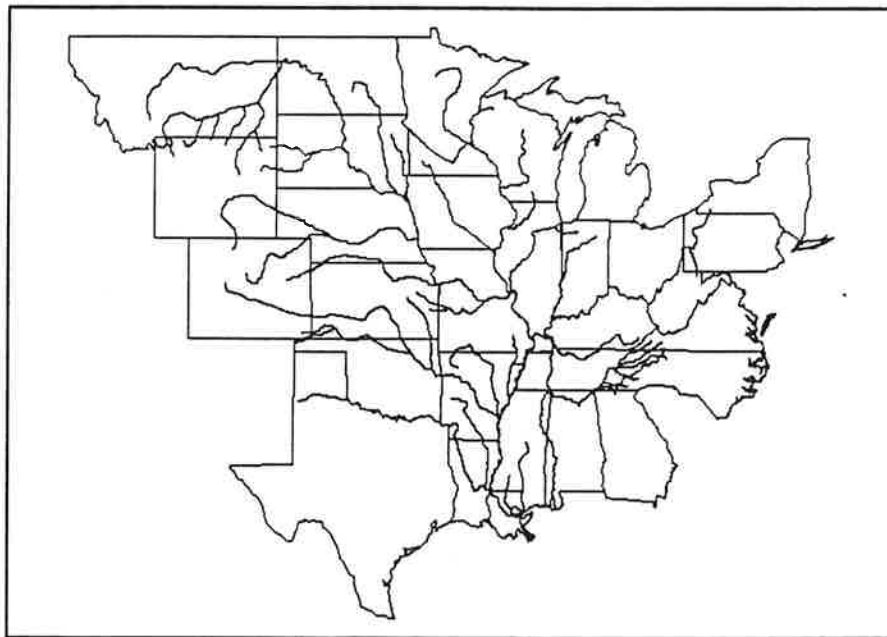


INTERJURISDICTIONAL FISHERIES INITIATIVE

**for the
MISSISSIPPI RIVER DRAINAGE BASIN**



COMPREHENSIVE STRATEGIC PLAN

August 1991

MICRA

(MISSISSIPPI INTERSTATE COOPERATIVE RESOURCE AGREEMENT)

**608 E. Cherry
Columbia, Missouri 65201**

**INTERJURISDICTIONAL
FISHERIES INITIATIVE**
for the
Mississippi River Drainage Basin

**COMPREHENSIVE
STRATEGIC PLAN**

August 1991

Prepared by*

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**(MISSISSIPPI INTERSTATE
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* Under agreement with, and through the cooperation of the American Fisheries Society and the participating states.

INTERJURISDICTIONAL FISHERIES INITIATIVE

COMPREHENSIVE STRATEGIC PLAN

for MICRA

(MISSISSIPPI INTERSTATE COOPERATIVE RESOURCE AGREEMENT)

The Mississippi River and its tributaries (Figure 1) comprise one of the largest and most valuable ecosystems in the world. Fish stocks in these waters are increasingly important to recreational fishing. Yet habitat degradation and the multiplicity of aquatic management authorities complicate and threaten the supply and utilization of these stocks. Fish species that move between management jurisdictions create complex resource management problems related to regulation development, licensing, enforcement, and establishment of management objectives. Fishery management must be able to respond to these problems, including increasing demand. Increased demand will be met only if fishery management agencies work together to perpetuate and enhance these important interstate aquatic resources and habitats.

Twenty-six of the 29 State conservation departments having fisheries management jurisdiction in the Mississippi River Drainage System (MRDS) have responded to this critical situation (Appendix A). They agreed to band together under the recently signed Mississippi Interstate Cooperative Resource Agreement (MICRA) and share resources, facilities and funding for preparation and implementation of Long-Range Strategic Plans, which will address the management needs of interjurisdictional fisheries.

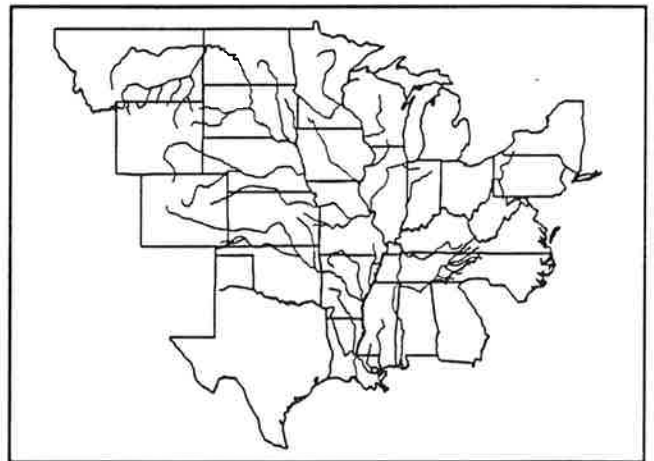


Figure 1. Map of the Mississippi River Drainage Basin, showing major interstate tributaries.

The Mandate of MICRA is "To assess the Mississippi River drainage fishery resources and habitat requirements to protect, maintain, and enhance interstate fisheries in the basin." The American Fisheries Society and the U.S. Fish & Wildlife Service have agreed to assist the States in this endeavor.

MICRA has defined interjurisdictional resources as "those fishery resources that cross or are common to two or more state boundaries and come under the shared jurisdiction of two or more governmental entities." The States have already identified more than 90 rivers (Appendix B) and more than 80 fish species (Appendix C) that are of greatest concern. It is recognized, however, that the Mississippi River Drainage System includes many thousands of smaller streams and hundreds of fish species as well as a great many other important forms of aquatic life.

In addition to the Mississippi River, the MRDS includes the Missouri, Ohio, Tennessee, Arkansas and Red rivers, and their tributaries (Figure 1). The System drains portions of Alabama, Arkansas, Colorado, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and Wyoming.

The MRDS is host to many fish species that move among different habitats in the 29 states. These habitats have been increasingly altered by dredging and spoil placement, construction of navigation facilities, hydroelectric plants, flood control dams and the resultant changed water and sediment transport regimes, and by man's shoreline development activities. At present, information is insufficient to assess how much these alterations have affected the health of fish populations.

Consequently, MICRA has invited other federal, non-federal and private entities, including the U.S. Army Corps of Engineers (COE), U.S. Forest Service (USFS), National Marine Fisheries Service (NMFS), Tennessee Valley Authority (TVA), utility companies, resource user groups, and several Indian tribes having resource management jurisdiction within the basin to join in the effort. MICRA will also recognize and embrace the existence of numerous MRDS compacts, committees, commissions, and councils, and honor their long standing status and missions, attempting to join all entities having management jurisdiction and responsibility for MRDS fisheries resources into a cooperative program. Through cooperation between entities, MICRA plans will consider the needs of both commerce and fisheries management on a system-wide basis

MICRA MISSION STATEMENT - Improve the conservation, development, management and utilization of interjurisdictional fishery resources in the Mississippi River Basin through improved coordination and communication among the responsible management entities.

MICRA will improve information bases and data management, communication and

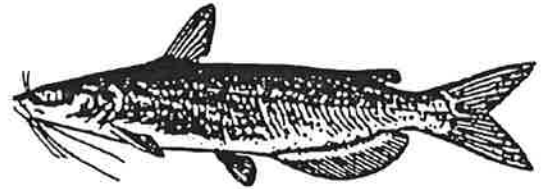
coordination, and species and habitat management, while eliminating duplication of effort and achieving overall cost savings to taxpayers and user groups.

A step by step plan for implementation of MICRA's Goals and Objectives follows:

GOAL A: Develop a formal framework and secure funding for basin-wide networking and coordinating mechanisms that complement existing and emerging administrative entities.

Objective A.1: Formalize an administrative structure for MICRA as a forum for communication and coordination among the states and entities within the next 3 months.

Task A.1.1: Develop an agreement among State and federal agency directors to cooperate on interjurisdictional fisheries research and management by July 1991.



Task A.1.2: Establish a Steering Committee composed of all State conservation agency members to direct MICRA development and operations.

Task A.1.3: Establish a Policy Sub-Committee of elected State members to act on the part of the Steering Committee between formal meetings.

Task A.1.4: Hold a Policy Sub-Committee meeting and elect officers by June 1, 1991.

Task A.1.5: Develop a Strategic Plan for MICRA to outline Program Goals, Objectives and projected implementation schedules by August 1991.

