Enhancing Restoration and Advancing Knowledge of the Upper Mississippi River

A STRATEGIC PLAN FOR THE UPPER MISSISSIPPI RIVER RESTORATION PROGRAM

2015 – 2025

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DISTRICT COMMANDER'S LETTER

[Placeholder]

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PREAMBLE

Strategic Plan Purpose

This strategic plan articulates the Upper Mississippi River Restoration[1] (UMRR) partnership's vision for the Upper Mississippi River[2] that sets a clear direction for the program over the next decade. This 10-year plan focuses UMRR's efforts on continuing to deliver products and services that are nationally significant, regionally relevant, internationally engaged, and technically sound. It outlines the program's key approaches to enhancing restoration[3] and advancing knowledge necessary for a healthier and more resilient Upper Mississippi River ecosystem that sustains the river's multiple uses. This strategic plan is also intended to foster UMRR's longstanding commitment to internal and external communication and collaboration among the many organizations and individuals that are working for a better Upper Mississippi River ecosystem.

Strategic Planning Approach

The UMRR Coordinating Committee established a team of 21 individuals reflecting representation from the various program partners and functions to undergo an integrated strategic planning effort for the entire program. The Committee directed the planning team to develop a programmatic strategic plan that:

1) Establishes priorities and actions to ensure that UMRR accomplishes its authorized purposes.
2) Guides UMRR partners in identifying and effectively addressing key policy and technical issues facing the program.
3) Continues to effectively integrate UMRR's science and restoration efforts.
4) Identifies and examines foreseeable challenges to UMRR implementation, including dynamic regional and national factors such as, aquatic nuisance species, federal and state budget processes and appropriations, and staffing levels.
5) Positions UMRR to continue as an exemplary leader among large aquatic ecosystem programs nationally and internationally.

The planning team first explored a suite of issues affecting UMRR and the Upper Mississippi River itself, from which the team was able to determine focal areas for the program in fiscal year (FY) 2015 to FY 2025. With a defined vision for the Upper Mississippi River and mission statement for UMRR, both firsts for the program, the planning team articulated specific goals, objectives, and strategies to best optimize the program's investment in achieving its mission and advancing its vision.

The strategic plan was built as a partnership document where all partners have a vital role in the program's success in enhancing restoration and knowledge of the Upper Mississippi River. Team members were responsible for representing their respective agency's views. In addition, the planning team solicited and

[1] The Upper Mississippi River Restoration (UMRR) program was originally named the Environmental Management Program (EMP) in its 1986 authorization. However, in 2006, the Office of Management and Budget and Congress began referring to the program as UMRR in their budgeting and appropriations documents.

[2] Per UMRR's authorization, the program's geographic area encompasses the river reaches having commercial navigation channels on the Mississippi River main stem north of Cairo, Illinois; Minnesota River, Minnesota; Black River, Wisconsin; Saint Croix River, Minnesota and Wisconsin; Illinois River and Waterway, Illinois; and Kaskaskia River, Illinois. For the purposes of this strategic plan, the Upper Mississippi River refers to that geographic extent.

[3] The term restoration is interpreted in various ways among resource managers, researchers, policy makers, and the public. The strategic planning team agreed to use the term restoration, rather than other terms, to describe UMRR's efforts to restore, rehabilitate, and enhance habitat for native species, and improve river structures, functions, and processes, that enhance the ecological health and resilience of the Upper Mississippi River. This term matches the program's name.

considered input from all program partners and coordinated with the UMRR Coordinating Committee to provide routine updates and seek feedback at its quarterly meetings. Following the Committee's approval of a draft version at its August 6, 2014 quarterly meeting, the strategic planning team employed a broad stakeholder public review effort. USACE distributed a public review notice and individual team members solicited input from organizations and individuals not directly involved in the program's implementation but who may be interested in the program. At its November 19, 2014 meeting, the UMRR Coordinating Committee endorsed this FY 2015 to 2025 UMRR Strategic Plan and agreed to convene an operational planning team to identify implementation actions necessary to best achieve the Strategic Plan's goals and objectives. The UMRR Coordinating Committee will consider implementation strategies throughout the plan's duration. In addition, UMRR partners directly involved in implementing UMRR will use the plan to guide their work, including selecting and planning habitat projects, conducting scientific research, and developing ecological modeling tools.

Program Overview

Authorization

In 1986, Congress declared the Upper Mississippi River as "a nationally significant ecosystem and a nationally significant commercial navigation system." Following from this declaration, in Section 1103 of the 1986 Water Resources Development Act (WRDA), Congress authorized the Upper Mississippi River Restoration program to address the river's ecological needs. UMRR's authorization, as amended, is provided in Appendix A. UMRR became the first federal program to combine ecosystem restoration with scientific monitoring and research on a large river system. [Note: The program was named the Environmental Management Program in its authorization. In 2006, the Office of Management and Budget and Congress began referring to the program as UMRR in its budgeting and appropriations documents.]

