



**DEPARTMENT OF THE ARMY**

MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS

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December 18, 1997

REPLY TO  
ATTENTION OF:

**DIVISION ENGINEER'S PUBLIC NOTICE**

Upper Mississippi River System - Environmental  
Management Program (UMRS-EMP)  
Report to Congress

COMPLETION OF REPORT

Notice is hereby given that the District and Division Commanders have completed a final report for the Upper Mississippi River System - Environmental Management Program. The report was prepared in response to Section 1103(e)(2) of the Water Resources Development Act of 1986, Public Law 99-662, as amended, by Section 405 of the Water Resources Development Act of 1990, Public Law 101-640, and Section 107 of the Water Resources Development Act of 1992, Public Law 102-580, and provides response to the requirements of Senate Report 105-44, page 41, accompanying the Energy and Water Development Act of 1998.

CONCLUSIONS, MODIFICATIONS, AND RECOMMENDATIONS

The report contained:

a. Overarching conclusions drawn with respect to the Upper Mississippi River System-Environmental Management Program (UMRS-EMP) outputs, strengths, and weaknesses and the future needs of the Upper Mississippi River System are summarized as follows:

1. The UMRS-EMP currently is the single most important and successful program authorized by the Federal government for the purposes of understanding the ecology of the UMRS and sustaining its significant environmental resources.

2. The degradation and loss of UMRS aquatic, wetland, and floodplain habitat can be substantially offset by the application of habitat restoration, protection, and enhancement measures. Such measures must be based upon quantitative and qualitative goals that recognize the multiple purpose use of this national resource.

3. A habitat needs assessment should be accomplished to establish a technically sound, consensus-based management framework "blue print" for the restoration, protection, and enhancement of the UMR ecosystem. This assessment would begin to

identify at the system, pool, and reach levels, the long-term habitat requirements. It would also serve to better focus future system monitoring and research activities.

4. Increasingly effective management of regulated river systems, such as the UMRS, is dependent upon long-term monitoring to detect system changes and applied research to understand system dynamics and relationships.

5. Implementing the EMP has resulted in an unprecedented level of communication and cooperation among the Federal and state partner agencies responsible for UMRS management. However, greater public involvement, outreach, and education also are needed.

b. Long Term Resource Monitoring Program (LTRMP)<sup>1</sup> program-element specific conclusions are as follows:

1. The LTRMP is making significant contributions to our understanding of the ecology of the UMRS. Resource managers and decision makers are increasingly using LTRMP biological, physical, chemical, and land use/cover data to accomplish better river system management decisions.

2. LTRMP data and analysis are providing meaningful characterization of system conditions and identification of long-term trends. This enables better prediction of the impacts of human and natural actions and allows the Corps and others to design, construct, operate, and maintain their UMRS projects in a more environmentally sustainable fashion.

3. The LTRMP has established the institutional framework (e.g., sampling protocols, centralized database) and infrastructure (e.g., field stations, equipment) necessary for conducting systemic monitoring and applied research at a level that was previously not possible.

4. The LTRMP is increasing the accessibility of UMRS data and information to resource managers and the public.

5. The LTRMP must continue to adapt to evolving management data and information needs of management and advancements in ecological science and technology. This adaptation will require infrastructure modifications, monitoring program changes, and reprioritization of research efforts.

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<sup>1</sup> LTRMP has come to refer to both the LTRM and Computerized Inventory and Analysis (CIA) program elements identified in the EMP's authorizing legislation.

6. The LTRMP plays an important role in the planning and implementation of habitat rehabilitation and enhancement projects. An expanded LTRMP would allow for a much greater level of involvement by the program's science staff in the identification, formulation, monitoring, and assessment of habitat rehabilitation and enhancement projects.

7. The LTRMP's acquisition of additional key spatial data coverages (e.g., water depths and velocities, habitat types and distributions, substrate qualities, land ownership) is essential to its ability to support successful river resource planning and management.

c. The Habitats Rehabilitation and Enhancement Project Conclusions are as follows:

1. Habitat rehabilitation and enhancement projects constructed to date have directly restored, protected, or enhanced over 28,000 acres of critical UMRS fish and wildlife habitat. When the 14 HREP's currently under construction are completed, this area will more than double to nearly 68,000 acres. It is expected to increase to 97,000 acres with construction of the 12 projects that are now in various stages of general design.

2. Important system-level ecological benefits are known to accrue from the site-specific improvements (e.g., awning habitat, food resources, nesting opportunities, shelter, etc.) provided by individual HREPs.

3. The HREPs have made significant contributions to the science of habitat and ecosystem restoration by developing new and increasingly effective planning tools, engineering designs, and evaluation methods.