Task A.1.6: Develop a list of candidate Entities to be contacted as potential MICRA cooperators and validate the list with members of the MICRA Policy Committee by May 1, 1991.

Task A.1.7: Send letter signed by the ad-hoc Policy Sub-Committee Chairman by May 15 to Entities soliciting participation on MICRA.

Task A.1.8: Convene a Fall 1991 Steering Committee meeting to adopt and begin implementation of the MICRA Strategic Plan.

Task A.1.9: Develop a MICRA Action Agenda for 1992 by December 1991, and annually thereafter. This process would include annual updates of the Strategic

Plan to incorporate changing funding scenarios, as well as changing resource and management needs.

Task A.1.10: Develop an Executive Summary of MICRA progress and distribute to industry and user groups in the Basin by June 1, 1991.

Task A.1.11: Develop a MICRA public information brochure by July 1991.

Task A.1.12: Establish mechanisms for information exchange among interjurisdictional fisheries research and management agencies and groups by January 1992.

Task A.1.13: Establish a mechanism for prioritization of interjurisdictional rivers, sub-basin and basin-wide projects by January 1992.

Objective A.2 Establish joint funding mechanisms within 12 months of establishment of the forum.

Task A.2.1: Seek interim MICRA funding through an add-on to the FY 92 federal budget by May 1, 1991.

Task A.2.2: Evaluate the feasibility of funding future MICRA administrative activity through multi-State contributions from Steering Committee members (suggest \$5K per State) by June 1, 1991.

Task A.2.3: Evaluate the feasibility of funding MICRA activity through multi-state Wallop-Breaux projects by June 1, 1991.

Task A.2.4: Seek major grants from private industry and foundations for MICRA operations and activities by July 1, 1991, and on an on-going basis thereafter.

Task A.2.5: Establish mechanisms to facilitate funding of joint projects by early 1992.

GOAL B: Develop public information and education programs to disseminate information that supports fishery resource management in the Mississippi River Basin

Objective B.1: Establish a public information system of managers, industry and users by the end of 1991 to (1) identify existing information and education mechanisms and (2) utilize those mechanisms to promote the MICRA mission.

Task B.1.1: Develop a list of entity, industry, and press contacts for distribution of MICRA information by August 1991.

Task B.1.2: Develop a list of existing information and education programs available within programs of MICRA members and entities by September 1991.

Task B.1.3: Establish a network of basin-wide information and education programs for efficient distribution of MICRA materials by November 1991.

Objective B.2: Develop a vehicle (newsletter) for timely communication of MICRA information by August 1991.

Task B.2.1: Develop policies for newsletter format and focus by July 1991.

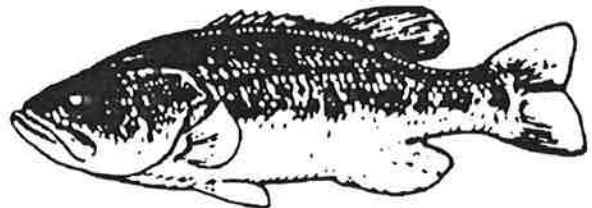
Task B.2.2: Develop a distribution list for initial mailings of the MICRA newsletter by July 1991.

Task B.2.3: Draft initial newsletter for review by Policy Sub-Committee by late July 1991.

Task B.2.4: Circulate newsletter to persons on list by August 1991.

Objective B.3: Use the MICRA Newsletter and other means to mobilize support for the MICRA mission.

Task B.3.1: Distribute the MICRA Newsletter and other information to user groups and at conservation exhibits, displays, etc. on an on-going basis.



Task B.3.2: Develop and implement an on-going procedure for identifying new methods of promoting MICRA goals.

Objective B.4: Prepare an information packet on the "Value of Fisheries in the Mississippi River Basin," in draft form by November 1991 and in final form for public consumption by early 1992.

Task B.4.1: Compile a collection of literature which documents the economic and intrinsic value of fisheries in the Mississippi River Basin by October 1991.

Task B.4.2: Review and summarize information compiled for Task B.4.1. by

December 1991.

Task B.4.3: Publish information summary and distribute through media and to the general public by early 1992.

Objective B.5: Produce periodic status reports on the progress of MICRA implementation.

Task B.5.1: Prepare and circulate MICRA status reports to members, entities and the press on an on-going basis.

GOAL C: Develop an information management program based on standardized methods for collecting and reporting fishery resource data, basin-wide.

Objective C.1: Establish a scientific standards and data protocol committee by the end of 1991.

Task C.1.1: Develop policies for the role and conduct of protocol committee by August 1991.

Task C.1.2: Develop criteria for selection of protocol committee members by September 1991.

Task C.1.3: Prepare a listing of candidates for membership on the protocol committee by October 1991.

Task C.1.4: Solicit letters of application from candidate list prepared for Task C.1.3. by November 1991.

Task C.1.5: Select protocol committee members by December 1991.

Task C.1.6: Initiate protocol committee activity by holding first protocol committee meeting in early 1992.

Objective C.2: Establish an information exchange mechanism for basin-wide fisheries management and research entities by the end of 1992.

Task C.2.1: Establish a permanent MICRA office for housing all MICRA files, publications, and staff by June 1992.

Task C.2.2: Hire or appoint a full-time MICRA Coordinator by July 1992.

Objective C.3: Establish a standardized data base within 36 months after the adoption of the MICRA Strategic Plan, and operating procedures for collection,

management and evaluation of interjurisdictional rivers resource data.

Task C.3.1: Evaluate existing resource data management mechanisms and recommend a data management system for the interjurisdictional fisheries initiative by February 1993.

Task C.3.2: Identify potential host facilities for interjurisdictional fisheries data by February 1993.

Task C.3.3: Develop standard data collection and management procedures by August 1993.

Task C.3.4: Develop quality assurance/quality control procedures for all interjurisdictional fisheries data collection and management efforts by August 1993.

Task C.3.5: Develop funding scenarios for acquisition and implementation of an interjurisdictional fisheries data management system by January 1994.

Task C.3.6: Establish a clearing house for data bases on interstate fish stocks, and implement an interjurisdictional fisheries data management system by July 1994.

GOAL D: Determine and document the socio-economic value of fishery resources and related recreation.

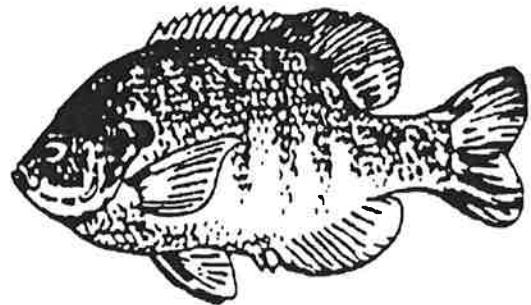
Objective D.1: Establish a committee of socio-economic experts to develop methodology for socio-economic valuation of basin-wide fishery resources by December 1992.

Task D.1.1: Prepare a list of experts on the socio-economic value of natural resources by July 1992.

Task D.1.2: Solicit letters of application from candidate list prepared for Task D.1.1. by August 1992.

Task D.1.3: Select experts and contract to develop methodology by December 1992.

Task D.1.4: Review and finalize methodology for conduct of socio-



economic evaluation by July 1993.

Objective D.2: Determine the economic value of Mississippi River Basin recreational fishery resources by 1994.

Task D.2.1: Publish a Request for Proposal (RFP) in the Commerce Business Daily for completion of a basin-wide socio-economic valuation of MRDS fishery resources in August 1993.

Task D.2.2: Review proposals and select contractor for completion of study outlined in Task D.2.1 by September 1993.

Task D.2.3: Complete basin-wide socio-economic evaluation of fishery resources by October 1994.

Task D.2.4: Review and finalize socio-economic evaluation by November 1994.

Task D.2.5: Publish socio-economic evaluation and distribute copies to members and entities by the end of 1994.

Task D.2.6: Prepare a press release summarizing the findings of the socio-economic evaluation, and circulate it with a copy of the complete report to the media by the end of 1994.

Task D.2.7: Prepare an information brochure summarizing information from the socio-economic study for distribution to the general public and for use in soliciting support for MICRA programs by the end of 1994.

GOAL E: Improve communication and coordination among entities responsible for fisheries resource management in the Mississippi River basin.

Objective E.1: Identify basin-wide fishery management issues and determine strategies by 1992.

Task E.1.1: Review existing fishery information as it applies to fisheries management in the basin; in individual river systems; and in separate river reaches, pools and tailwaters by the end of 1991.

