

History and Background 1

PROGRAM ORIGINS

In the 1970s, a proposal to replace Lock and Dam 26 near Alton, Illinois, and increase its navigation capacity, sparked considerable debate and protracted litigation.

Environmental groups and Midwestern railroads were particularly opposed to proposed construction of twin 1,200-foot locks. Seeking to balance this concern with the navigation system needs, Congress, in 1978, authorized construction of a new dam with a single, 1,200-foot lock and directed the Upper Mississippi River Basin Commission to conduct studies and make recommendations related to further navigation capacity expansion and its ecological impacts. The Commission presented its findings and recommendations in a landmark document, the *Comprehensive Master Plan for the Management of the Upper Mississippi River System*.¹



Melvin Price Locks and Dam (L&D 26), Alton, Illinois.

I The Master Plan

The Master Plan recommended that Congress authorize: a second lock, 600 feet in length, at Lock and Dam 26; a habitat rehabilitation and enhancement program; a long term resource monitoring program; a computerized inventory and analysis system; recreation projects; and a study of the economic impacts of recreation. In addition, the Commission proposed actions to reduce erosion rates, increase the capacity of other locks through non-structural and minor structural measures, monitor traffic movements, continue dredged material placement practices, promote beneficial uses of dredged material, and coordinate State water resources management activities.

The Commission emphasized three factors that were foundational to its strategy and fundamental to the philosophy upon which the Master Plan was built:

¹ Upper Mississippi River Basin Commission. 1982. *Comprehensive Master Plan for the Management of the Upper Mississippi River System*. Upper Mississippi River Basin Commission, Minneapolis, Minnesota. 193 pp.

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- **Multi-purpose use**—Recognizing that the river is both a nationally significant ecosystem and a nationally significant commercial navigation system, the Commission urged that a commitment be made “to maintain and enhance all aspects” and that the Master Plan recommendations be given “equal weight.”



Tows passing through the Upper Mississippi River National Wildlife and Fish Refuge.

- **Immediate action**—The Commission recognized that the urgent needs associated with commercial navigation growth and deteriorating environmental conditions could not be met with the authorities and programs in existence at that time.
- **Inconclusive data**—Despite the numerous studies conducted as part of the Master Plan, the Commission recognized that inadequate data and dynamic economic and environmental conditions could render long term investment decisions tenuous.

I Moving from the Plan to Legislation

During the two years immediately following publication of the Master Plan, four bills were introduced, each of which contained the keystone elements of what is now called the Environmental Management Program, or EMP. In addition, each recognized the need

to evaluate the program after some specified initial implementation period so that the program could be adjusted based upon experience gained and changes in river conditions. This concern for adaptive opportunities ultimately resulted in the directive that a Report to Congress be submitted prior to the end of the program’s authorization period.

Upper Mississippi River legislation proposals were first integrated into a national Water Resources Development Act (WRDA) in 1983. Although the WRDA was not passed until 1986, the effect of using this national legislation as a vehicle to authorize the Upper Mississippi River programs was twofold. First, the authority for implementing all the Upper Mississippi River program elements was vested in the U.S. Army Corps of Engineers.² Secondly, cost-sharing for EMP habitat projects was mandated. Although the Upper Mississippi River Basin states were actively involved in negotiating both of those provisions, neither was originally conceived by the Commission that authored the Master Plan recommendations.

I 1985 Supplemental Appropriations

Prior to passage of the 1986 WRDA, Congress used the 1985 Supplemental Appropriations Act (Public Law 99-88) to initiate a number of water projects by directing that the Corps of Engineers proceed with construction and providing the funds necessary to do so. Among the 41 projects advanced in this way was the second lock at Locks and Dam 26, “including environmental management along the Upper Mississippi River Basin.” This “early action” phase of the EMP resulted in total funding of \$2,527,000 in fiscal years 1985-1987.

² Originally, the Master Plan had recommended that the U.S. Department of the Interior be given lead responsibility for implementing the plan’s environmental recommendations.

