Each fishery agency should submit all substantive changes from existing practice to the appropriate lake committee before implementation.
6. Any agency proposal for change which other agencies believe will influence their interests may become the subject of negotiations within lake committees until consensus of affected agencies is achieved.
7. If consensus cannot be achieved with respect to fish community objectives an affected party may request a hearing before the Great Lakes Fishery Commission which will arbitrate such differences, report its findings, and make recommendations for resolution of the problem to the appropriate agencies.
8. Unresolved environmental issues may be referred by lake committees to the Great Lakes Fishery Commission which shall represent fishery interests in these issues to the most appropriate body (e.g. International Joint Commission, United States Environmental Protection Agency, United States State Department, Canada Department of External Affairs, etc.).
9. Consensus decisions which require action by more than one fishery agency shall be made a matter of record.
10. The fishery agencies should measure and make annual reports to the lake committees of the progress made toward achieving their mutual committee objectives.
11. Each lake committee will prepare an annual progress report and make recommendations to both the agencies and the Great Lakes Fishery Commission.

12. The Great Lakes Fishery Commission's Annual Report to the governments and the public shall include a summary of the lake committee reports and recommendations regarding fishery and environmental objectives, programs, and activities needing specific attention.
13. To develop means of predicting the effects of fishery and environmental management decisions ---
 - a. The Great Lakes Fishery Commission will coordinate development of and recommend standards for recording assessment data, maintain a current inventory of the data in possession by the agencies in order to facilitate access to such data, maintain a catalogue of Great Lakes fishery assessment and research programs which are planned or in progress, initiate and support preparation and publication of case studies of the management experiences of the Great Lakes fishery agencies.
 - b. The agencies are encouraged to provide their data to other agencies upon request if the collecting agency has had reasonable time to verify and interpret the data (such time should not normally exceed one year for assessment data and three years for research data) and to develop one or more compatible automated information systems which will provide ready access to most Great Lakes fishery data.

CONCLUSION

It is obvious that this plan has many implications in terms of commitment for the agencies, particularly for their personnel who serve on lake committees. Many of these implications have not been specifically addressed in this document because it is deemed highly desirable at this point that any future planning should involve discussion by those people who ultimately will carry the bulk of the new and increased work load, the lake committee members.

As presented here, the plan is in fact a proposal for the institution of a formal, on-going planning process in accordance with certain broad strategies and supported by proposals for their implementation. It is proposed that agencies should use their representation on Great Lakes Fishery Commission established individual lake committees as a means of representing their own interests and negotiating consensus decisions regarding joint concerns. Acceptance and implementation of the plan will require a considerable increase in responsibility and activity for agency lake committee members and support staff. Where lake committees have inadequate staff to carry out high priority assignments, it may be necessary to supplement their effort by Great Lakes Fishery Commission contracts or other help. In fact, it may be desirable to restructure the Great Lakes Fishery Commission to build in such staff support, particularly for the more technical fishery and environmental management needs of the plan.

LIST OF APPENDICES

I. ATTACHED TO REPORT

A.	Memorandum of Acceptance	13
B.	A Reservation to the Memorandum of Acceptance	18
C.	A Resolution by the Great Lakes Fishery Commission to Support Implementation	19
D.	Glossary	20
E.	Concept and Definition of Consensus	21
F.	Institutional Arrangements	23

II. AVAILABLE FROM GREAT LAKES FISHERY COMMISSION

- A. List of Planning Participants
- B. Issues Questionnaire and Responses
- C. Summary Proceedings, The Effects of Environmental Issues and Programs on Great Lakes Fisheries: Directions for the Future. Hosted by the Great Lakes Basin Commission for the Great Lakes Fishery Commission, January 1980.
- D. Suggested Readings

Appendix I.A.



Great Lakes Fishery Commission

ESTABLISHED BY CONVENTION BETWEEN CANADA AND THE UNITED STATES TO IMPROVE AND PERPETUATE FISHERY RESOURCES

MEMORANDUM OF ACCEPTANCE OF THE JOINT STRATEGIC PLAN FOR MANAGEMENT OF GREAT LAKES FISHERIES

THIS MEMORANDUM OF ACCEPTANCE made and entered into this seventeenth day of June 1981, by and among the Canada Department of Fisheries and Oceans, the Illinois Department of Conservation, the Indiana Department of Natural Resources, the Michigan Department of Natural Resources, the National Marine Fisheries Service, the New York State Department of Environmental Conservation, the Ohio Department of Natural Resources, the Ontario Ministry of Natural Resources, the Pennsylvania Fish Commission, the United States Fish and Wildlife Service and the Wisconsin Department of Natural Resources.