Task E.1.2: Evaluate current fishery management strategies and identify new management opportunities in the basin; in individual river systems; and in separate river reaches, pools and tailwaters by July 1992.

Task E.1.3: Review and evaluate existing water regulatory manuals and

information as they apply to fisheries management in the basin; in individual river systems; and in separate river reaches, pools and tailwaters by July 1992. Regulatory manuals reviewed and evaluated would include, but not necessarily be limited to, the following:

- (1) Corps of Engineers discharge and water level management operations
- (2) Bureau of Reclamation water management operations
- (3) TVA hydropower, flow and water level operations

Task E.1.4: Identify fishery management opportunities as they apply to existing regulatory operations in the basin; in individual river systems; and in separate river reaches, pools and tailwaters by October 1992.

Task E.1.5: Identify alternative regulatory operational strategies and develop fishery management recommendations which take advantage of potential new management opportunities for the basin, individual river systems; and separate river reaches, pools and tailwaters by the end of 1992. Opportunities reviewed and evaluated would include, but not necessarily be limited to the following:

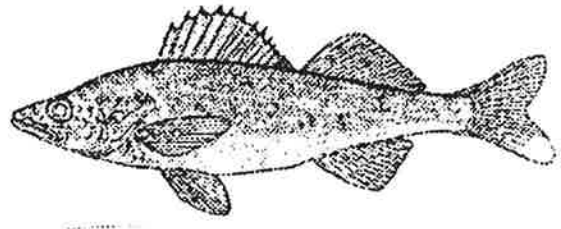
- (1) preservation of the remaining natural river habitats; especially the Missouri River
- (2) habitat rehabilitation and mitigation techniques and projects (i.e. management of diked off areas)

Objective E.2: Develop cooperative procedures for river regulation to maintain project objectives while enhancing fishery resources on an on-going basis.

Task E.2.1: Identify problems and information needs for improving the management of target species, rivers, reaches, etc. on an on-going basis.

Task E.2.2: Work with water management and regulatory entities to develop plans and joint resource management projects on an on-going basis.

Task E.2.3: Facilitate funding and implementation of joint resource management projects by the end of 1992, and on an on-going basis thereafter.



Objective E.3: Negotiate basin-wide water management processes to restore and enhance fishery resources by 1995 and on an on-going basis thereafter.

Task E.3.1: Present water management plans to the MICRA Steering Committee for adoption on an on-going basis.

Task E.3.2: Schedule meetings with key Steering Committee members and officials of appropriate regulatory management agencies, as needed, to discuss water management needs.

Task E.3.3: Use existing regulatory mechanisms and tools on an on-going basis to achieve planning objectives.

Task E.3.4: Use established information transfer mechanisms (i.e. media contacts, information/education procedures, and the MICRA newsletter) to continually gain support for proposed water management changes.

GOAL F: Periodically identify and prioritize issues of concern in the Mississippi River Basin for coordinated research that supports cooperative resource management.

Objective F.1: Identify basin-wide fishery management issues and determine research needs by 1992, and thereafter as needed.

Task F.1.1: Identify candidate resource managers and researchers basin-wide to serve on planning teams by the end of 1991.

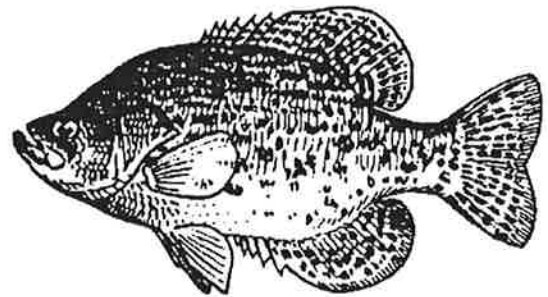
Task F.2.2: Assemble teams of resource managers and experts to provide input to the research planning process by early 1992.

Task F.1.3: Evaluate on-going large river fishery research efforts within the entire basin by August 1992.

Task F.1.4: Review information needs identified by Task G.2.3 as well as those already identified and listed below to regularly set research priorities:

- (1) develop reliable methods to estimate fish standing crops
- (2) document angler use and harvest levels
- (3) develop information on paddlefish biology
- (4) identify habitat needs, life history and culture methods for pallid sturgeon
- (5) document interactions of introduced and native fish species
- (6) document what fish species produce the best angler success and enjoyment
- (7) determine population status of important game and commercial fish species
- (8) collect recreational use data on selected river reaches

- (9) develop information on status of paddlefish and sturgeons
- (10) identify critical walleye and sauger spawning areas
- (11) develop information on fish predator/prey relationships in ageing main-stem reservoirs and impacted riverine systems
- (12) document long-term water quality changes in the system
- (13) define the economic impacts of sportfishing in the Basin
- (14) determine fisherman attitudes and needs for access, etc.
- (15) evaluate aquatic habitat improvement structures
- (16) document the benefits of MICRA to individual states
- (17) develop a bibliography of available fisheries information for each portion of the "big rivers"
- (18) assess exotic fish species introduction impacts
- (19) document the expanding range of the Asian carp in the Mississippi, Arkansas and White river drainages
- (20) evaluate the magnitude of competition for fishery resources between sport and commercial uses
- (21) evaluate the impacts hydropower development on large river fisheries
- (22) evaluate the impacts of sedimentation on large river fisheries
- (23) evaluate the impact of hydroperiod alterations on fish populations
- (24) evaluate the impacts of flooding on fish populations
- (25) evaluate the importance of natural river meandering on fishery resources, and the magnitude of impacts caused by man-induced meander development
- (26) evaluate the importance of the organic matter and riparian vegetation complex to large rivers
- (27) evaluate the impact of channel morphology changes on fish populations
- (28) evaluate the impacts of dam construction on fishery resources
- (29) document and evaluate the impacts of altered fish migration habits
- (30) evaluate marina and other shoreline development impacts on fishery resources
- (31) evaluate the impacts of channelization on fishery resources
- (32) evaluate the impacts of flood control levees on fish



- populations
- (33) develop better information on stocking of additional species or expanding stocking sites
 - (34) evaluate the feasibility of developing a basin wide GIS for fishery resources.

Objective F.2: Develop interjurisdictional fisheries research plans for the entire basin, individual river systems, river reaches, pools and tailwaters on an on-going basis.

Task F.2.1: Set research objectives for the entire basin, individual river systems, river reaches, pools and tailwaters by the end of 1992, or thereafter as needed.

Task F.2.2: Develop research scopes of work and solicit proposals for potential interjurisdictional fishery research projects on an on-going basis.

Task F.2.3: Evaluate proposed research projects and prioritize for completion through interagency cooperative efforts as needed.

Task F.2.4: Prepare at least three research plans annually for cooperative research needs prioritized in Task F.2.3.

Objective F.3: Implement an interjurisdictional fisheries cooperative research effort by 1992.

Task F.3.1: Assign research tasks proposed by plans prepared in Task F.2.4 annually to cooperators based on available funding, interest in conducting the work, expertise and facilities available within the state, agency or entity.

Task F.3.2: Develop annual milestones for completion of work assignments made in Task 3.2.1.

Task F.3.3: Facilitate funding and completion of cooperative fishery research projects on an on-going basis.

Task F.3.4: Implement a mechanism for basin-wide peer review of research products by the end of 1992.

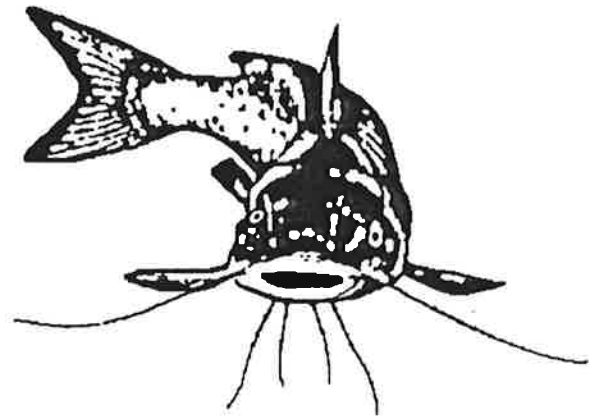
GOAL G: Identify and coordinate fishery management programs to address species and habitat concerns from an ecosystem perspective.

Objective G.1: Establish basin-wide, individual river systems, river reaches, pools and tailwaters fishery management objectives and develop management strategies by

1993.

