

ALTERNATIVE MECHANISMS
For Formulating an
ECOSYSTEM MANAGEMENT STRATEGY
for the UPPER MISSISSIPPI RIVER

April 1994

Discussion Draft
Prepared by the staff of the
Upper Mississippi River Basin Association

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INTRODUCTION

River resource managers, scientists, and environmental advocates have grown increasingly frustrated with the inability of existing institutions and government programs to effectively address the decline in the quality and diversity of the Upper Mississippi River ecosystem. The concept of comprehensive ecosystem management has developed widespread appeal and is being promoted by a variety of organizations. In particular, the Upper Mississippi River Conservation Committee (UMRCC) has called for the development of an ecosystem management strategy in its recent publication "Facing the Threat: An Ecosystem Management Strategy for the Upper Mississippi River."

In recognition of the fact that one of the challenges in applying ecosystem management is the development of institutional capacity, the Upper Mississippi River Basin Association agreed to undertake an evaluation of alternative mechanisms for formulating an ecosystem management strategy. The following report includes an assessment of ten options, prefaced by a number of assumptions upon which the evaluation is based. For each of the alternatives, a general description of the mechanism is provided, followed by discussion of how it might be applied to the Upper Mississippi River, what would be required to initiate the process, and how the initial planning might be linked to subsequent implementation. The following institutional alternatives are evaluated:

- Environmental Management Program
- Upper Mississippi River - Illinois Waterway Navigation Study
- Section 1135 Modification Projects
- Section 22 Planning Assistance to States
- Special Corps of Engineers Study Authority
- U.S. Fish and Wildlife Service Leadership
- U.S. EPA Leadership
- State Leadership
- Coastal America Concept
- Interagency Commission

ASSUMPTIONS

- Ecosystem management has not been precisely defined and proponents continue to struggle with its meaning and implications, particularly for a large river system such as the Upper Mississippi. While it would be helpful if there was a broadly-based consensus regarding the scope and objectives of ecosystem management, it is not a prerequisite for exploring institutional issues.
- While it will ultimately be necessary to evaluate institutional mechanisms for actually managing the river ecosystem, until such time as the management objectives are defined and endorsed, such an exercise may be abstract. Therefore, the first step must be development of an "ecosystem management plan."
- The formulation of a meaningful ecosystem management plan will not occur on an ad-hoc basis. Existing institutions and agencies are not currently positioned to engage in either unilateral or interagency ventures of the scope that are required.
- While it is recognized that there is a vast array of potential alternative approaches that could be used to develop an ecosystem management strategy, the ten options evaluated in this report were judged to be the most viable.
- Cost and time requirements for development of an ecosystem management plan have not been defined, but are assumed to be generally similar under alternative institutional arrangements. While such parameters will eventually require estimation, they will not be addressed in this evaluation.
- In so far as ecosystem management is based upon the articulation of a desired future condition that reflects public values, it must provide for the direct involvement of the full range of stakeholders. The participation of environmental groups, business and industry, local units of government, and individual citizens will be critical. This challenge will be inherent in whatever institutional mechanism is utilized. However, this evaluation is confined primarily to considerations regarding the participation of managing government agencies.

ENVIRONMENTAL MANAGEMENT PROGRAM

Description

In response to recommendations contained in the Upper Mississippi River Basin Commission's "Master Plan," the 1986 Water Resources Development Act included an authorization for the Corps of Engineers to undertake a number of specific actions on the Upper Mississippi River System including:

- a program for the planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement
- a long term resource monitoring program and computerized inventory and analysis system
- a program of recreational projects
- an assessment of the economic benefits generated by recreational activities
- navigation traffic monitoring.

These authorities, contained in Section 1103 of P.L. 99-662, have come to be known as the Environmental Management Program. The authorization is currently scheduled to expire in the year 2002.

The authorizing legislation set forth a variety of cost-sharing requirements. If EMP habitat projects are on lands managed as a national refuge, the costs are 100 percent federal. However, nonrefuge projects require a nonfederal sponsor to contribute 25 percent of the cost. The monitoring program and the recreation study, which has now been completed, are both federally funded. The recreation projects require a 50 percent nonfederal cost-share. However, this element of the EMP has never been implemented.

Although the Corps of Engineers is the EMP lead agency, the program has an interagency character. Funds are transferred from the Corps to the Department of the Interior (National Biological Survey) for implementation of the long term resource monitoring program. In addition, the basin states are partners in the program, with involvement in all levels of project planning and many of the specific field monitoring efforts. Although the EMP authorizing language does not specify how these various parties to the program are to collaborate, an elaborate system of committees, teams, and forums is being utilized to coordinate the efforts.