WITNESSETH:

WHEREAS, the parties hereto have long desired to adopt a Joint Strategic Plan for Management of Great Lakes Fisheries, and

WHEREAS, the Great Lakes Fishery Commission, acting through its Steering Committee of the Committee of the Whole, prepared such a Joint Strategic Plan for Management of Great Lakes Fisheries after years of efforts, deliberations, and consultations, and

WHEREAS, the parties hereto have had the opportunity to review and change the drafts of the said Joint Strategic Plan, and

WHEREAS, the parties hereto have agreed that the Joint Strategic Plan for Management of Great Lakes Fisheries, dated December 1980, represents the final product

of the best efforts of the parties and serves the best interests of the parties hereto and the peoples of their states, province and nations.

NOW THEREFORE, in consideration of the mutual benefits to be derived herefrom, the parties hereby covenant and agree as follows:

1. The Joint Strategic Plan for Management of Great Lakes Fisheries, dated December, 1980, is hereby accepted and adopted by each and every party signatory to this Memorandum of Acceptance.

2. The parties hereto pledge their support to the Goals set forth in the Joint Strategic Plan for Management of Great Lakes Fisheries and commit themselves to resolving the Great Lakes Fishery Issues raised in the Plan by jointly, severally, and individually adopting the Strategies for Great Lakes Fisheries Management set forth in the Plan.

3. The parties hereto accept the institutional arrangements and responsibilities as set forth in the Joint Strategic Plan and agree that changes to, or modifications of, the Joint Strategic Plan shall be accomplished by consensus, utilizing procedures similar to those used in developing and adopting the Joint Strategic Plan.

4. The parties hereto agree to adopt and execute the Strategic Procedures set forth in the Joint Strategic Plan and commit themselves and their agencies and instrumentalities to carrying out these procedures.

5. Nothing in this Memorandum of Acceptance shall be construed as infringing on the sovereignty of any nation, province or state signatory to this document, but shall rather be construed as a commitment of the sovereign power of such nations, states and province to carrying out the Joint Strategic Plan hereby adopted.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals, as of the date first written above at Ottawa, Ontario, Canada.

CANADA DEPARTMENT OF FISHERIES AND OCEANS

ATTEST

H. Douglas Johnston
s/H. Douglas Johnston

BY *D. D. Tansley*
s/D. D. Tansley

ITS *Deputy Minister*
(TITLE)

ILLINOIS DEPARTMENT OF CONSERVATION

ATTEST

Maurine E. Richter
s/Maurine E. Richter

BY *David Kenney*
s/David Kenney

ITS *Director*
(TITLE)

Bruce Muench
s/Bruce Muench

INDIANA DEPARTMENT OF NATURAL RESOURCES

ATTEST

Frank R. Lockard
s/Frank R. Lockard

BY *Joseph Cloud*
s/Joseph Cloud

ITS *Director*
(TITLE)

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

ATTEST

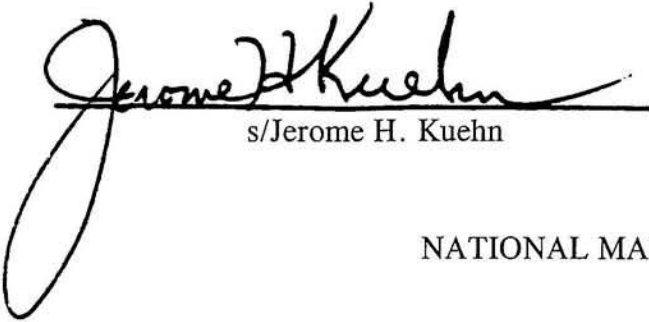
John A. Scott
s/John A. Scott

BY *Howard A. Tanner*
s/Howard A. Tanner


ITS *Director*
(TITLE)