Task G.1.1: Evaluate identified management opportunities and establish fishery management objectives for the basin, individual river systems; and separate river reaches, pools and tailwaters by 1993. Strategies and opportunities reviewed and evaluated would include, but not necessarily be limited to the following:

- (1) increase predator standing crop in reservoirs to improve predator-prey ratio
- (2) protect threatened and endangered species
- (3) develop basinwide policies on exotic species
- (4) protect paddlefish and largemouth bass from loss to commercial netting for channel catfish and blue catfish
- (5) improve paddlefish management
- (6) stop decline of paddlefish and sturgeon stocks, and develop a system wide management plan to monitor status, identify critical habitat and manage harvests
- (9) maintain sound health advisories and clean up efforts for contaminants
- (10) base sportfish regulations on sound biological data and standardize between states where possible
- (11) protect critical fish habitats from further degradation
- (12) maintain native fish strains
- (13) standardize equipment and stock assessment techniques
- (14) eliminate overharvest
- (15) maintain and improve backwaters
- (16) improve watershed management
- (17) work to reduce fish contaminants
- (18) reduce commercial fish/sport fishing conflicts
- (19) work to limit or reduce the expanding range of the Asian carp in the Mississippi, Arkansas and White river drainages
- (20) coordinate with states and federal government to prevent the release of exotic fishes, such as grass carp, into interstate rivers



Objective G.2: Develop management plans for key Mississippi River Basin fish species by 1994.

Task G.2.1: Identify candidate resource managers basin-wide to serve on planning teams by mid 1992 to initiate planning efforts for selected rivers and species identified in Appendices B and C, respectively.

Task G.2.2: Assemble teams of resource managers and experts to provide input to the top priority management plans by late 1992.

Task G.2.3: Identify and prioritize fishery management needs in the basin by the early 1993.

Task G.2.4: Prepare at least three cooperative management plans annually for management needs prioritized in Task G.2.3.

Objective G.3: Monitor basin-wide, individual river systems, river reaches, pools and tailwaters fishery stocks to evaluate strategies and procedures.

Task G.3.1: Develop funding and operational procedures for cooperative monitoring of interjurisdictional resources in the basin, individual rivers, and in river reaches by late 1992.

Task G.3.2: Implement cooperative monitoring efforts by the end of 1993.

Task G.3.3: Use monitoring data to continually evaluate on-going management efforts and make recommendations for management changes or additional research needs.

GOAL H: Develop compatible regulations and policies for fishery management to achieve interstate consensus on allocation of fishery resources.

Objective H.1: Integrate fishery regulations and policies to optimize utilization of fishery resources in the Mississippi River Basin (evaluate progress by 1993).

Task H.1.1: Evaluate the effectiveness of current regulations, and management strategies in meeting fishery management objectives by mid 1992. Regulations reviewed and evaluated would include, but not necessarily be limited to the following:

- (1) differential regulations to control walleye and sauger harvest
- (2) hybrid striper harvest regulations
- (3) regulations to distribute catfish harvest between commercial and recreational users.

(4) catch and release regulatory measures

Task H.1.2: Identify problems and prioritize information needs for improving the management of target species, rivers, reaches, etc. on an on-going basis.

Task H.1.3: Develop and implement cooperative fishery regulations on an on-going basis.

Task H.1.4: Prepare a status report of progress made in implementation of standard regulations by the end of 1993, and annually thereafter.

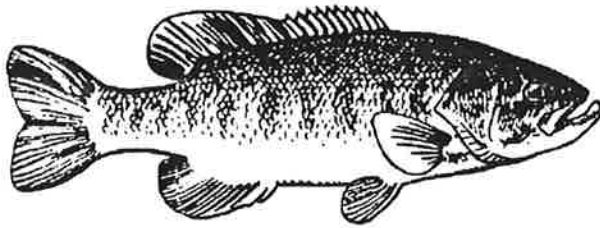
GOAL I: Develop protocols, policies and regulations for disease control, introduction of exotics, maintenance of genetic integrity, and maintenance and enhancement of indigenous species.

Objective I.1: Develop a basin-wide policy on the control and introduction of fish diseases by 1993.

Task I.1.1: Complete a review of existing institutional measures used to control the introduction of fish diseases by mid 1992.

Task I.1.2: Draft a MICRA policy for control of the introduction of fish diseases by the end of 1992.

Task I.1.3: Complete a Steering Committee review and prepare a final MICRA policy by mid 1993.



Task I.1.4: Circulate the MICRA policy on control of fish disease introduction to all member agencies and entities by late 1993.

Task I.1.5: Prepare a summary of MICRA concerns regarding the introduction of fish diseases and send it and the MICRA policy to the press, and to constituents by late 1993.

Task I.1.6: Prepare an information brochure for release to the public that summarizes MICRA concerns regarding the introduction of fish diseases by late 1993.

Objective I.2: Develop a basin-wide policy for importation, introduction, and control of exotic and transgenetic species by 1994.

Task I.2.1: Complete a review of institutional measures used to regulate the importation, introduction and control of exotic and transgenic species by early 1993.

Task I.2.2: Draft a MICRA policy for the importation, introduction and control of exotic and transgenic species by mid 1993.

Task I.2.3: Complete a Steering Committee review and prepare a final MICRA policy for the importation, introduction and control of exotic and transgenic species by early 1994.

Task I.2.4: Circulate the MICRA policy on the importation, introduction and control of exotic and transgenic species to all member agencies and entities by early 1994.

Task I.2.5: Prepare a summary of MICRA concerns for the importation, introduction and control of exotic and transgenic species into the basin, and the MICRA policy for release to the press and constituents by early 1994.

Task I.2.6: Prepare an information brochure for release to the public that summarizes MICRA concerns regarding the importation, introduction and control of exotic and transgenic species into the basin by early 1994.

Objective I.3: Develop a protocol to define and preserve the genetic integrity of native species and selected naturalized stocks by 1995.

Task I.3.1: Complete a review of techniques used to isolate and identify genetic markers which can be used to differentiate closely related species by mid 1993.

Task I.3.2: Complete a review of institutional measures used to preserve the genetic integrity of native species by mid 1993.

Task I.3.3: Assemble a group of recognized genetics experts to draft a MICRA policy for preservation of the genetic integrity of native Mississippi River basin species by late 1993.

Task I.3.4: Complete a Steering Committee review and prepare a final MICRA policy for preservation of the genetic integrity of native Mississippi River basin species by mid 1994.

Task I.3.5: Circulate the MICRA policy on preservation of the genetic integrity of native Mississippi River basin species to all member agencies and entities by mid 1994.

Task I.3.6: Prepare a summary of MICRA concerns for preservation of the genetic integrity of Mississippi River basin species and the MICRA policy for release to the press and constituents by mid 1994.

Task I.3.7: Prepare an information brochure for release to the public that summarizes MICRA concerns for preservation of the genetic integrity of Mississippi River basin species by mid 1994.

GOAL J: Preserve, protect and restore fishery habitats basin-wide.

Objective J.1: Identify and quantify fish habitats and sources of degradation by 1992 to help prevent further degradation and develop habitat restoration plans.

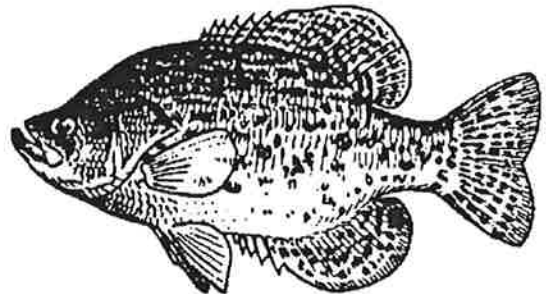
Task J.1.1: Complete a review of existing river habitat classification schemes by late 1991.

Task J.1.2: Develop a habitat classification scheme applicable to riverine habitats throughout the Mississippi River basin by mid 1992.

Task J.1.3: Gain Steering Committee approval of the habitat classification scheme developed in Task J.1.2 by fall 1992.

Task J.1.4: Identify candidate resource managers and experts to serve on habitat restoration planning teams by late 1991.

Task J.1.5: Assemble teams of resource managers and experts to provide input to the habitat restoration plans by mid 1992.



Task J.1.6: Complete an inventory of basinwide interjurisdictional riverine habitats using the classification scheme developed in Task J.1.2 by fall 1994.