Over the program's first 13 years, UMRR proved to be one of this country's premier ecosystem restoration programs, combining close collaboration among federal, state, and public partners; an effective restoration planning process; and a built-in long term monitoring process. This led Congress to reauthorize UMRR in the 1999 WRDA and establish the following two core elements as continuing authorities:

- Planning, construction, and evaluation of fish and wildlife habitat rehabilitation and enhancement projects
- Long term resource monitoring, computerized data inventory and analysis, and applied research

Geographic Setting

Per UMRR's authorization, the program's geographic area encompasses nearly 1,300 river miles along the reaches having commercial navigation channels on the Mississippi River main stem north of Cairo, Illinois; Minnesota River, Minnesota; Black River, Wisconsin; Saint Croix River, Minnesota and Wisconsin; Illinois River and Waterway, Illinois; and Kaskaskia River, Illinois. For the purposes of this strategic plan, the Upper Mississippi River refers to that geographic extent. The Upper Mississippi River basin drains 189,000 square miles and includes major portions of five states: Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The river's floodplain covers approximately 2.6 million acres of land and water in public and private ownership, including 10 National Wildlife Refuges and many other federal, state, and local lands.

The river is unique in that it still retains many of its natural floodplain ecosystem characteristics including flood pulses, floodplain forests, backwaters, and floodplain lakes. However, the Upper Mississippi River basin has been substantially modified since the mid-1800s. The current condition of the Upper Mississippi River is heavily influenced by development for agriculture, flood risk reduction, and navigation. Improvements in wastewater treatment and land use practices have had a positive effect on the river.

However, the ecosystem remains under considerable stress and still faces many challenges, including sedimentation, nutrient loading, invasive species, altered hydrology, and floodplain isolation.

Implementation through a Partnership

The Upper Mississippi region has a rich tradition of interagency and interdisciplinary partnership dating back to the 1981 Upper Mississippi River Basin Commission's Master Plan that extends among the river's multiple uses, such as commercial navigation, fish and wildlife, recreation, agriculture, and water supply. The UMRR is a product of this regional collaboration and has been fortunate to build upon and expand it. The ongoing commitments from all partners have been vital to UMRR's effective and efficient habitat restoration and knowledge-building efforts on the Upper Mississippi River.

While the U.S. Army Corps of Engineers (USACE) is ultimately responsible for implementing UMRR, it pursues that mission in a genuine spirit of cooperation with its agency partners and interested stakeholders. Through interagency consultative and coordination bodies,[4] the program partnership works together to consider and address a range of program policy and budget issues, define program priorities and direction, and raise and resolve technical questions. Habitat projects are selected, planned, and designed in a collaborative manner among project planners, engineers, habitat managers, and scientists. Long term resource monitoring, research, and analysis are implemented in coordination among the programs partners. In addition to their involvement in these collaborative mechanisms, individual federal and state agencies have their own specific responsibilities for implementing UMRR:

U.S. Army Corps of Engineers has overall responsibility for UMRR. In brief, this includes overseeing and integrating UMRR's habitat restoration and science; supporting the partner-based forums; preparing budget submissions; recommending annual allocations within the program; developing, constructing, and evaluating habitat projects; and producing scientific reports.

U.S. Fish and Wildlife Service, from its refuges, ecological services field offices, and fisheries resource offices, participates in planning, design, and construction of habitat projects both on and off refuge lands. USFWS is responsible for all operation and maintenance of projects on lands it manages, and participates in pre- and post-project monitoring on its sponsored projects. The service's research and monitoring also informs UMRR science and habitat projects.

U.S. Geological Survey provides science leadership and daily administration of UMRR's long term resource monitoring and other science efforts, through its Upper Midwest Environmental Sciences Center in La Crosse. This includes program planning, coordination, and administration, as well as executing research, data analysis, modeling and decision support, and data maintenance and access. In serving these roles, USGS coordinates closely with USACE, state field stations, and interagency coordination bodies.

The five ***Upper Mississippi River states***, including Illinois, Iowa, Minnesota, Missouri, and Wisconsin, participate in all aspects of UMRR, including the program's various coordinating committees and all stages of implementing habitat projects and long term resource monitoring. The states are responsible for 35 percent of construction costs and 100 percent operation and maintenance for habitat projects located on lands they manage, and they provide water quality permitting and certification. In addition, the states staff and operate the six field stations with UMRR funding and contribute in a variety of ways to the design and execution of the program's monitoring, research, and analysis.