4. The challenge for the future is to better couple HREP evaluation data, LTRMP systemic data, and decision support tools now available with the experience gained in the design and implementation of HREPs over the past 10 years to shape system-wide habitat restoration, protection, and enhancement strategies.

5. Most HREP implementation costs have declined as a result of evolving HREP planning, design, and construction approaches.

6. Corps of Engineers Districts now have over 10 years of experience with HREPs. Further delegation of project approval authority would streamline project implementation and thereby reduce program costs.

7. HREPs implemented to date have been essentially confined to lands already under public ownership. On the lower two-thirds of the UMRS, limited public land ownership has restricted options for restoring, protecting, and enhancing habitat.

8. Sediment delivery from uplands immediately adjacent to HREP project sites needs to be simultaneously addressed to maximize project life and outputs.

9. Most HREPs have met, and in many cases exceeded, their physical and chemical design objectives. Quantitative verification of biological outputs is more difficult to accomplish. Performance (physical, chemical, and biological) monitoring of habitat projects, although costly, is expanding our understanding of habitat requirements of UMRS species. EMP partners have used these performance monitoring results to design more cost-effective projects as the program has evolved.

10. Collaborative planning and design of HREPs have identified a number of experimental and innovative project opportunities such as seed islands, small scale drawdowns, wing dam notching, and pool-level management.

d. Additional general conclusions are as follows:

1. Charters for the EMP-CC and LTRMP Analysis Team reflecting greater involvement and stronger empowerment of the EMP partner agencies need to be established. These charters would further clarify roles, responsibilities, and expectations of program partners; assure clear lines of communications; and strengthen partnership linkages.

2. The EMP would benefit from greater participation by all river constituencies.

The most important recommendation made by the reporting officer in the report is that the Upper Mississippi River System-Environmental Management Program should be reauthorized. This recommendation was strongly supported by the Upper Mississippi River Basin Association and the Environmental Management Program Coordination Committee. In addition, the report identified modifications which could be implemented under the authority of the St. Louis, Rock Island, and St. Paul District Commanders,

Mississippi Valley Division Commander, and the Chief of Engineers. However, the report also contains recommendations which require additional legislative authorization. These modifications and recommendations are summarized as follows:

a. St. Paul, Rock Island, and St. Louis District Commanders approval:

1. Physical, chemical, and biological monitoring of pre- and post-project conditions should continue. Integration of project-specific monitoring with the systemic monitoring activities of the LTRMP should be enhanced. Biological response monitoring of selected habitat restoration, protection, and enhancement measures is essential to evaluating the ecological and cost effectiveness of the HREP program element and should continue to be supported.

2. Future efforts to restore, protect, and enhance UMRS habitat should include an appropriate mix of large-scale actions, such as pool-scale watershed management modifications, which are compatible with other river system purposes, and smaller projects affecting limited areas. Increased emphasis should be placed on using natural river processes and innovative measures in the design and construction of habitat projects.

3. Increase the level of public involvement in the planning and implementation of the UMRS-EMP. Efforts should be taken to inform the public about habitat project purposes (resource management goals and objectives), expected outputs, and actual performance. In addition, opportunities to support public education of programs that increase general understanding of the UMRS ecosystem and management challenges should be pursued.

b. Mississippi Valley Division Commander approval:

1. The Corps of Engineers should assure that a comprehensive habitat needs assessment for those parts of the floodplain directly associated with the river is accomplished. Over the past decade our understanding of regulated rivers has grown, the availability of comprehensive data sets and spatial coverages has increased, and technologies (e.g., GIS, remote sensing, GPS, modeling tools, etc.) have evolved. All of these changes make refinement of the existing system goals and objectives and development of a more comprehensive "blueprint" for future habitat needs more feasible. This blueprint also would include improved metrics for evaluating future program implementation efforts.

2. To reduce HREP review and approval time and therefore implementation costs, approval authority for those projects with an estimated total construction cost of less than \$1 million should be delegated to the district level.

3. The Corps of Engineers should facilitate development of charters within the constraints imposed by Federal law for the EMP-CC and LTRMP Analysis Team.

c. Chief of Engineers approval:

1. The Corps of Engineers should review and, if necessary, modify current policies and guidance to ensure that HREPs can include obtaining real estate interests from willing sellers when and where such actions are determined to be consistent with and supportive of program goals and objectives. Any new or revised policy and guidance should include a provision to reimburse the local sponsor for all lands, easements, rights-of-way, relocations, and disposal sites (LERRD) costs in excess of 25 percent of the total project cost.