Task J.1.7: Complete an inventory of basinwide sources of habitat degradation by fall 1994.

Task J.1.8: Complete a review of existing riverine habitat restoration techniques by mid 1992.

Task J.1.9: Prepare at least three habitat restoration plans annually.

Objective J.2: Monitor basin-wide, individual river systems, river reaches, pools, tailwaters and other fishery habitats to evaluate their status, on an on-going basis.

Task J.2.1: Identify candidate resource managers and researchers to serve on habitat monitoring planning teams by fall 1992.

Task J.2.2: Assemble teams of resource managers and researchers to provide input to habitat monitoring plans by early 1993.

Task J.2.3: Prepare and implement at least three cooperative habitat monitoring plans annually.

Objective J.3: Develop strategies to prevent future degradation of Mississippi River Basin habitats by 1993.

Task J.3.1: Identify and evaluate existing institutional measures used to promote habitat protection by late 1991.

Task J.3.2: Use information generated in tasks J.1.6 - J.1.9 to identify information and institutional needs, and develop new strategies to prevent habitat degradation by early 1993.

Task J.3.3: Draft regulations necessary to implement improved habitat protection measures on an on-going basis.

Task J.3.4: Use the newsletter and other communication measures to promote implementation of new habitat protection measures on an on-going basis.

Task J.3.5: Develop procedures to work with public land managers, private land owners, government officials, conservation groups, and the press to promote new habitat protection measures on an on-going basis.

Objective J.4: Develop habitat enhancement and mitigation funding strategies by the FY 1993 budget cycle (funding WRDA 1986).

Task J.4.1: Evaluate existing funding strategies for habitat enhancement and mitigation by mid 1992.

Task J.4.2: Develop new methods for funding habitat enhancement and mitigation projects by late 1992, and on an on-going basis thereafter.

Task J.4.3: Prepare documents promoting new funding scenarios for release to the news media and to constituents by late 1992, and on an on-going basis

thereafter.

Task J.4.4: Draft necessary legislation for implementation of new funding scenarios on an on-going basis.

Task J.4.5: Seek Congressional sponsors for proposed legislation on an on-going basis.

MICRA Organizational Framework

MICRA will not duplicate any existing organizational network, to the contrary, MICRA will use its coordinative resources to enhance and maximize efficiency of existing programs, institutions, and facilities.

MICRA will be managed by an interagency Steering Committee, composed of personnel employed by member States and entities. The Steering Committee will be chaired, on a rotating basis, by one of the members. MICRA staffing will be developed, as needed, to fit the on-going mission. At a minimum, a Coordinator/Executive Secretary position and a small number of clerical/support staff will be needed. Most technical work will be conducted by participating States and entities.

MICRA Funding Sources

MICRA funding will likely come from many sources, including:

- State and Entity contributions,
- Federal and State appropriations,
- Multi-State and Entity funding mechanisms,
- Private Grants,
- Contributions, and
- Other Sources, as yet undefined.

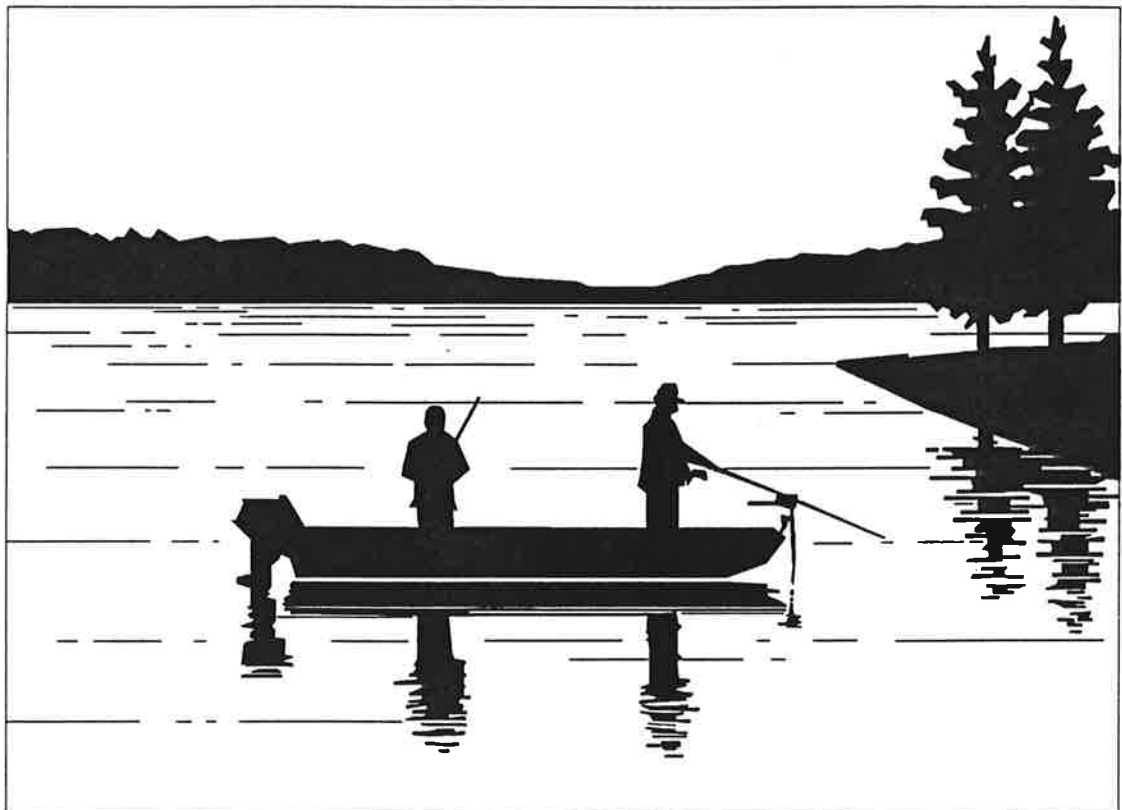
MICRA Planning and Development

The MICRA Strategic Plan will be developed in a step-down fashion. The Comprehensive Plan being developed herewith lays out basin-wide goals, objectives and tasks. This document, developed by consensus of partner States and entities, guides overall development, implementation, and management of MICRA.

This Comprehensive Plan will be supplemented by Species SubPlans and Watershed SubPlans, which will address specific fishery and aquatic habitat management problems throughout the Basin. These subplans will be developed by resource managers and planners of participating States and Entities at the field level. MICRA's operational network and shared data management mechanisms will provide coordination to ensure that the Subplans meet MICRA's overall objectives, and do not duplicate other efforts. MICRA's coordination network and shared ownership will help to ensure broad funding

support for all resource management plans throughout the Basin.

MICRA represents a new way of doing business on a large river basin that shows great promise for the future!



APPENDIX A

Mississippi Interstate Cooperative Resource Agreement

MISSISSIPPI INTERSTATE COOPERATIVE RESOURCE AGREEMENT (MICRA)

This agreement entered into by and between the States through which the Mississippi River and its tributaries flow and the various Federal agencies and Federally chartered entities which manage and regulate Mississippi River resources on an interstate basis, this 1st day of September, 1989.

RECITALS

- 1. The Mississippi River, including but not limited to its tributaries, the Missouri, Ohio, and Tennessee rivers, drains a twenty-nine state area of the contiguous United States and is recognized as one of the largest and most valuable ecosystems in the world.**
- 2. The Corps of Engineers (COE), the Tennessee Valley Authority (TVA), the United States Forest Service (USFS), the National Marine Fisheries Service (NMFS), and the Fish and Wildlife Service (FWS), are authorized by the Federal Government together with various other agencies and Federally chartered entities to regulate commerce upon and manage interstate water and fish resources or have responsibility for management of habitat important to fish resources of the Mississippi River Drainage System (MRDS).**
- 3. In recognition of the several existing "compacts" committees, commissions, and councils on the Mississippi River and its tributaries, it shall be the goal of this Agreement to recognize and embrace these existing "compacts" in a manner that will honor their long standing status and missions while at the same time, striving to join together all those entities that have jurisdiction and responsibilities for the fisheries resources of the Mississippi River Drainage System.**
- 4. In recognition of the need to develop a comprehensive and cooperative plan which will provide for the competing needs of both commerce and fisheries management on a system-wide basis, the states comprising the MRDS and the various Federal agencies or entities that regulate or utilize its resources, have agreed in principal, to enter into discussions, leading to the development of cooperative fisheries research programs or cooperative fisheries management programs which will provide for cooperative resource management of the MRDS. This agreement is hereinafter referred to as the Mississippi Interstate Cooperative Resource Agreement (MICRA).**