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[4] The Joint Charter for the UMRR's advisory groups is available at http://www.mvr.usace.army.mil/Portals/48/docs/Environmental/EMP/HREP/EMP_Documents/EMP-CC%20A-Team%20HPSF%20Charter%20combined%205-15-13.pdf.

O***ther federal and state environmental protection, agriculture, and transportation agencies*** are also involved in UMRR's implementation. These include, but are not limited to, U.S. Environmental Protection Agency, U.S. Department of Agriculture Natural Resources Conservation Service, and state water quality programs. These agencies and programs contribute their staff expertise to assist in UMRR's habitat restoration and scientific monitoring and research efforts by providing valuable information and insights.

Nonprofit organizations actively engage in UMRR's implementation in a variety of ways, from providing comments on specific project proposals to engaging in more regional, program-level matters. Some nonprofits, such as The Nature Conservancy, Ducks Unlimited, and the National Audubon Society, may also serve as nonfederal cost-share sponsors of habitat projects. The nonprofits would be responsible for a 35 percent cost share and all operation and maintenance of any such project for the life of UMRR.

The ***general public's*** engagement occurs at varying levels and through various venues. In UMRR's early years, the public was actively involved in the program's authorization in 1986 and subsequent reauthorization as a continuing authority in 1999. The public participates in UMRR through the involvement of local governments; sport, conservation, and nonprofit organizations; and individual participation. In addition, the public is typically involved at the local level in planning for habitat projects, often providing important information about the river functions and processes at site-specific locations.

VISION	A HEALTHIER AND MORE RESILIENT UPPER MISSISSIPPI RIVER ECOSYSTEM THAT SUSTAINS THE RIVER'S MULTIPLE USES

	TO WORK WITHIN A PARTNERSHIP AMONG FEDERAL AND STATE AGENCIES AND OTHER ORGANIZATIONS; TO CONSTRUCT HIGH-PERFORMING HABITAT RESTORATION, REHABILITATION, AND ENHANCEMENT PROJECTS; TO PRODUCE STATE-OF-THE-ART KNOWLEDGE THROUGH MONITORING, RESEARCH, AND ASSESSMENT; TO ENGAGE OTHER ORGANIZATIONS TO ACCOMPLISH THE UPPER MISSISSIPPI RIVER RESTORATION PROGRAM'S VISION

GOALS

1. Enhance habitat for restoring and maintaining a healthier and more resilient Upper Mississippi River ecosystem
2. Advance knowledge for restoring and maintaining a healthier and more resilient Upper Mississippi River ecosystem
3. Engage and collaborate with other organizations and individuals to help accomplish the Upper Mississippi River Restoration vision
4. Utilize a strong, integrated partnership to accomplish the Upper Mississippi River Restoration vision

ASSUMPTIONS

Assumptions that provide an underlying foundation for this Strategic Plan's goals and objectives:

1. Conditions in the Upper Mississippi River result from a combination of tributary inputs from the watershed, natural and man-made structures within the river corridor, and management of river flow. Human actions over time, within the river and its watershed, have produced stresses to the river's condition and degraded its ecological health.
2. Existing stresses (e.g., point and nonpoint source pollution, navigation, flood control structures, invasive species) are likely to remain, and new stressors are likely to emerge. Thus the river will continue to degrade without continued management and rehabilitation designed to minimize the effects of stresses. Managing stresses that originate within the watershed will require coordination with other relevant agencies, programs, and land managers to address these challenges at their sources.
3. The man-made infrastructure within the river corridor that supports navigation and other human uses will remain in place for the foreseeable future, but modifications to structures or operations may occur.
4. Upper Mississippi River Restoration's datasets (and other information) will be used to evaluate progress in advancing ecosystem and management objectives, identify future restoration needs, and determine if the Upper Mississippi River is recovered to a quality sufficient to support a healthy and resilient river ecosystem.

Guiding Principles

Core principles to guide implementation of this Strategic Plan:

1. Deliver innovative, high quality projects, products, and services that create value to the Upper Mississippi River Restoration program partners and serve as a knowledge base for the Upper Mississippi River and other river systems nationally and internationally.
2. Promote focused research and analyses of monitoring data to predict how management actions will affect river structure and function and use habitat projects to help evaluate those predictions and improve management capabilities.
3. Make decisions using the best available science, data, and other information that will benefit current and future generations of humans and biota.
4. Routinely disseminate information about program activities and outcomes to program partners and other organizations and individuals to promote transparency and knowledge sharing.
5. Apply the principles of adaptive management to continually learn and improve as a program and in implementing restoration and science techniques.
6. Maintain and support the effective interagency and interdisciplinary partnership through communication and collaboration of the Upper Mississippi River Restoration Coordinating Committee, Analysis Team, and habitat project planning and sequencing teams to ensure high quality program delivery.
7. Serve as a dedicated partner to other agencies and programs in the integrated, multi-purpose management of the Upper Mississippi River and its watershed.