Application to UMR Ecosystem Planning

While the EMP, as currently administered, has fairly narrowly focused objectives and results, it is widely acknowledged to be the most comprehensive effort for environmental analysis and restoration action currently in existence for the Upper Mississippi River System. In its current form, however, it does not reach broadly enough in either geographic scope or management action, to address what is generally viewed as the full range of ecosystem management issues. Nevertheless, there are a variety of different ways in which the EMP could potentially be utilized for UMR ecosystem planning:

- The operating plan for the Long Term Resource Monitoring Program (LTRMP) could be adjusted to more directly embody development of an ecosystem management plan. At least from a scientific perspective, many of the ingredients for such an exercise are already contained in the LTRMP data collection, monitoring, modelling, and research efforts. However, a specific plan formulation process, structured to accommodate the evaluation of management actions, would presumably be required. One of the components of the current LTRMP operating plan is the development of "alternatives to better manage the Upper Mississippi River." However, as currently designed, this effort is limited in its capacity to accommodate a full scale planning venture. The LTRMP operating plan indicates that "the LTRMP cannot independently develop specific management objectives for the UMRS. However, the LTRMP can provide information to the resource management agencies for the development of management plans. The UMR natural resource agencies responsible for river management, after receiving LTRMP information, need to identify alternative resource management objectives that are ecologically and socially realistic."
- The habitat projects component of the EMP could be utilized to, at least partially, accommodate ecosystem planning. This would, however, require adjustments to the current way in which habitat projects are formulated. The existing process for identifying, planning, and prioritizing EMP habitat projects does not utilize a systemwide integrated approach, nor is it based on specific systemwide ecological objectives. Over the years, some have argued that a more analytical planning process should be employed. In 1992, an example of how an integrated methodology might be utilized was discussed but never pursued. Although restructuring the planning framework for EMP habitat projects would not in itself constitute an ecosystem planning function, it could potentially provide a framework for a broader effort.
- In contrast to building an ecosystem planning effort on either the LTRMP or habitat project elements, it may be possible to establish a separate and distinct "planning" element within the broader context of the EMP. A variety of specific provisions in the EMP authorizing legislation could potentially be combined as justification for a more generalized ecosystem planning function. In particular, Section 1103(e)(1)(A) simply authorizes "a program for the

planning, construction, and evaluation of measures for fish and wildlife habitat rehabilitation and enhancement.” While this very general language is the basis for the EMP habitat projects program as it currently exists, it could be interpreted in a much broader fashion. Secondly, Section 1103(b)(2) directs the Corps, in consultation with the Department of Interior and the states, to “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” under those portions of Section 1103 related to lock capacity expansion and navigation traffic monitoring. Although this provision has never been implemented, it also would suggest that authority exists for conducting at least some systemwide ecological planning. And finally, Section 1103(e)(2) requires that, before the end of the EMP authorization period, a report to Congress be prepared that would evaluate the EMP’s effectiveness and recommend future actions.

All three of these provisions in the legislative language, at least theoretically, could be interpreted to confer a broad sort of ecosystem planning function on the Corps. If a separate ecosystem planning activity was undertaken within the context of the EMP it would, however, divert funds from the existing program elements, namely the LTRMP and/or habitat projects.

Regardless of whether one of these or another mechanism for accomplishing ecosystem planning under the EMP is employed, coordination forums currently exist for bringing many of the necessary parties into the process. Presumably, the Corps would have the lead agency role, unless the LTRMP was utilized as the planning framework, in which case, NBS would likely take the lead. States and other federal agencies could be involved via the EMP Coordinating Committee. Alternatively, it may be possible to utilize the Upper Mississippi River Basin Association under the authority of Section 1103(d)(2), which authorizes the Corps to enter into agreements with the Association to “promote and facilitate active State government participation in river system management, development, and protection.”

Any ecosystem planning effort undertaken under the auspices of the EMP would likely be limited to the navigable portions of the river due to the definition of “Upper Mississippi River System” that is used in the authorizing legislation. Based on prior policy decisions and interpretations, larger watershed planning efforts would probably not be possible.

Initiation

In order to accommodate ecosystem planning within the context of the EMP, the program would need to be changed either by reinterpreting the original authorizing language or seeking a legislative amendment. A reinterpretation would presumably require agreement among all the EMP parties and, most importantly, policy guidance and support from the Assistant Secretary of the Army for Civil Works. While the

language of the EMP authorizing legislation is sufficiently general that it could theoretically serve as the basis for a broad range of planning activities, powerful precedents have been set since the program was established in 1986 and may constrain the ability or willingness of the Corps to utilize EMP authority for any activities other than those currently underway.

If it is judged impossible to make the necessary adjustments administratively, the original EMP authorizing legislation could be amended by Congress. Such an amendment could take on a variety of forms, including the addition of an entirely new section or modification of language describing existing EMP program components. Congressional action on Corps authorizations follows a biennial schedule. Rapid action would be necessary if the amendment were to be considered for inclusion in the 1994 bill.