Now therefore it is agreed as follows:

- a. **AGREEMENT:** The states of Alabama, Arkansas, Colorado, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, West Virginia, Wisconsin, and Wyoming, hereinafter "States" and Federal Agencies, National Marine Fisheries Service, United States Fish and Wildlife Service, United States Forest Service, United States Army Corps of Engineers, Bureau of Land Management, and/or Charter entities, Tennessee Valley Authority, and Indian Tribes, hereinafter "entities", agree in principal to the establishment of a Committee which will meet periodically to facilitate the establishment of cooperative projects between the States or between the States and the Entities to provide for the cooperative resource management of the MRDS.
- b. **STEERING COMMITTEE:** Each member state and entity signatory will have one voting member on the Steering Committee. The Steering Committee shall elect by majority vote from among its members, a chairperson who will coordinate meetings and take on other duties as established from time to time by the Steering Committee.
- c. **PROCEDURES AND SUBCOMMITTEES:** The business of the Steering Committee shall be managed by a policy subcommittee, hereinafter PSC, of seven members under the direction of the chairperson, popularly elected with due regard to geographical and entity representation according to procedures established at the first meeting of the Steering Committee. The PSC will meet from time to time at the call of the chair and shall have such duties, in addition to coordinating MICRA activities for approval of the membership, as the Steering Committee may prescribe. The Steering Committee shall at its initial meeting establish such other subcommittees (scientific and technical) and procedures as are necessary and appropriate to the conduct of its business.
- d. **REPORTS AND MEETINGS:** Each member of the Steering Committee, at intervals determined appropriate at the initial meeting, shall be entitled to receive reports detailing the activities and progress of the subcommittees.
- e. **ADMISSION AND WITHDRAWAL:** The Steering Committee and its subcommittees, as the case may be, shall provide for admission and withdrawal of members according to procedures adopted at the initial meeting.

In witness whereof, the States and Entities have executed this Agreement as of the date first written.

Signatories:


Director

Colorado Division of Wildlife

Col. Div. of Wildlife 8-8-89
Agency Date


Director

Wildlife
North Carolina Resources Commission

NC Wildlife Res. Comm 8/10/89
Agency Date


Director

Montana Fish, Wildlife & Parks

MONTANA FISH, WILDLIFE & PARKS 8-14-89
Agency Date


Director

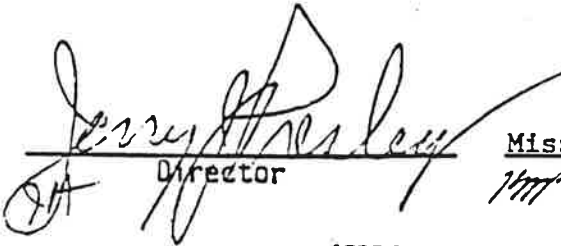
Wisconsin Dept. of Natural Resources

Wis. Dept. of Natural Resources August 14, 1989
Agency Date


Director

Georgia Game & Fish Div. D.N.R.

Game & Fish Div. D.N.R. 8/15/89
Agency Date


Director

Missouri Department of Conservation

11/7/89 8/16/89
Agency Date

APPROVED
BY GENERAL
COUNSEL

11/7
11


Director

Dept. of Wildlife, Fisheries & Parks 8/30/89
Agency Date

Mississippi

Patrick R. Kalish
Director

Indiana Dept. of Natural Resources
Indiana D.N.R.
Agency

August 21, 1989
Date

Joseph J. Sommer
Director

Ohio
Oh. Dept. of Natural Resources
Agency

8/21/89
Date

Clayton H. Laker
Chief

Wildlife
Division

8/21/89
Date

Don J. Myers
Director Gary T. Myers

Tennessee
TN Wildlife Resources Agency
Agency

August 22, 1989
Date

Kenneth Wick
Director

New York State Dept. of Environmental Conservation
N.Y. Division of Fish and Wildlife
Agency

8/23/89
Date

Richard B. Binger
Director

South Dakota Game, Fish and Parks
Agency

8/23/89
Date

Robert R. Hume
Director

Kentucky Fish and Wildlife
Ky Fish & Wildlife
Agency

8-29-89
Date

James C. Brumington
Director

Virginia Dept. of Game
VA. DEPT OF GAME
Agency
AND INLAND FISHERIES

9-1-89
Date

Leard Q. Jones
Director

North Dakota Game and Fish Dept.
N.D. Game & Fish
Agency

9-1-89
Date

Dale Plomin
Director

Texas Parks & Wildlife Dept.
Agency

9/8/89
Date

Steve N. Wilson Arkansas Game & Fish 9-11-89
Director (RDL) Agency Date

Steven Allen Lewis Oklahoma Dept. of Wildlife Conservation 9-14-89
Director Ok Dept Wildlife Cons Agency Date

Rex Amick Nebraska Game & Parks Commission Sept. 28, 1989
Director Game & Parks Agency Date

Robert C. Meinen Kansas Wildlife and Parks 10/9/89
Director Agency Date

Edward R. Miller Pennsylvania Fish Commission 11/29/89
Director Agency Date

Mark Fresh Illinois Dept. of Conservation
Director Illinois Dept. of Conservation Agency Date

Chris / son IA DEPT OF NAT. RES. 2-22-90
Director Agency Date

Rae Holmes MN Division of Fish & Wildlife 5/18/90
acting Director Agency Date

BC Virginia Lee Fisher La. Dept. of Wildlife & Fisheries 9/2/90
Director Agency Date

John A. Kinner West Virginia Division of Natural Resources 2/19/91
Director Agency Date

Paul D. Keller
Director

Alabama Game & Fish
Agency

August 23, 1991
Date

Francis Petera
Director

Wyo Game & Fish
Agency

8/29/91
Date

Michigan Dept. of Natural Resources

Director

Agency

Date

Entity Signatories:

John F. Turner
Director

U.S. Fish and Wildlife Service
Agency

JAN 3, 1991
Date

APPENDIX B

Mississippi River Drainage Basin

Rivers of Immediate Concern

to

MICRA

MISSISSIPPI RIVER DRAINAGE BASIN RIVERS OF IMMEDIATE CONCERN TO MICRA

GULF TRIBUTARIES

Mississippi (Minnesota, Wisconsin, Iowa, Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, Louisiana)
Atchafalaya (Louisiana)
Tennessee-Tombigbee Waterway (Tennessee, Mississippi, Alabama)

MISSISSIPPI TRIBUTARIES

Amite (Louisiana, Mississippi)
Red (Texas, Oklahoma, Arkansas, Louisiana)
Big Black (Mississippi)
Yazoo (Mississippi, Louisiana)
Arkansas (Colorado, Kansas, Oklahoma, Arkansas)
St. Francis (Missouri, Arkansas)
Hatchie (Tennessee, Mississippi)
Ohio (Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, Illinois)
Big Muddy (Illinois)
Kaskaskia (Illinois)
Missouri (Montana, North Dakota, South Dakota, Nebraska, Iowa, Kansas, Missouri)
Illinois (Illinois)
Des Moines (Minnesota, Iowa, Missouri)
Iowa (Iowa)
Rock (Wisconsin, Illinois)
Wapsipinicon (Iowa, Minnesota)
Wisconsin (Wisconsin)
Upper Iowa (Iowa, Minnesota)
Black (Wisconsin)
Chippewa (Wisconsin)
St. Croix (Wisconsin, Minnesota)
Minnesota and Big Stone Lake (South Dakota, Minnesota)

RED TRIBUTARIES

Ouachita (Arkansas, Louisiana)

OUACHITA TRIBUTARIES

Boeuf (Louisiana, Arkansas)

BOEUF TRIBUTARIES

Bayou LaFourche (Louisiana)

ARKANSAS TRIBUTARIES

White, including Bull Shoals, Norfolk and Table Rock reservoirs (Missouri, Arkansas)
Neosho (Kansas, Oklahoma)
Verdigris (Kansas, Oklahoma)
Cimarron (Colorado, Kansas, Oklahoma)
Medicine Lodge (Kansas, Oklahoma)

NEOSHO TRIBUTARIES

Spring (Kansas, Missouri)

VERDIGRIS TRIBUTARIES

Caney (Kansas, Oklahoma)