Defining Success

Criteria for evaluating success in achieving this Strategic Plan are as follows:

1. Restoration projects that enhance the health and resilience of the Upper Mississippi River and demonstrate progress in achieving this Strategic Plan's goals and objectives.
2. A highly integrated program in which research and monitoring informs restoration and management efforts and in which restoration efforts are readily available for scientific use.
3. The ability to detect and communicate the status and trends of the Upper Mississippi River as related to indicators of ecosystem health and resilience as well as management objectives.
4. A highly engaged regional partnership that is supportive of the program and its outputs.
5. The Upper Mississippi River Restoration is recognized as a premier program in large river restoration and science and is a source of guidance for similar programs nationally and internationally.

GOAL 1 — ENHANCE HABITAT FOR RESTORING AND MAINTAINING A HEALTHIER AND MORE RESILIENT UPPER MISSISSIPPI RIVER ECOSYSTEM

The Upper Mississippi River Restoration (UMRR) uniquely and effectively combines ecosystem restoration with scientific monitoring and research to restore and maintain a healthier and more resilient Upper Mississippi River ecosystem. Integrating a broad range of restoration techniques, including approaches that strive to use or mimic the river's natural processes (e.g., flow regime, sedimentation, successional stages), UMRR habitat projects enhance critical fish and wildlife habitat, restore the river's floodplain structure and function, and counteract the negative effects of human activity throughout the Upper Mississippi River basin. Individually and cumulatively, these projects improve the river's ability to support multiple human and biota uses, including recreation, water supply, and commercial navigation. The process of identifying and sequencing habitat projects is an interagency and public endeavor. The projects are then jointly planned by interdisciplinary teams of partner agencies/organizations, with input from the interested public. The best available science and decision support tools are used throughout project formulation and evaluation to optimize investment and most effectively and efficiently advance UMRR's vision. UMRR continually improves its restoration techniques through adaptive management to enhance restoration effectiveness and efficiency, learning from its long term systemic monitoring, project-specific monitoring, and focused research. Recognizing that the Upper Mississippi River ecosystem is affected in many ways by human activity within the river and its watershed, UMRR engages directly and indirectly with other organizations and individuals whose actions and decisions create synergies and leverage capabilities in advancing UMRR's vision.

Objective 1.1	**Address key ecological needs at various spatial scales through habitat projects that reflect best available knowledge and advance UMRR's vision**
Strategy 1	Identify and select habitat projects that will most effectively and efficiently advance UMRR's vision, utilizing an interagency, science-driven, systemic planning approach
Strategy 2	Plan, design, and construct habitat projects to best, and most efficiently, address their defined objectives and advance the UMRR's vision, using structural and non-structural measures and considering ecological benefits at various spatial scales
Strategy 3	Perform operation and maintenance on UMRR's habitat projects to ensure key features are working properly and effectively advancing the projects' goals and UMRR's vision
Objective 1.2	**Apply adaptive management principles to address risk and uncertainty and continually enhance restoration and knowledge of the Upper Mississippi River ecosystem**
Strategy 1	Refine and implement a framework to operationalize UMRR's adaptive management efforts, including when and how to apply certain adaptive management techniques and documenting, communicating, and integrating the results and conclusions
Strategy 2	Apply monitoring and adaptive management principles to set learning objectives (for select projects), adjust project designs based on ecological models, evaluate the ecological responses to project features, modify constructed project features if not performing as intended or to enhance effectiveness, assess operation and maintenance activities, and enhance future restoration efforts
Strategy 3	Employ deliberate and explicit adaptive management analyses (hypothesis testing) using selected habitat projects to explore priority science questions or learning objectives and evaluate the effects of UMRR's restoration efforts on the Upper Mississippi River ecosystem's health and resilience

Strategy 4 Communicate and integrate learned information into future restoration alternatives and scientific investigations to guide and optimize UMRR's investment in enhancing restoration and knowledge of the Upper Mississippi River ecosystem

GOAL 2 — ADVANCE KNOWLEDGE FOR RESTORING AND MAINTAINING A HEALTHIER AND MORE RESILIENT UPPER MISSISSIPPI RIVER ECOSYSTEM