2. The Corps of Engineers should modify EMP policies and guidance to allow the inclusion of upland sediment controls as part of HREPs in cases where sediment from the local watershed is directly affecting the project area and sediment control is the most cost-effective measure for achieving project objectives.

3. A concerted effort should be undertaken to identify factors (e.g., 50-year project life design requirement, definition of project failure, experimental design) that may currently be limiting program innovation. Subsequently, any potentially constraining policies and guidance should be reviewed and, if necessary, modified.

4. To gain additional project implementation efficiencies, approval authority for those projects with an estimated total construction cost of \$5 million or less should be delegated to the Mississippi Valley Division Commander.

d. Recommendations requiring Congressional authority:

1. Congress further amend Section 1103 of the Water Resources Development Act (WRDA) of 1986, as previously amended, to provide for the continuing authorization of a program for the implementation and evaluation of measures for fish and wildlife habitat restoration, protection, enhancement, and for resource monitoring and research.

2. The annual amount authorized to be appropriated for the program for the implementation and evaluation of Habitat Rehabilitation and Enhancement Projects (HREPs) be increased to \$22,750,000.

3. Current program authorization language specifying separate LTRM and CIA program elements be rewritten to identify a single long-term resource monitoring, data analysis, and applied research element, herein referred to as the LTRMP.

4. The annual amount authorized to be appropriated for the LTRMP, which is 100 percent Federally funded, be increased to \$10,420,000.

5. The Secretary of the Army, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, be required to submit a report to Congress every six years describing the accomplishments of the programs; providing updates of a systemic habitat needs assessment; and identifying any needed adjustments (e.g., funding level, program scope, etc.) in the authorization. Submittal of this report is to be timed so as to allow consideration as part of a comprehensive Water Resources Development Act.

6. Cost sharing for EMP projects be continued as prescribed by Section 906(e) of the Water Resources Development Act of 1986, under which implementation costs of projects "on lands managed as national wildlife refuge" are 100 percent Federal, and implementation costs of all other projects are shared 75 percent Federal/25 percent non-Federal, providing the following:

(a) Up to 80 percent of the 25 percent non-Federal cost share of a habitat Rehabilitation and Enhancement Project may be in the form of in-kind services, including a facility, supply, or service or lands (LERRDS credits) that is necessary to carry out the project. This would be similar to other habitat

restoration programs such as Section 1135 of the Water Resources Development Act of 1986, Project Modifications for the Improvement of the Environment, as amended by Section 204(d) of the Water Resources Development Act of 1996.

(b) Subject to availability of funds, non-Federal interests may be reimbursed for the Federal share, without interest, of studies, design documents, and implementation costs of approved Habitat Rehabilitation and Enhancement Projects.

#### Alternatives Considered for the Environmental Management Program

##### a. No Action Alternative - End Environmental Management Program

For this alternative the EMP authorization would expire at the end of FY 2002. No UMRS-specific program authority would replace it. After 2002, UMRS habitat restoration, protection, or enhancement would be accomplished under other existing authorities. Monitoring, data analysis, and research would be limited to those sites and parameters of greatest interest to individual state or Federal agencies. No action, other than annual appropriations through

FY 2002, would be required of Congress. HREP planning and design work would be discontinued unless project construction could be completed prior to 2002 or implementation could be funded under another authority, such as Section 1135. Projects currently under construction would be accelerated, if necessary, to realize completion by FY 2002. The Environmental Management Technical Center's LTRMP responsibilities would be dismantled with data and equipment transferred to the Corps of Engineers or other appropriate agencies.

##### b. Continue Existing Environmental Management Program

Under this alternative the budget and structure of the current EMP would continue unchanged after FY 2002. The types of projects undertaken would conform to existing Corps policy. The pace of project implementation would decrease as the effects of inflation over time reduce actual purchasing power. LTRMP monitoring design would need to be regularly revised and data analysis and research efforts reprioritized to meet funding

limitations. Congressional action would be required to extend authorization beyond FY 2002. Partner agencies would help restructure and down scale the habitat program and LTRMP due to the effects of inflation.

c. Continue and Modify Environmental Management Program

1. With this alternative, continuing the authority and increased funding level would be provided to continue and enhance two program components, HREP and LTRMP. A habitat needs assessment would be conducted to help guide the selection and design of HREPs and provide a basis for project performance measurement. HREP measures would be expanded to include a wider variety of restoration, protection, and enhancement techniques, including upland sediment control of local watersheds directly affecting riverine habitat; land and easement acquisition from willing sellers; and more innovative measures. The LTRMP would continue with an emphasis on: a) improving monitoring design; b) applied research to provide information needed for river management; c) an expanded array of components monitored, including wildlife, mussels, and enhanced water quality parameters; and d) expansion of spatial scale to include more widely distributed sampling locations within the floodplain and analysis at multiple scales. In addition, LTRMP responsibilities would be expanded to include broader responsibilities for HREP monitoring and support for the habitat needs assessment (HNA).