MEDICINE LODGE TRIBUTARIES

Chikaskia (Kansas, Oklahoma)

OHIO TRIBUTARIES

Tennessee, including Kentucky Lake, Pickwick Lake and Gunter'sville Lake (Tennessee, Alabama, Mississippi, Kentucky)

Cumberland, including Dale Hollow Lake, Cordell Hull Lake (Kentucky, Tennessee)

Wabash (Indiana, Illinois)

Big Sandy (West Virginia, Kentucky)

Kanawha (West Virginia)

Allegheny (New York, Pennsylvania)

Monongahela (West Virginia, Pennsylvania)

TENNESSEE TRIBUTARIES

Tennessee-Tombigbee Waterway (Tennessee, Mississippi, Alabama)

Shoal Creek (Tennessee, Alabama)

Elk (Tennessee, Alabama)

Hiwassee, including Chatuge and Nottely Reservoirs (Tennessee, Georgia, North Carolina)

Powell (Virginia, Tennessee)

Little Tennessee, including Tellico and Calderwood reservoirs (Tennessee, North Carolina, Georgia)

French Broad (North Carolina, Tennessee)

North Fork Holston (Virginia, Tennessee)

South Fork Holston River and Reservoir (Virginia, Tennessee)

POWELL TRIBUTARIES

Clinch (Virginia, Tennessee)

SOUTH FORK HOLSTON TRIBUTARIES

Wautaga including Wautaga Reservoir (Tennessee and North Carolina)

FRENCH BROAD TRIBUTARIES

Pigeon (North Carolina, Tennessee)

Nolichucky (North Carolina, Tennessee)

HIWASSEE TRIBUTARIES

Ocoee (Georgia, Tennessee)

WABASH TRIBUTARIES

Little Wabash (Illinois)

Embarrass (Illinois)

BIG SANDY TRIBUTARIES

Levisa Fork (Virginia, Kentucky)

LEVISA FORK TRIBUTARIES

Russell Fork (Virginia, Kentucky)

KANAWHA TRIBUTARIES

New (North Carolina, Virginia, West Virginia)

MISSOURI TRIBUTARIES

Osage (Kansas, Missouri)

Chariton (Iowa, Missouri)

Grand (Iowa, Missouri) Kansas (Kansas)

Kansas (Kansas)

Big Nemaha (Nebraska Kansas)

Little Nemaha (Nebraska)

Platte (Wyoming, Nebraska)

Little Sioux (Minnesota, Iowa)
Big Sioux (South Dakota, Iowa)
James (North Dakota, South Dakota)
Niobrara (Wyoming, Nebraska)
White (Nebraska, South Dakota)
Cheyenne (Wyoming, South Dakota)
Grand (North Dakota, South Dakota)
Yellowstone (Wyoming, Montana)
Poplar (Montana, Canada)
Milk (Montana, Canada)
Madison (Wyoming, Montana)

OSAGE TRIBUTARIES

Marais des Cygne (Kansas, Missouri)

KANSAS TRIBUTARIES

Blue (Nebraska, Kansas)
Republican (Nebraska, Kansas)

PLATTE TRIBUTARIES

South Platte (Colorado, Nebraska)
North Platte (Colorado, Wyoming, Nebraska)

CHEYENNE TRIBUTARIES

Belle Fourche (Wyoming, South Dakota)

YELLOWSTONE TRIBUTARIES

Powder (Wyoming, Montana)
Tongue (Wyoming, Montana)
Big Horn (Wyoming, Montana)
Clarks Fork (Wyoming, Montana)

ILLINOIS TRIBUTARIES

Kankakee (Indiana, Illinois)

IOWA TRIBUTARIES

Cedar (Minnesota, Iowa)

CEDAR TRIBUTARIES

Shell Rock (Minnesota, Iowa)

* River passes through the States listed in parentheses)

APPENDIX C

Mississippi River Drainage Basin Fish Species of Immediate Concern to MICRA

MISSISSIPPI RIVER DRAINAGE BASIN FISH SPECIES OF IMMEDIATE CONCERN TO MICRA*

<i>Petromyzontidae</i>	chestnut lamprey (<i>Ichthyomyzon castaneus</i>)
<i>Acipenseridae</i>	lake sturgeon (<i>Acipenser fulvescens</i>) gulf sturgeon () pallid sturgeon (<i>Scaphirhynchus albus</i>) shovelnose sturgeon (<i>Scaphirhynchus platyrhynchus</i>)
<i>Polyodontidae</i>	paddlefish (<i>Polyodon spathula</i>)
<i>Hiodontidae</i>	goldeye (<i>Hiodon alosoides</i>)
<i>Anquillidae</i>	American eel (<i>Anguilla rostrata</i>)
<i>Clupeidae</i>	Alabama shad (<i>Alosa alabamae</i>) skipjack herring (<i>Alosa chrysochloris</i>) gizzard shad (<i>Dorosoma cepedianum</i>)
<i>Cyprinidae</i>	grass carp (<i>Ctenopharyngodon idella</i>) spotfin shiner (<i>Cyprinella spiloptera</i>) common carp (<i>Cyprinus carpio</i>) gravel chub (<i>Erimystax x-punctatus</i>) western silvery minnow (<i>Hybognathus argyritis</i>) brassy minnow (<i>Hybognathus hankinsoni</i>) plains minnow (<i>Hybognathus placius</i>) silver carp (<i>Hypophthalmichthys molitrix</i>) bighead carp (<i>Hypophthalmichthys nobilis</i>) black carp () speckled chub (<i>Macrhybopsis aestivalis</i>) sturgeon chub (<i>Macrhybopsis gelida</i>) sicklefin chub (<i>Macrhybopsis meeki</i>) pallid shiner (<i>Notropis amnis</i>) river shiner (<i>Notropis blennioides</i>) Arkansas river shiner (<i>Notropis girardi</i>) Ozark minnow (<i>Notropis nubilus</i>) silverband shiner (<i>Notropis shumardi</i>) weed shiner (<i>Notropis texanus</i>) pugnose minnow (<i>Opsopoeodus emiliae</i>) flathead chub (<i>Platygnathus gracilis</i>)
<i>Catostomidae</i>	river carpsucker (<i>Carpionotus carpio</i>) highfin carpsucker (<i>Carpionotus velifer</i>) white sucker (<i>Catostomus commersoni</i>) blue sucker (<i>Cyprinotus elongatus</i>) lake chubsucker (<i>Erimyzon sucetta</i>) northern hogsucker (<i>Hypentelium nigricans</i>) smallmouth buffalo (<i>Ictiobus bubalus</i>) bigmouth buffalo (<i>Ictiobus cyprinellus</i>) black buffalo (<i>Ictiobus niger</i>) spotted sucker (<i>Minytremma melanops</i>) silver redhorse (<i>Moxostoma anisurum</i>) river redhorse (<i>Moxostoma carinatum</i>)

	black redhorse (<u>Moxostoma duquesnei</u>)
	golden redhorse (<u>Moxostoma erythrurum</u>)
	shorthead redhorse (<u>Moxostoma macrolepidotum</u>)
	greater redhorse (<u>Moxostoma valenciennesi</u>)
<i>Ictaluridae</i>	black bullhead (<u>Ameiurus melas</u>)
	blue catfish (<u>Ictalurus furcatus</u>)
	channel catfish (<u>Ictalurus punctatus</u>)
	tadpole madtom (<u>Noturus gyrinus</u>)
	Neosho madtom (<u>Noturus placidus</u>)
	flathead catfish (<u>Pylodictis olivaris</u>)
<i>Esocidae</i>	northern pike (<u>Esox lucius</u>)
	muskellunge (<u>Esox masquinongy</u>)
<i>Salmonidae</i>	cuthroat trout (<u>Oncorhynchus clarki</u>)
	rainbow trout (<u>Oncorhynchus mykiss</u>)
	brown trout (<u>Salmo trutta</u>)
<i>Aphredoderidae</i>	pirate perch (<u>Aphredoderus sayanus</u>)
<i>Cottidae</i>	banded sculpin (<u>Cottus carolinae</u>)
<i>Percichthyidae</i>	white bass (<u>Morone chrysops</u>)
	striped bass (<u>Morone saxatilis</u>)
	hybrid striped bass X white bass
<i>Centrarchidae</i>	rock bass (<u>Ambloplites rupestris</u>)
	redbreast sunfish (<u>Lepomis auritus</u>)
	bluegill (<u>Lepomis macrochirus</u>)
	longear sunfish (<u>Lepomis megalotis</u>)
	smallmouth bass (<u>Micropterus dolomieu</u>)
	spotted bass (<u>Micropterus punctulatus</u>)
	largemouth bass (<u>Micropterus salmoides</u>)
	white crappie (<u>Pomoxis annularis</u>)
	black crappie (<u>Pomoxis nigromaculatus</u>)
<i>Percidae</i>	crystal darter (<u>Ammocrypta asprella</u>)
	western sand darter (<u>Ammocrypta clara</u>)
	mud darter (<u>Etheostoma asprigene</u>)
	greenside darter (<u>Etheostoma blennioides</u>)
	bluntnose darter (<u>Etheostoma chlorosomum</u>)
	slough darter (<u>Etheostoma gracile</u>)
	stippled darter (<u>Etheostoma punctulatum</u>)
	banded darter (<u>Etheostoma zonale</u>)
	yellow perch (<u>Perca flavescens</u>)
	gilt darter (<u>Percina evides</u>)
	blackside darter (<u>Percina maculata</u>)
	river darter (<u>Percina shumardi</u>)
	sauger (<u>Stizostedion canadense</u>)
	walleye (<u>Stizostedion vitreum</u>)
<i>Sciaenidae</i>	freshwater drum (<u>Aplodinotus grunniens</u>)