MINNESOTA DEPARTMENT OF NATURAL RESOURCES

ATTEST


s/Jerome H. Kuehn

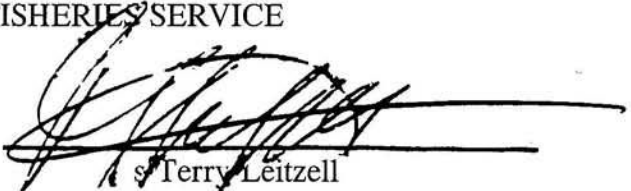
BY 
s/Joseph N. Alexander

ITS 
(TITLE)

NATIONAL MARINE FISHERIES SERVICE

ATTEST

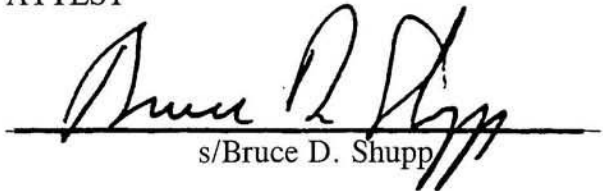

s/Robert W. Hanks


BY 
s/Terry Leitzell

ITS **Assistant Administrator for Fisheries**
(TITLE)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ATTEST

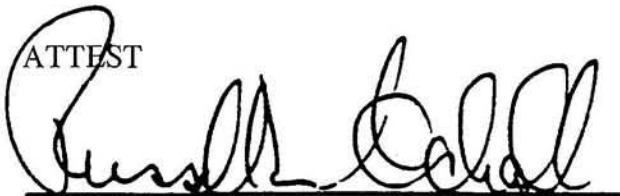

s/Bruce D. Shupp

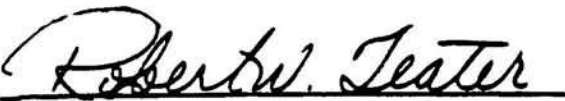
BY 
s/Robert F. Flacke

ITS **Commissioner**
(TITLE)

OHIO DEPARTMENT OF NATURAL RESOURCES

ATTEST


s/Russell L. Scholl

BY 
s/Robert W. Teater

ITS **Director**
(TITLE)

ONTARIO MINISTRY OF NATURAL RESOURCES

ATTEST

BY Alan Pope
s/Alan Pope

[Signature]
s/A. S. Holder

ITS Minister of Natural Resources
(TITLE)

PENNSYLVANIA FISH COMMISSION

ATTEST

BY Ralph W. Abele
s/Ralph W. Abele

Howard T. Hardie, Jr.
s/Howard T. Hardie, Jr.

ITS Exec. Director Fish
(TITLE)

UNITED STATES FISH AND WILDLIFE SERVICE

ATTEST

[Signature]
s/G. Ray Arnett

BY Galen L. Buterbaugh
s/Galen L. Buterbaugh

ITS Associate Director--Fishery Resources
(TITLE)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

ATTEST

BY Carroll D. Beadny
s/Carroll D. Beadny

James S. Christensen
s/James S. Christensen

ITS Secretary
(TITLE)

James T. Addis
s/James T. Addis

Appendix I.B.

RESERVATION
TO THE MEMORANDUM OF ACCEPTANCE
FOR THE JOINT STRATEGIC PLAN
FOR MANAGEMENT OF GREAT LAKES FISHERIES

The Wisconsin Department of Natural Resources conditions its execution of this Memorandum of Acceptance on inclusion of the following clause:

This Memorandum of Acceptance shall be construed in a manner which recognizes the administrative rulemaking processes of the states, nations or provinces signatory to this Memorandum and shall support full compliance with such processes when a course of action of a party in furtherance of the Joint Strategic Plan is interpreted as an administrative rule by their sovereign.

Counsel for the Wisconsin Department of Natural Resources, advises that the statement is not part of the agreement, but is to be used in construing the agreement. The statement constitutes a reservation to the agreement and does not require action by signatories.

Appendix I.C.