The Upper Mississippi River Restoration (UMRR) effectively and comprehensively integrates long term monitoring, research, modeling, and data management to provide critical knowledge about the Upper Mississippi River's ecosystem health and resilience, providing a solid foundation upon which to base management actions and policy. With long term data collected over more than 25 years, the UMRR's database is one of the most extensive and comprehensive on any large river system in the world. UMRR's scientific expertise, breadth of information, monitoring protocols, modeling capabilities, and data management and dissemination infrastructure create extensive possibilities to learn about the river's natural functions and processes, human influences, and opportunities to best address critical restoration needs. USACE operates this substantial undertaking in true partnership fashion, with USGS providing scientific leadership and conducting research and analysis and the five partner states operating the six long term resource monitoring field stations and contributing in many ways to UMRR's scientific design and execution. The knowledge derived from UMRR is used extensively by resource managers, planners, administrators, scientists, academics, legislators, and the general public within the Upper Mississippi River region. UMRR also often exchanges knowledge with, and serves as a model for, other large river programs nationally and internationally, and at the same time, obtains valuable information and insights to even further enhance knowledge of the Upper Mississippi River ecosystem.

Objective 2.1	**Assess, and detect changes in, the fundamental health and resilience of the Upper Mississippi River ecosystem by continuing to monitor and evaluate its key ecological components of aquatic vegetation, bathymetry, fish, land use/ land cover, and water quality**
Strategy 1	Evaluate the Upper Mississippi River's ecological status and trends through comprehensive, integrated analyses of key ecological indicators using UMRR's long term data
Strategy 2	Conduct scientific analysis, research, and modeling using UMRR's long term data, and any necessary supplemental data, to gain knowledge about the Upper Mississippi River ecosystem status and trends and process, function, structure, and composition
Strategy 3	Continue to improve the effectiveness of long term data collection, analysis, storage, and dissemination to maintain the data's integrity, long-term consistency, relevance, and usability[5]
Strategy 4	Evaluate additional ecological components as priorities and resources allow to gain an even broader understanding of the Upper Mississippi River ecosystem and expand possibilities for important scientific analyses
Objective 2.2	**Provide critical insights and understanding regarding a range of key ecological questions through a combination of monitoring, additional research, and modeling in order to inform and improve management and restoration of the Upper Mississippi River ecosystem**
Strategy 1	Conduct focused research and analyses to gain critical, management-relevant information about the Upper Mississippi River ecosystem's process, function, structure, and composition as well as the dynamics and interactions among system components

[5] More information on the long term resource monitoring sampling effort and statistics can be found at http://www.umesc.usgs.gov/ltrmp.html.

Strategy 2	Conduct research projects that improve our understanding of critical ecological conditions and processes by examining the effects of select habitat restoration projects on those conditions and processes
Strategy 3	Utilize other information, as needed, to augment UMRR's long term data sets for comprehensive analyses of the river's health and resilience
Strategy 4	Develop and improve ecological models and other decision support tools to enhance science capabilities and understandings, and improve understanding of the potential effects of future management actions
Strategy 5	Effectively communicate to habitat project planners and managers regarding how research findings may be applied to habitat projects

GOAL 3 — ENGAGE AND COLLABORATE WITH OTHER ORGANIZATIONS AND INDIVIDUALS TO HELP ACCOMPLISH THE UPPER MISSISSIPPI RIVER RESTORATION VISION

The Upper Mississippi River is a large, complex, and dynamic ecosystem that is heavily influenced by human activity throughout its watershed. While UMRR makes significant contributions to enhancing the river ecosystem's health and resiliency, it cannot and should not attempt to meet all management needs for improving river's health. No one agency or program can solely manage this multi-use ecosystem. Rather, successful management of the UMR requires thoughtful and meaningful coordination among numerous agencies, organizations, and individuals with varying mandates and missions. This includes state and federal agencies with responsibilities related to natural resources, water quality, agriculture, transportation, and recreation; non-governmental organizations; industry representatives; academics; and the public. UMRR can aid other programs and projects that have influence on the Upper Mississippi River's condition. For example, UMRR's various datasets are readily available for broad use by Clean Water Act programs and other river managers and researchers. It will be increasingly important for UMRR to work within a watershed context and create synergies with programs and projects that will affect the Upper Mississippi River's health and resilience. In addition, interactions with other organizations and individuals that manage and conduct research nationally and internationally offer UMRR cost efficiencies and insights not otherwise available.