The conference committee report accompanying the 1985 supplemental appropriations measure also set forth the basic framework for what was later to be called the Environmental Management Program. In the absence of more elaborate statutory provisions, the conferees directed that funds equal to those provided for advanced engineering and design of the second lock be used for “initial activities related to programs for long term resource monitoring, habitat rehabilitation and enhancement, recreation improvements and studies, traffic monitoring, and computerized inventory and analysis.”

I 1986 Water Resources Development Act

Section 1103 of the 1986 Water Resources Development Act (Public Law 99-662) included provisions authorizing both construction of a second lock at Locks and Dam 26 and a variety of environmental initiatives on the Upper Mississippi River. That section was entitled the Upper Mississippi River Management Act of 1986. It is the statutory basis for the EMP, though the law does not confer that name upon the program.

The provisions of Section 1103 that constitute the programmatic elements (see Table 1-1) of the EMP are those that authorize:

- a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement,
 - a long term resource monitoring program,
 - a computerized inventory and analysis system,
 - a program of recreational projects,
 - an assessment of the economic benefits generated by recreational activities, and
 - monitoring of traffic movements.
- Other provisions of Section 1103 provide both context and statutory direction regarding implementation of the EMP. Of particular note are the provisions that:
- express Congress’ desire “to ensure the coordinated development and enhancement of the Upper Mississippi River System”;
 - declare that the river is a “nationally significant ecosystem and a nationally significant commercial navigation system”;
 - declare that the system should be administered and regulated in recognition of its several purposes;
 - define the Upper Mississippi River System as the commercially navigable portions of the Mississippi River north of Cairo, Illinois, and the Minnesota, Black, Saint Croix, Illinois, and Kaskaskia Rivers;
 - provide Congressional consent for the basin states to establish interstate agreements or agencies;
 - provide for transfer of funds to agencies of the Department of Interior;
 - designate the Upper Mississippi River Basin Association as “caretaker” of the Master Plan;
 - establish the applicability of cost-share formulas and clarify that none of the appropriations for the habitat, monitoring, or computerized information and analysis programs shall be considered chargeable to navigation;

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TABLE 1-1: EMP Element Summary

Element	Description	Lead Agency	Cost Sharing	Authorized Funding
Habitat Projects	Planning, design, construction, and monitoring of projects to rehabilitate or enhance fish and wildlife habitat. Examples include side channel modifications, island creation, water level and flow control, and dredging.	Corps of Engineers	Construction costs are 75% Federal / 25% non-Federal, except for projects on lands managed as a national refuge, which are 100% Federal. Operation and maintenance costs are responsibility of agency that manages land (either Fish and Wildlife Service or State conservation agency).	\$13,000,000/year
Long Term Resource Monitoring	Standardized monitoring of water quality, fisheries, vegetation, and other river resources. Related research activities in support of partner agencies' river management roles. Administered as integrated program with computerized inventory and analysis system.	U.S. Geological Survey ^{1/}	100% Federal funding	\$5,080,000/year
Computerized Inventory and Analysis System	Integration, analysis, and storage of data from the Long Term Resource Monitoring element. Extensive capabilities to perform spatial and statistical analysis and to provide access to data. Administered as integrated program with long term resource monitoring.	U.S. Geological Survey	100% Federal funding	\$875,000/year
Recreation Projects	Authorization to construct river-based recreation projects. No funds have been allocated to construct recreation projects to date.	Corps of Engineers	Construction costs are 50% Federal / 50% non-Federal Operation and maintenance costs are 100% non-Federal	\$500,000/year
Economic Impacts of Recreation Study	Assessment of economic impacts of recreation expenditures on the UMRS. Study completed in 1993.	Corps of Engineers	No cost-share provisions	\$750,000 in total
Traffic Monitoring	Monitor traffic movements to determine need for capacity expansion of navigation system. Authority has not been used since fiscal year 1990. Further analysis of system's capacity needs is being done under Corps of Engineers' navigation feasibility study.	Corps of Engineers	No cost-share provisions	"Such sum as may be necessary"

^{1/} The USFWS was the agency originally given responsibility for management and implementation of the LTRMP. Subsequent DOI consolidation of its biological research facilities into a biological resources division under the USGS resulted in this responsibility transferring to that DOI agency in October 1996.