NOTE: In addition to the various ways in which an ecosystem planning component might be directly incorporated into the EMP, the EMP offers an opportunity to make specific more wide-ranging recommendations to Congress. The report to Congress, which is required by the EMP authorizing legislation, could be a vehicle for recommending virtually any new authorities or programs for ecosystem management.

Linkages to Implementation

Utilizing the EMP for the development of an ecosystem management plan may offer the opportunity to implement at least some of the components of that plan through EMP habitat projects, an obvious and direct linkage to implementation. However, with the EMP authorization currently set to expire in 2002, there may be insufficient time to make this connection unless the EMP is extended. In addition, EMP projects would likely be only one mechanism for implementing a comprehensive ecosystem management plan. The extent to which agencies other than the Corps would be committed to implementation of other features of the plan is not clear, even though it is likely that those agencies would be participants in the planning process.

If an ecosystem management plan was developed within the EMP framework, the report to Congress, which is required by the authorizing legislation, could be used to recommend specific implementation actions that may be necessary to implement the plan at the federal level.

UPPER MISSISSIPPI RIVER - ILLINOIS WATERWAY NAVIGATION STUDY

Description

The Corps of Engineers is currently undertaking a study of the Upper Mississippi River System, including the Illinois River, to assess the need for navigation capacity expansion and the impacts of providing additional lock capacity. The Reconnaissance level study was completed in 1991 and the Feasibility Study, which is planned to take six years, was initiated in 1992. Original cost estimates for the study were approximately \$23 million. However, in response to concerns expressed by the states, navigation industry, and environmental organizations, an additional \$10 million was budgeted. Most of those additional funds will support site-specific engineering work, although some additional funding was allocated for environmental and recreation studies. With inflation adjustments, the total feasibility phase costs are currently estimated at approximately \$40 million.

The navigation study has three primary components: economic, engineering, and environmental studies. Of most direct relevance to the concept of ecosystem management are the environmental studies that will be conducted. A variety of scientific investigations and modelling will be undertaken to identify the effects that increases in navigation traffic will have on environmental resources, including fish and wildlife habitat, water quality, and recreation.

Although the navigation study is being conducted under the Corps of Engineers' authority to review and recommend modifications to projects which it constructed (Section 216 of the Flood Control Act of 1970), a variety of forums have been established to facilitate the input of other federal agencies and states. A Navigation Environmental Coordination Committee (NECC) provides guidance on the environmental studies while an Economics Coordination Committee (ECC) and an Engineering Coordination Committee (EngCC) provide similar opportunities for input into other elements of the analysis. In addition, a Governors Liaison Committee, comprised of representatives appointed by each of the five basin state Governors, offers the states an additional forum for sharing their views on the study as a whole.

Application to UMR Ecosystem Planning

When the Corps' plans for the navigation study were first unveiled, the states and the Fish and Wildlife Service expressed significant concerns about the adequacy of the environmental components of the study effort. The Upper Mississippi River Basin Association submitted comments on the Initial Project Management Plan (IPMP) in December 1992. Among other things, the states argued that the Corps had an obliga-

tion to undertake a comprehensive ecosystem planning effort as part of the proposed navigation study. "The feasibility study must be a truly systemic comprehensive study. Its environmental component must address the full range of ecosystem management issues beyond those of navigation traffic impacts alone and design a total resource management agenda for the river."

In an "executive session" of the Reconnaissance Review Conference on December 10, 1992, Acting Assistant Secretary of the Army for Civil Works Ed Dickey responded to the states' concerns about the scope of the environmental studies by explaining that development of natural resource objectives for the system was not considered to be an appropriate component of the navigation study. While the Corps study would evaluate environmental impacts, assess the need for mitigation, and include necessary EIS documentation, a broader environmental or ecosystem planning component would require cost sharing with a nonfederal sponsor. As required in Section 105 of the 1986 Water Resources Development Act, all Corps of Engineers' feasibility studies, with the exception of those for inland navigation improvements, require that a nonfederal sponsor contribute 50 percent of the study cost, with in-kind services limited to one half of that amount. Dr. Dickey implied that the Corps would be willing to undertake an ecosystem planning effort on the UMR as part of the navigation study if the states were to agree to meet the cost-share requirements. More specifically, in April 1993 when Dr. Dickey wrote to each of the Governors requesting designation of a point of contact for the navigation study, he again indicated that "if the states so request and offer the required cost sharing, we will include appropriate non-navigation studies within the context of the navigation study."

If the states were to take up this offer, it is not clear how an ecosystem planning effort would be integrated with the on-going navigation study. However, it is assumed that the states and the Corps would collaborate on defining the study scope and work tasks. Presumably, a wide variety of issues could be addressed in such an undertaking, although it would likely be limited to those management actions which the Corps of Engineers had authority to implement either unilaterally or in financial partnership with nonfederal interests.