Objective 3.1	**Work with key organizations and individuals in the Upper Mississippi River watershed**
Strategy 1	Ensure rich collaboration with key organizations and individuals in the Upper Mississippi River watershed in advancing complementary visions, missions, and goals
Strategy 2	With key watershed programs and projects, jointly develop and communicate common messages about the restoration and knowledge needs of the Upper Mississippi River
Strategy 3	Seek knowledge from other organizations and individuals for the purposes of being aware of activities that may influence UMRR's work and enhancing programmatic efforts
Strategy 4	Directly engage relevant organizations or individuals in implementing UMRR's efforts, as appropriate
Objective 3.2	**Provide information to organizations and individuals whose actions and decisions affect the Upper Mississippi River ecosystem**
Strategy 1	Enhance the delivery and utility of UMRR's knowledge in order to increase understanding of the Upper Mississippi River's ecosystem drivers and means to achieve the UMRR vision
Strategy 2	Provide decision makers with timely, relevant, understandable, and usable knowledge about the needs and tools available to advance the UMRR's vision
Objective 3.3	**Exchange knowledge with other organizations and individuals nationally and internationally**
Strategy 1	Serve as a resource for similar programs nationally and internationally
Strategy 2	Seek knowledge from other organizations and individuals nationally and internationally to enhance UMRR's efforts in advancing its vision

GOAL 4 — UTILIZE A STRONG, INTEGRATED PARTNERSHIP TO ACCOMPLISH THE UPPER MISSISSIPPI RIVER RESTORATION VISION

As the federal agency authorized to implement Upper Mississippi River Restoration (UMRR), USACE is accountable for program management and execution. As a result, UMRR has been shaped in many ways by USACE policies and procedures. Yet, UMRR is truly a partnership program. UMRR's authorization directs USACE to implement the program in consultation with the Department of Interior and the five basin states. For the specific purposes of providing interagency coordination, the UMRR Coordinating Committee was established to serve as the program's primary consultative body to discuss and seek consensus on UMRR budgetary and policy issues. In addition, the Analysis Team provides scientific and technical advice and recommendations on Goal 2-related activities, including work priorities and research activities. The planning and sequencing of habitat projects is guided by interagency teams in USACE's three regional Districts (St. Paul, Rock Island, and St. Louis). Partners commit substantial resources to participate in these coordinating groups. This thoughtful and meaningful collaboration has been vital to UMRR's success and now serves as a model for other ecosystem programs regionally, nationally, and internationally.

Objective 4.1	**Promote a common vision and sense of purpose, transparency, and accountability among UMRR partners**
Strategy 1	Partners carry a strong, unified message regarding UMRR's value, accomplishments, and importance to the region and nation
Strategy 2	Partners work in collaboration to enhance restoration and knowledge of the Upper Mississippi River to advance UMRR's vision
Strategy 3	Continually learn and improve as a program and in implementing restoration and science techniques
Strategy 4	Improve transparency and accountability within the partnership regarding program priorities and budgets
Strategy 5	Organize and maintain institutional knowledge of UMRR's policy and programmatic efforts
Objective 4.2	**Implement the UMRR as outlined in the program's adopted Joint Charter for the UMRR Coordinating Committee, Analysis Team, and Habitat Planning and Sequencing Framework Teams, as well as the FY 2015-2025 UMRR Strategic Plan**
Strategy 1	Partner agencies implement program activities in accordance to the adopted Joint Charter
Strategy 2	Partner agencies collaboratively develop and implement the strategic plan

APPENDIX A: PROGRAM AUTHORIZATION

Environmental Management Program Authorization

Section 1103 of the Water Resources Development Act of 1986 (P.L. 99-662) as amended by
Section 405 of the Water Resources Development Act of 1990 (P.L. 101-640),
Section 107 of the Water Resources Development Act of 1992 (P.L. 102-580),
Section 509 of the Water Resources Development Act of 1999 (P.L. 106-53),
Section 2 of the Water Resources Development Technical Corrections of 1999 (P.L. 106-109), and
Section 3177 of the Water Resources Development Act of 2007 (P.L. 110-114).

Additional Cost Sharing Provisions

Section 906(e) of the Water Resources Development Act of 1986 (P.L. 99-662) as amended by
Section 221 of the Water Resources Development Act of 1999 (P.L. 106-53).

SEC. 1103. UPPER MISSISSIPPI RIVER PLAN.

(a)(1) This section may be cited as the "Upper Mississippi River Management Act of 1986".

(2) To ensure the coordinated development and enhancement of the Upper Mississippi River system, it is hereby declared to be the intent of Congress to recognize that system as a nationally significant ecosystem and a nationally significant commercial navigation system. Congress further recognizes that the system provides a diversity of opportunities and experiences. The system shall be administered and regulated in recognition of its several purposes.