- provide general authority to determine the need for environmental improvements on the Upper Mississippi River System;
- direct dredged material to be disposed of in accordance with recommendations of the Great River Environmental Action Team (GREAT) studies of the 1970s;
- authorize a program to facilitate productive uses of dredged material; and
- authorize construction of a second lock at Locks and Dam 26.

The identification of these provisions and, ultimately, authorization of the UMRS-EMP were the result of hard work by a body of organizations and individuals dedicated to achieving balance among the system's many values.

I Legislative Amendments

The original EMP authorizing legislation in Section 1103 of the 1986 WRDA has been amended twice since its enactment. The 1990 WRDA extended the original EMP authorization period an additional 5 years to FY 2002. This action recognized the need for a period of ramping up for the program.

The 1992 WRDA amended the original EMP authorization in two additional ways. First, a provision was added allowing some limited flexibility in how funds are allocated between the habitat projects program and the long term resource monitoring program. Secondly, the EMP cost-sharing provisions were amended to assign sole responsibility for operation and maintenance of habitat projects to the agency that manages the lands on which the project is located.

EVOLUTION OF IMPLEMENTATION

I Shaping the Program

The 1986 WRDA authorized the individual components of the EMP without defining them in detail. The statute does, however, prescribe cost-sharing arrangements,

geographic scope, annual funding levels, and the States and Federal agencies with whom the Corps of Engineers is to coordinate. Similar to other Corps project authorizations, other implementation parameters were left to the Corps' discretion and guidance.

In contrast to other Corps projects, for which reconnaissance and feasibility studies precede construction authorization, the EMP had no prior Corps of Engineers planning documents. The Master Plan prepared by the Upper Mississippi River Basin Commission was the foundation of the EMP authorization, but was relatively conceptual in nature. Thus, project planning became as much a part of the EMP as project construction.

To guide implementation, in January 1986 the Corps of Engineers published an initial foundational document entitled the *General Plan*. That document was followed by six Annual Addendums, each of which provided programmatic and policy updates, individual project status reports, and recommendations for out-year funding and schedules. In August 1992, the Corps prepared a *Midterm Evaluation Report*³ that set forth program accomplishments and recommended continued funding.

I The Partnership

As the primary implementing Federal agency, the Corps of Engineers is accountable for management and execution of the EMP. Vesting this responsibility in the Corps means that the EMP has been shaped in many ways by Corps policies and procedures. Yet in the early years of the EMP, the Corps had few, if any, precedents for this type of regional, multi-faceted, partnership program. Ensuring that the implementation of the EMP is consistent with national policy, yet responsive to the needs and expectations of the program's other partner agencies, has been the common goal.

³ See Attachment 4, Summaries of Key Related Reports.



Technical specialists from the USFWS, the Corps of Engineers, and the Illinois Department of Natural Resources participate in an on-site planning meeting for the Gardner Division, Illinois HREP.

Partnership and shared responsibility have always been and continue to be critical to successful program implementation. This fact can be traced not only to the EMP's origins in a Commission structure, but also to the EMP authorizing legislation, which directed the Corps to undertake the program "in consultation with" the Department of the Interior and the five basin states. The region has a rich tradition of interagency partnership, and many of the long-standing interagency organizations have provided convenient forums for coordinating many aspects of the EMP.

For the specific purpose of providing interagency coordination of EMP implementation, the Corps of Engineers established the EMP Coordinating Committee (EMPCC) in 1987. The EMPCC is the primary consultative body used to discuss and, whenever possible, seek consensus on EMP budgetary and policy issues. The Corps of Engineers and the U.S. Fish and Wildlife Service co-chair the Committee. Membership consists of representatives from the U.S. Geological Survey, each of the five State conservation agencies, and a variety of Federal agencies⁴ that have an interest in the EMP even though they have no specific implementation responsibilities.

⁴ U.S. EPA, U.S. Department of Agriculture (NRCS), U.S. Department of Transportation (Maritime Administration).

To provide more detailed guidance on implementation of the Long Term Resource Monitoring Program (LTRMP), which combines the authorized monitoring and computerized information and analysis elements, another interagency committee called the Analysis Team, or "A-Team," was formed. This team provides science and management advice and recommendations to the U.S. Geological Survey on LTRMP work priorities, annual work plans, and research activities. It also plays an invaluable interagency program coordination role.