Great Lakes Fishery Commission

ESTABLISHED BY CONVENTION BETWEEN CANADA AND THE UNITED STATES TO IMPROVE AND PERPETUATE FISHERY RESOURCES

RESOLUTION BY GREAT LAKES FISHERY COMMISSION
TO SUPPORT IMPLEMENTATION OF THE
JOINT STRATEGIC PLAN FOR MANAGEMENT OF GREAT LAKES FISHERIES

WHEREAS, fishery resources and associated uses are among the most sensitive of all uses made of the Great Lakes and are an integral part and indication of ecosystem quality;

WHEREAS, fishery interests must organize to increase their effectiveness if they are to achieve a competitive position in relation to other user groups;

WHEREAS, to most effectively manage the fishery resources of the Great Lakes there must be cooperation among the jurisdictions with authority for resource management because effective management calls for greater capability than any single state, province, or nation can provide;

WHEREAS, only through cooperation can the mechanisms for protecting, rehabilitating and wisely using our fishery resources be strengthened;

WHEREAS, through the encouragement of its cooperators, the Great Lakes Fishery Commission accepted the challenge of sponsoring development of a Joint Strategic Plan for Management of Great Lakes Fisheries;

WHEREAS, the Fishery Commission provided the forum in which those agencies with mandated responsibility for the welfare of the Great Lakes fishery resource could develop the plan;

WHEREAS, the Fishery Commission encouraged the Parties in their endeavors and shepherded the developers' efforts through the rewarding process in which a plan was completed; and

WHEREAS, the Fishery Commission believes that the plan provides a design for action and a framework within which all fishery interests can work to improve the fishery resource and its management;

THEREFORE, BE IT RESOLVED by the Great Lakes Fishery Commission at its meeting in Ottawa, Ontario, Canada on 17 June 1981, that it endorses the Joint Strategic Plan for Management of Great Lakes Fisheries, that it pledges support to the parties in their efforts to implement the plan, and that it will carry out its responsibilities specified in the plan to the best of its ability.

ATTEST

W. Mason Lawrence

Donald Johnston

Chairman
GREAT LAKES FISHERY COMMISSION

Appendix I.D.

GLOSSARY

The following are working definitions for the purpose of SGLFMP*:

Community	any assemblage of biota that functions as a unit through metabolic transformations
Conservation	to avoid wasteful or destructive uses of natural resources maintenance of the value of the resource and its inherent benefits wise management
Fishery resources	fish stock recognized by man to be of current or potential value and that man can use for his benefit or gain
Goal	statement of intent to achieve a desired result which specifies societal benefits
Impaired	reduced ability to function as a unit
Issue	a public concern which impedes achievement of the goal
Objective	a measurable result to be achieved
Rehabilitate	to secure a desirable fish community which is self-sustaining, diverse and resilient to a prescribed level of stress
Exotic fish	a species non-indigenous to the Great Lakes (example: sea lamprey, alewife, smelt, brown trout, rainbow trout, splake)
Secure	to put beyond hazard of losing; to achieve and maintain
Stock	the part of the fish population which is under consideration from the point of view of actual or potential utilization (by more than one agency - stocks of concern)
Strategy	a long-term broad scale (whole system) course of action essential to the achievement of the goal

*SGLFMP = Strategic Great Lakes Fishery Management Plan = Joint Strategic Plan for Management of Great Lakes Fisheries

Appendix I.E.

DEFINITION AND CONCEPT OF CONSENSUS

As the "consensus" process is critical to this plan, it is imperative that all parties operate under a singular concept and definition.

Webster's dictionary defines consensus in the following way:

1. harmony, cooperation or sympathy, especially in different parts of an organism; group solidarity in sentiment and belief.
2. general agreement; collective opinion; the judgement arrived at by most of those concerned; to be in harmony or accord, especially in opinion, statement or sentiment; to express a willingness as to accept a proposition or carry out a particular action.

The Encyclopedia Americana identifies three forms of consensus. The definition of "emergent consensus" seems particularly relevant to the Joint Strategic Plan. "Emergent consensus results from the crystallization of opinion after all points of view have been heard in the 'market place of ideas'."..... In theory, "each individual weighs the evidence and then draws a rational conclusion. The accumulation of judgement constitutes public opinion. If the emergent majority is forceful enough, the minority adopts its view and the result is consensus."

The Working Group believes this is how the "consensus" process should work at the lake committee level in SGLFMP. For further clarification, we offer the following examples.