(b) For purposes of this section --

(1) the terms "Upper Mississippi River system" and "system" mean those river reaches having commercial navigation channels on the Mississippi River main stem north of Cairo, Illinois; the Minnesota River, Minnesota; Black River, Wisconsin; Saint Croix River, Minnesota and Wisconsin; Illinois River and Waterway, Illinois; and Kaskaskia River, Illinois;

(2) the term "Master Plan" means the comprehensive master plan for the management of the Upper Mississippi River system, dated January 1, 1982, prepared by the Upper Mississippi River Basin Commission and submitted to Congress pursuant to Public Law 95-502;

(3) the term "GREAT I, GREAT II, and GRRM studies" means the studies entitled "GREAT Environmental Action Team--GREAT I--A Study of the Upper Mississippi River", dated September 1980, "GREAT River Environmental Action Team--GREAT II--A Study of the Upper Mississippi River", dated December 1980, and "GREAT River Resource Management Study", dated September 1982; and

(4) the term "Upper Mississippi River Basin Association" means an association of the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, formed for the purposes of cooperative effort and united assistance in the comprehensive planning for the use, protection, growth, and development of the Upper Mississippi River System.

(c)(1) Congress hereby approves the Master Plan as a guide for future water policy on the Upper Mississippi River system. Such approval shall not constitute authorization of any recommendation contained in the Master Plan.

(2) Section 101 of Public Law 95-502 is amended by striking out the last two sentences of subsection (b), striking out subsection (i), striking out the final sentence of subsection (j), and redesignating subsection "(j)" as subsection "(i)".

(d)(1) The consent of the Congress is hereby given to the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, or any two or more of such States, to enter into negotiations for agreements, not in conflict with any law of the United States, for cooperative effort and mutual assistance in the comprehensive planning for the use, protection, growth, and development of the Upper Mississippi River system, and to

establish such agencies, joint or otherwise, or designate an existing multi-State entity, as they may deem desirable for making effective such agreements. To the extent required by Article I, section 10 of the Constitution, such agreements shall become final only after ratification by an Act of Congress.

(2) The Secretary is authorized to enter into cooperative agreements with the Upper Mississippi River Basin Association or any other agency established under paragraph (1) of this subsection to promote and facilitate active State government participation in the river system management, development, and protection.

(3) For the purpose of ensuring the coordinated planning and implementation of programs authorized in subsections (e) and (h)(2) of this section, the Secretary shall enter into an interagency agreement with the Secretary of the Interior to provide for the direct participation of, and transfer of funds to, the Fish and Wildlife Service and any other agency or bureau of the Department of the Interior for the planning, design, implementation, and evaluation of such programs.

(4) The Upper Mississippi River Basin Association or any other agency established under paragraph (1) of this subsection is hereby designated by Congress as the caretaker of the master plan. Any changes to the master plan recommended by the Secretary shall be submitted to such association or agency for review. Such association or agency may make such comments with respect to such recommendations and offer other recommended changes to the master plan as such association or agency deems appropriate and shall transmit such comments and other recommended changes to the Secretary. The Secretary shall transmit such recommendations along with the comments and other recommended changes of such association or agency to the Congress for approval within 90 days of the receipt of such comments or recommended changes.

(e) Program Authority

(1) Authority

(A) In general. The Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, may undertake, as identified in the master plan

(i) a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement; and

(ii) implementation of a long-term resource monitoring, computerized data inventory and analysis, and applied research program, including research on water quality issues affecting the Mississippi River (including elevated nutrient levels) and the development of remediation strategies.

(B) Advisory committee. In carrying out subparagraph (A)(i), the Secretary shall establish an independent technical advisory committee to review projects, monitoring plans, and habitat and natural resource needs assessments.

(2) REPORTS. — Not later than December 31, 2004, and not later than December 31 of every sixth year thereafter, the Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, shall submit to Congress a report that —

(A) contains an evaluation of the programs described in paragraph (1);

(B) describes the accomplishments of each of the programs;

(C) provides updates of a systemic habitat needs assessment; and

(D) identifies any needed adjustments in the authorization of the programs.

(3) For purposes of carrying out paragraph (1)(A)(i) of this subsection, there is authorized to be appropriated to the Secretary $22,750,000 for fiscal year 1999 and each fiscal year thereafter.

(4) For purposes of carrying out paragraph (1)(A)(ii) of this subsection, there is authorized to be appropriated to the Secretary $10,420,000 for fiscal year 1999 and each fiscal year thereafter.

(5) Authorization of appropriations.—There is authorized to be appropriated to carry out paragraph (1)(B) $350,000 for each of fiscal years 1999 through 2009.

(6) Transfer of amounts.—For fiscal year 1999 and each fiscal year thereafter, the Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, may transfer not to exceed 20 percent of the amounts appropriated to carry out clause (i) or (ii) of paragraph (1)(A) to the amounts appropriated to carry out the other of those clauses.