The EMP authorizing legislation designates the Upper Mississippi River Basin Association as the "caretaker" of the Master Plan. As such, major EMP policy, budgetary, and other non-technical issues are addressed in this forum.

I Roles and Responsibilities

In addition to the various interagency consultative and coordination bodies associated with the EMP, individual Federal and State agencies have specific EMP implementation responsibilities.

- **U.S. Army Corps of Engineers.** The Mississippi Valley Division⁵ has overall program management responsibility and receives policy guidance from the Headquarters office of the U.S. Army Corps of Engineers. The St. Paul, Rock Island, and St. Louis Districts are responsible for the planning, design, construction, and monitoring of habitat projects.

- **U.S. Fish and Wildlife Service.** The Region 3 office has lead coordination responsibility. Personnel from the refuges and environmental services field offices participate in all phases⁶ of HREP implementation, both on and off refuge lands. The Service is also responsible for operation and maintenance of projects on lands it manages and for satisfying

⁵ All program implementation responsibilities were transferred to the U.S. Army Corps of Engineers' Mississippi Valley Division from its former North Central Division as a result of the 1997 Corps of Engineers division restructuring action.

⁶ Identification, planning, design, construction, monitoring, and evaluation.

requirements of the Fish and Wildlife Coordination Act with respect to all habitat projects.

Prior to 1993, the Service also had lead responsibility for implementing the LTRMP. That responsibility was assumed in 1993 by the National Biological Service, which was subsequently merged into the U.S. Geological Survey.

- **U.S. Geological Survey.** The U.S. Geological Survey (USGS) has managed and executed the LTRMP since October 1996. Funds are transferred from the Corps of Engineers to the USGS to support the LTRMP work carried out by the Environmental Management Technical Center (EMTC) and its six field stations.



LTRMP field station staff and remote sensing specialists from the U.S. Army Corps of Engineers Cold Regions Research Laboratory apply GPS technology to UMRS field data collection efforts.

- **Other Federal Agencies.** The Environmental Protection Agency, Natural Resources Conservation Service, and Maritime Administration serve as members of various interagency advisory bodies to the EMP.

- **States.** Each State conservation agency is actively involved in the identification, selection, planning, and design of habitat projects in its jurisdiction. Also, they often participate in the planning of projects in adjoining states. Each State funds 25% of the total costs of any project within its borders that is not on lands managed as a national refuge. Upon completion of construction, the respective State is responsible for 100% of the operation and maintenance of projects on lands that it manages.

In addition, the LTRMP field stations are staffed and operated by the States.

I Funding

Section 1103 of the 1986 WRDA specifies annual authorized appropriations for each of the individual program components of the EMP. Annual authorized amounts for some of the individual components fluctuated in the first few years to accommodate what were anticipated to be variable start-up costs. However, annual authorizations (see Table 1-2) were fixed for the last 12 years of the program at \$13 million for habitat projects, \$6 million for long term resource monitoring, and \$500,000 for recreation projects.

Congress appropriates funds for the EMP as a single line item (see Table 1-3). From the annual programmatic appropriation, sums are allocated for overall program management costs as well as the individual program elements. Table 1-4 summarizes how funds provided in the first 10 years of the EMP have been allocated among the program elements, including program management.

From the EMP's "pre-authorization" years through FY 1998, Congress has appropriated a total of \$176,497,000 for the EMP, of which \$160,614,000 has actually been allocated. Table 1-2 details the EMP's funding history.