2. As an early effort in FY 98 or FY 99 the previously mentioned HNA would be conducted to identify objectives and opportunities for habitat protection, restoration, and enhancement. In general, the assessment would include a description of historical and existing habitat conditions, as well as an identification of objectives for future habitat conditions. Such an assessment would help guide the selection and design of HREPs by defining habitat needs at system-wide, river reach, and pool scales. It would address a variety of habitat requirements, including physical, chemical, and biological parameter. Six-year updates would provide a basis for recommending future changes to Corps policies and to the EMP authorizing legislation, including funding. Every six years, a Report to Congress would be provided. Given that the EMP would be authorized as a continuing program, it is recognized that periodic adjustments may be needed. The Report to Congress would describe program accomplishments, including progress toward meeting the needs identified in the Habitat Needs Assessment, and recommend program modifications, if necessary, to achieve habitat restoration and protection objectives. Congressional action

would be required to amend Section 1103 to provide continuing authority subject to the Report to Congress every six years and subsequent Congressional reauthorization. This Congressional reauthorization would increase the authorized funding level and institutionalize further reporting to Congress on a six-year schedule. Corps of Engineers policies including those related to acquisition of real estate interest, upland sediment control, 50-year project life, and demonstration projects would also be clarified or revised.

#### COORDINATION

The Rock Island District Corps of Engineers was responsible for preparing and coordinating this report, consolidating information from other agencies and interested parties, formulating the alternatives, and finalizing the conclusions and associated recommendations. During the course of the report preparation, there was active and extensive participation and input from the Upper Mississippi River Basin Association and the Environmental Management Program-Coordination Committee. Both these organization have representatives from the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The Environmental Management Program-Coordination Committee also has representatives from the Fish and Wildlife Service, the Geological Survey, the Environmental Protection Agency, the Department of Agriculture, and Department of Transportation. The District also coordinated this report with numerous other Federal, state, and local agencies and groups.

#### PUBLIC INVOLVEMENT

The draft report had extensive review by members of the general public and governmental and non-governmental organizations. The reporting officers distributed approximately 400 copies of the report. In addition, a Notice of Availability and Public Meeting Announcement were sent to over 9,000 addresses. The reporting officer conducted five public meetings. Every effort was made by the reporting officer to ensure all concerned parties had an opportunity to comment on the draft report.

## REVIEW AND AUTHORIZATION PROCESS

Prior to forwarding the Upper Mississippi River System-Environmental Management Program report to Congress, the report will be reviewed by the Chief of Engineers and Assistant Secretary of the Army for Civil Works. A coordinated review, including states and other Federal agencies, will also be accomplished at that time. Upon completion of his review the Chief of Engineers will forward the report with his recommendations to the Secretary of the Army.

If the Chief of Engineer's recommendations are significantly different from the program modifications, and recommendations coordinated with state and Federal agencies, interested parties will be afforded an opportunity to comment further prior to submission of the Chief's report to the Secretary. The Assistant Secretary of the Army, in consultation with the Office of Management and Budget, then establishes the Administration position on whether the proposal should be recommended to Congress for reauthorization.

## VIEWS OF INTERESTED PARTIES

Interested parties may present written views on the report to the Chief of Engineers and the Secretary of the Army, through the Headquarters of the U.S. Army Corps of Engineers. Such communications should be mailed and received by the U.S. Army Corps of Engineers, Attn: CECW-PC, 20 Massachusetts Ave., Washington, DC 20314-1000, within 30 days from the date of this notice. Copies of information received by mail will be regarded as public information unless the correspondent requests otherwise. Such a request will limit the usefulness of the information because of the need for full public disclosure of all factors relevant to the decision.

## FINAL ACTION BY THE CHIEF OF ENGINEERS

The Chief of Engineers will not submit a recommendation to the Secretary on the report until after the expiration of this notice or any extension thereof that may be granted and full consideration of all information submitted in response thereto.

REPORT INFORMATION

Further information may be obtained from the District Commander, U.S. Army Engineer District, Rock Island, P.O. Box 2004, Rock Island, Illinois 61204-2004. Interested Parties may obtain copies of the URMS-EMP report from the District Engineer free of charge as long as copies are available. Additional copies of the report will also be on file and available for public review at libraries throughout the study area. Please pass along a copy of this public notice to anyone who may be interested in the report and who has not received a copy.



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Commanding