(7)(A) Notwithstanding the provisions of subsection (a)(2) of this section, the costs of each project carried out pursuant to paragraph (1)(A)(i) of this subsection shall be allocated between the Secretary and the appropriate non-Federal sponsor in accordance with the provisions of section 906(e) of this Act; except that the costs of operation and maintenance of projects located on Federal lands or lands owned or operated by a State or local government shall be borne by the Federal, State, or local agency that is responsible for management activities for fish and wildlife on such lands and, in the case of any project requiring non-Federal cost sharing, the non-Federal share of the cost of the project shall be 35 percent.

(B) Notwithstanding the provisions of subsection (a)(2) of this section, the cost of implementing the activities authorized by paragraph (1)(A)(ii) of this subsection shall be allocated in accordance with the provisions of section 906 of this Act, as if such activity was required to mitigate losses to fish and wildlife.

(8) None of the funds appropriated pursuant to any authorization contained in this subsection shall be considered to be chargeable to navigation.

(f) (1) The Secretary, in consultation with any agency established under subsection (d)(1) of this section, is authorized to implement a program of recreational projects for the system substantially in accordance with the recommendations of the GREAT I, GREAT II, and GRRM studies and the master plan reports. In addition, the Secretary, in consultation with any such agency, shall, at Federal expense, conduct an assessment of the economic benefits generated by recreational activities in the system. The cost of each such project shall be allocated between the Secretary and the appropriate non-Federal sponsor in accordance with title I of this Act.

(2) For purposes of carrying out the program of recreational projects authorized in paragraph (1) of this subsection, there is authorized to be appropriated to the Secretary not to exceed $500,000 per fiscal year for each of the first 15 fiscal years beginning after the effective date of this section.

(g) The Secretary shall, in his budget request, identify those measures developed by the Secretary, in consultation with the Secretary of Transportation and any agency established under subsection (d)(1) of this section, to be undertaken to increase the capacity of specific locks throughout the system by employing nonstructural measures and making minor structural improvements.

(h)(1) The Secretary, in consultation with any agency established under subsection (d)(1) of this section, shall monitor traffic movements on the system for the purpose of verifying lock capacity, updating traffic projections, and refining the economic evaluation so as to verify the need for future capacity expansion of the system.

(2) Determination.

(A) In general. The Secretary in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, shall determine the need for river rehabilitation and environmental enhancement and protection based on the condition of the environment, project developments, and projected environmental impacts from implementing any proposals resulting from recommendations made under subsection (g) and paragraph (1) of this subsection.

(B) Requirements. The Secretary shall

(i) complete the ongoing habitat needs assessment conducted under this paragraph not later than September 30, 2000; and

(ii) include in each report under subsection (e)(2) the most recent habitat needs assessment conducted under this paragraph.

(3) There is authorized to be appropriated to the Secretary such sums as may be necessary to carry out this subsection.

(i) (1) The Secretary shall, as he determines feasible, dispose of dredged material from the system pursuant to the recommendations of the GREAT I, GREAT II, and GRRM studies.

(2) The Secretary shall establish and request appropriate Federal funding for a program to facilitate productive uses of dredged material. The Secretary shall work with the States which have, within their boundaries, any part of the system to identify potential users of dredged material.

(j) The Secretary is authorized to provide for the engineering, design, and construction of a second lock at locks and dam 26, Mississippi River, Alton, Illinois and Missouri, at a total cost of $220,000,000, with a first Federal cost of $220,000,000. Such second lock shall be constructed at or in the vicinity of the location of the replacement lock authorized by section 102 of Public Law 95-502. Section 102 of this Act shall apply to the project authorized by this subsection.

SEC. 906(e). COST SHARING.

(e) In those cases when the Secretary, as part of any report to Congress, recommends activities to enhance fish and wildlife resources, the first costs of such enhancement shall be a Federal cost when--

(1) such enhancement provides benefits that are determined to be national, including benefits to species that are identified by the National Marine Fisheries Service as of national economic importance, species that are subject to treaties or international convention to which the United States is a party, and anadromous fish;

(2) such enhancement is designed to benefit species that have been listed as threatened or endangered by the Secretary of the Interior under the terms of the Endangered Species Act, as amended (16 U.S.C. 1531, et seq.), or

(3) such activities are located on lands managed as a national wildlife refuge.

When benefits of enhancement do not qualify under the preceding sentence, 25 percent of such first costs of enhancement shall be provided by non-Federal interests under a schedule of reimbursement determined by the Secretary. Not more than 80 percent of the non-Federal share of such first costs may be satisfied through in-kind contributions, including facilities, supplies, and services that are necessary to carry out the enhancement project. The non-Federal share of operation, maintenance, and rehabilitation of activities to enhance fish and wildlife resources shall be 25 percent.