* Scientific nomenclature according to Robbins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and scientific names of fishes from the United States and Canada. Fifth Edition. Special Publication No. 20. American Fisheries Society, Bethesda, Maryland. 183 pp.

APPENDIX D

MICRA

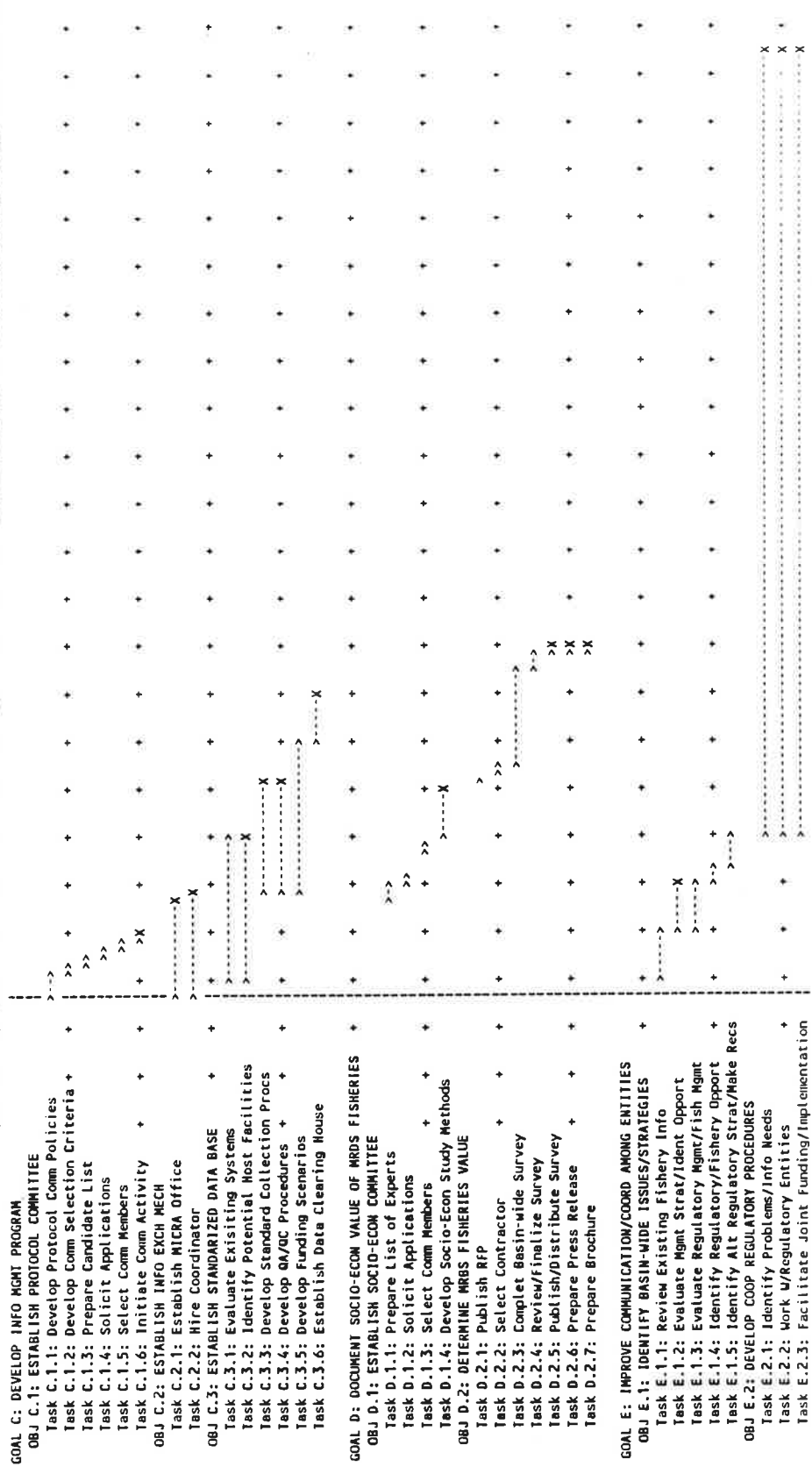
PROPOSED

IMPLEMENTATION SCHEDULE

[illegible]

GOAL A: DEVELOP COOPERATIVE FRAMEWORK							
OBJ A.1: FORMALIZE ADMIN STRUCTURE							
Task A.1.1: Develop Coop Agreement	O+++++	-X	+ + + + +	+ + + + +	+ + + + +	+ + + + +	X
Task A.1.2: Establish Steering Comm	+ O++++		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.3: Establish Policy Sub-Comm	>++++>						
Task A.1.4: Elect Officers	>>>>						
Task A.1.5: Develop Strategic Plan	>->		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.6: Develop Entity List	>+>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.7: Invite Entities	>X						
Task A.1.8: Init Strategic Plan Implementation	>>						
Task A.1.9: Develop 1992 Action Agenda	>-X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.10: Develop Exec Summary	+ >X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.11: Develop Brochure	>-X-X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.1.12: Establish Info Exch Mech	>-X-X						
Task A.1.13: Establish Priorization Mech	>-X-X						
OBJ A.2: ESTABLISH JOINT FUNDING MECHS							
Task A.2.1: Seek FY 92 Fed Budget Add-On	>X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.2.2: Evaluate Multi-State Funding	>X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.2.3: Evaluate Mallop-Breaux Funding	>X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.2.4: Seek Major Grants	>+X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task A.2.5: Establish Joint Funding Mech	>-X-X						
GOAL B: DEVELOP INFO & EDUCATION PROGRAMS							
OBJ B.1: IDENTIFY EXISTING I&E PROGRAMS							
Task B.1.1: Develop I&E Contacts List	>->>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task B.1.2: Develop List of I&E Programs	>->>						
Task B.1.3: Establish I&E Network	>-X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
OBJ B.2: DEVELOP NEWSLETTER							
Task B.2.1: Develop Newsletter Policies	>>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task B.2.2: Develop Dist List	>X						
Task B.2.3: Draft First Newsletter	>>>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task B.2.4: Circulate First Newsletter	>X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
OBJ B.3: MOBILIZE SUPPORT							
Task B.3.1: Dist Info to Public	>>>>						
Task B.3.2: Develop Promotional Methods	>>>>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	X
OBJ B.4: PREPARE INFO PACKET							
Task B.4.1: Compile Econ Literature	>->>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
Task B.4.2: Review Econ Literature	>->>						
Task B.4.3: Publish/Dist Info Summary	>X		+ + + + +	+ + + + +	+ + + + +	+ + + + +	
OBJ B.5: PRODUCE PERIODIC STATUS REPORTS							
Task B.5.1: Prep/Circulate Status Reports	>>>>		+ + + + +	+ + + + +	+ + + + +	+ + + + +	X

Figure D.1 (Cont.). Gantt Chart showing potential sequence of events in the implementation of MICRA over the next 10 years.



[illegible][illegible]

Figure D.1 (Cont.). GANTT Chart showing potential sequence of events in the implementation of MICRA over the next 10 years.

[illegible]