1. Q. How do you know you have consensus?
A. *When no party to the negotiation objects to the opinion.*
2. Q. How do you ensure adherence to the consensus decisions?
A. *You cannot; however, you can provide inducements to adherence by:*
 - a) *having the consensus formalized through the signing of a public document by a chief executive officer;*
 - b) *the spectre of public revelation.*
3. Q. What happens if a consensus decision cannot be achieved?
A. *The problem will be taken to the Great Lakes Fishery Commission for arbitration (non-binding) at the request of one or more of the parties in the dispute at the lake committee level.*

INSTITUTIONAL ARRANGEMENTS

Fishery Management Agencies (FMA)

Frequency

- develop measurements of contributions of Great Lakes fisheries to society initially
- develop plans for achieving lake management objectives initially
- manage fisheries to achieve lake objectives. continually
- submit proposed policies, plans, and management decisions to appropriate LCs before implementation. annually
- submit controversial management proposals to LCs for "consensus" decisions as necessary
- make negotiated decisions a matter of record. as necessary
- provide fishery data to other agencies on request as necessary
- work together to develop compatible, automated information systems on Great Lakes fisheries data. continually
- make annual reports to LCs annually

Public Input

- this is recognized as a responsibility of individual agencies

Lake Committees (LC)

- define objectives for the structure of each of the Great Lakes fish communities and develop means of measuring the progress made towards achievement initially
- negotiate "consensus" decisions on those agency proposals which might influence another agency's interests as necessary
- identify environmental issues interfering with achievement of their fishery objectives as necessary
- make recommendations to the agencies and the GLFC as necessary
- prepare annual reports summarizing agency successes and failures annually

Fish Habitat Advisory Comm. (FHAC)

- work with LCs (and environmental agencies, etc. as necessary) to formulate environmental objectives compatible with LCs' fishery objectives
- report to GLFC

Great Lakes Fishery Commission (GLFC)

- acts as an arbitrator when "consensus" cannot be achieved as necessary
- refers environmental issues to the FHAC. as necessary
- represents fishery interests to appropriate bodies continually
- works with FMAs to develop means of predicting the effects of fisheries and environmental management decisions. continually
- submits an annual report on status of Great Lakes fisheries including recommendations on needs. annually

Future Contacts

Leaders of state, provincial and federal agencies with responsibility for Great Lakes fishery resources directed the establishment of the Joint Strategic Plan for Management of Great Lakes Fisheries. For additional copies of this document, copies of a public information brochure about the plan, or specific information on Great Lakes fisheries write to the following agencies:

Fishery Management Agencies

Chief, Div. of Fish and Wildlife Resources
Illinois Dept. of Conservation
Lincoln Tower Plaza
524 S. Second Street
Springfield, IL 62706

Chief of Fisheries
Indiana Dept. of Natural Resources
607 State Office Building
Indianapolis, IN 46204

Chief, Fisheries Division
Michigan Dept. of Natural Resources
Box 30028
Lansing, MI 48909

Chief of Fisheries
Minnesota Dept. of Natural Resources
Centennial Office Building - Box 12
St. Paul, MN 55155

Chief, Bureau of Fisheries
New York State Dept. of
Environmental Conservation
Albany, NY 12202

Head, Fish Section
Ohio Dept. of Natural Resources
Fountain Square - Building D
Columbus, OH 43224

Director, Fisheries Branch
Ministry of Natural Resources
Whitney Block, Queen's Park
Room 2347
Toronto, Ontario, Canada M7A 1W3

Chief, Fisheries Division
Pennsylvania Fish Commission
Robinson Lane
Bellefonte, PA 16823

Director, Bureau of Fish Management
Wisconsin Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707

Federal Agencies

Director General, Ontario Region
Canada Dept. of Fisheries and Oceans
3050 Harvester Road
Burlington, Ontario, Canada L7N 3J1

Director, New England Region
National Marine Fisheries Service
Federal Building, 14 Elm Street
Gloucester, MA 01930-3799

Director, Region 3
U.S. Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, MN 55111

Director, Region 5
U.S. Fish and Wildlife Service
One Gateway Center
Newton Corner, MA 02158

For general information contact:

Great Lakes Fishery Commission
1451 Green Road
Ann Arbor, MI 48105

The Great Lakes Fishery Commission was established by convention between Canada and the United States in 1955 to develop and coordinate fishery research programs, to advise governments on measures to improve the fisheries, and to implement programs to control the sea lamprey. At the request of its Council of Lake Committees, the fishery commission provided a forum for the development of the plan.