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TABLE 1-2: Annual Authorized Appropriations (\$ Millions)

	FY 88	FY 89	FY 90	FY 91 - FY 02
Habitat Projects ^{1/}	8.2	12.4	13.0	13.0
Long Term Resource Monitoring	7.72	5.36	6.3	5.955
Recreation Projects	0.5	0.5	0.5	0.5
Economic Impacts of Recreation Study	0.3	0.3	0.15	0.0
Traffic Monitoring		("Sums as may be necessary")		
TOTAL	16.72	18.56	19.95	19.455

TABLE 1-3: Funding History (\$1,000)

Fiscal Year	Authorization	President's Budget Request	Appropriation	Allocation
1985	---	---	Unspecified	30
1986	---	---	Unspecified	814
1987	---	1,000	2,000	1,683
1988	16,720	4,168	5,168	5,911
1989	18,560	7,000	7,500	7,364
1990	19,950	14,860	14,860	15,334
1991	19,455	14,900	17,000	15,177
1992	19,455	19,455	19,455	13,672
1993	19,455	19,455	19,455	13,852
1994	19,455	19,455	19,455	20,501
1995	19,455	19,455	19,455	15,498
1996	19,455	19,455	19,455	17,842
1997	19,455	15,694	16,694	17,909
1998	19,455	14,000	16,000	15,027 ^a
Total to Date	210,870	168,897	176,497	160,614

^a As of 30 Nov 97.

Note: Annual allocations may vary from appropriated amounts as a result of savings and slippage, fiscal performance, and other factors.

TABLE 1-4: Actual Allocations (\$1,000)

	Early Action													Total
	FY86 ^a	FY87	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98 ^b	
Habitat Projects	401	529	2,964	3,251	7,880	9,196	6,839	6,451	13,256	8,313	11,005	10,958	9,242	90,280
Long Term Resource Monitoring ^{1/}	110	734	2,316	3,264	6,327	4,662	5,170	5,946	5,955	5,955	5,955	5,912	5,038	57,344
Recreation Projects	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Economic Impacts of Rec. Study	20	59	107	194	118	159	83	10	0	0	0	0	0	750
Traffic Monitoring	5	6	14	66	115	0	0	0	0	0	0	0	0	206
Report to Congress											327	346	100	773
Program Management	299	355	510	589	894	1,160	1,580	1,445	1,290	1,230	555	695	647	11,249
TOTAL	844	1,683	5,911	7,364	15,334	15,177	13,672	13,852	20,501	15,498	17,842	17,909	15,027	160,614

^a Includes \$30,000 from FY 1985 supplemental appropriations.

^b Allocations as of 30 Nov 97.

^{1/} Includes amounts authorized and allocated for the Computerized Inventory and Analysis (CIA).

While the annual Federal EMP appropriations to the Corps of Engineers fund the largest portion of the costs of the program, that amount does not fully reflect the investment that has been made.

The U.S. Fish and Wildlife Service accomplishes its EMP-related roles and responsibilities with its own funding and staff. In addition, the Service is responsible for the costs of operating and maintaining EMP habitat projects on lands that it manages.⁷ Through FY 1997, the U.S. Fish and Wildlife Service has expended approximately \$1,030,000 on EMP coordination and projects.



State Cost-Shared Habitat Rehabilitation and Enhancement Project (Peoria Lake, Woodford State Fish and Wildlife Area, Woodford County, Illinois).

The five basin states have also made substantial investments in the EMP. In the first 12 years of the EMP, the States have spent \$10,522,093 in support of the program. Of this amount, \$1,430,093 has been expended to meet the 25% non-Federal cost-share for habitat projects on non-refuge lands in Illinois, Iowa, and Wisconsin.⁸ The States have spent approximately \$137,000 to operate and maintain projects on lands they manage. The remaining \$8,955,000 has supported State involvement in planning, coordinating, and implementing all components of the EMP.

The vast majority of EMP resources have been and will continue to be devoted to the construction of HREPs and the accomplishment of the LTRMP. The report chapters that follow are dedicated to the evaluation of these two program elements, the evaluation of future alternatives, and presentation of conclusions and recommendations.

⁷ In the past, the Corps provided up to \$200,000 annually to the Regional USFWS office to support certain programmatic activities, primarily HREP coordination. The FY 95 House of Representatives Report directed the Corps of Engineers to terminate provision of these funds beginning in FY 96. Funds are still transferred to USFWS environmental services offices for accomplishment of HREP Coordination Act Report (CAR) requirements.

⁸ See Appendix B, HREP, Section B.2, HREP database for information as to habitat projects where a non-Federal cost-sharing requirement has been met and the specific cost-sharing amounts provided.