The study would require execution of a feasibility study cost-sharing agreement that defines the purpose and scope of the study and the responsibilities of the signatories to the agreement. It is likely that the states would combine their resources for purposes of such a venture, either through the Upper Mississippi River Basin Association or an interstate agreement structured specifically for the purpose of collaboration on the feasibility study.

Initiation

Given the fact that Ed Dickey no longer serves as Acting Assistant Secretary of the Army, it is not entirely clear that his offer to work with the states on expanding the navigation study to accommodate an ecosystem planning component is still a viable option. The Administration's new appointees would need to be briefed on the back-

ground of this issue. The first step in initiating such an effort would be for the states to express their collective interest through the Corps chain-of-command or directly to the new Deputy Assistant Secretary. The Governors Liaison Committee for the navigation study could offer a mechanism for both initiating such an offer and subsequently negotiating the necessary agreements.

It is not clear if Congressional authorization would be necessary. Typically, such authorization is required. However, since Dr. Dickey has previously implied that an ecosystem planning effort could be made part of the navigation study, which is already underway under existing authority, additional Congressional action may not be necessary. However, if Congressional authorization were required, it may be possible to utilize the 1994 Water Resources Development Act as an authorization vehicle if all parties were in agreement.

Funding may be a more challenging hurdle. Presumably the navigation study budget would have to be increased or a separate study appropriation secured. In either case, the Corps' FY 1995 budget has already been submitted to Congress, and a Congressional add-on would therefore be required if the study were to proceed immediately. In addition, before federal funding was made available, the states would need to secure the funds necessary to satisfy the nonfederal share or at least make the necessary commitment to provide those funds.

Linkages to Implementation

In so far as Corps feasibility studies are typically designed to result in a "project" to be implemented, the potential linkage to implementation is inherent in the process. However, as previously discussed, features of the plan, which could proceed to implementation as a natural transition from the feasibility study, would be limited to those for which the Corps has authority or for which authority could be obtained from Congress. While the latter could theoretically include nearly anything, in reality, it would likely be constrained by historical precedents for Corps authorities.

Even if the planning process included evaluation of potential management actions outside the Corps' traditional authority, it may be difficult to implement those features which fall under the jurisdiction of other agencies. Presumably, those other management agencies would be participants in some fashion in the study process. However, their obligation or ability to shape their own programs to conform with a plan formulated by another federal agency is by no means assured.

SECTION 1135 MODIFICATION PROJECTS

Description

Section 1135 of the 1986 Water Resources Development Act authorizes the Corps of Engineers "to review the operation of water resources projects constructed by the Secretary to determine the need for modifications in the structures and operations of such projects for the purpose of improving the quality of the environment in the public interest." The projects that result from such a review are known as Section 1135 projects.

Although the general objective of the Section 1135 program is to improve the quality of the environment, Section 1135 projects must be directly associated with a permanent project previously constructed by the Corps under its construction authority. Proposals for Section 1135 must be associated with either a modification in the structure or operation of a project and be consistent with the project's originally authorized purpose. In addition to this basic eligibility threshold, there are a number of other specific criteria that Corps guidance documents indicate must be met:

- The emphasis of the project modification should be restoration of degraded habitats to their natural (modern historic) integrity, productivity, stability, and biological diversity. Projects that change the existing natural productivity of an area to benefit one or more species not normally found in that habitat are not included under Section 1135.
- There must be a clear connection between the location of the proposed modification and the original project. If work is proposed on lands which are not either project lands or contiguous to project lands, then the project modification location must clearly be within the area impacted by the original project.
- Acquisition of additional lands should be kept to a minimum.
- Modifications may address degradation that was not caused by the existing Corps project as long as the resource is not restored beyond modern historic conditions, it is the most efficient means of restoring the resource, and only existing project lands are required.
- Modifications designed primarily to halt erosion or to control sedimentation are not eligible.
- Although a traditional cost-benefit ratio is not required, "tangible and intangible" benefits must be judged to exceed the "tangible and intangible" costs.

Benefits should be quantified in appropriate units such as increased numbers of nests or habitat units.

- Recreation cannot be the primary output of the proposed modification, although increased recreation may be incidental to and one measure of the value of the improvement in the fish and wildlife resources.

All Section 1135 projects require a nonfederal sponsor such as a state agency, a local government, or even a private interest or nonprofit environmental organization. The nonfederal sponsor must contribute 25 percent of the project cost and take responsibility for 100 percent of the incremental operation and maintenance associated with the modification after it is completed. In addition, the nonfederal sponsor must provide all necessary lands, easements, and rights-of-way. However, those costs can be applied to the 25 percent cost-share requirement. In-kind services cannot be credited to the nonfederal cost-share. The initial costs associated with development of the project proposal, feasibility level studies, and plans and specifications will be funded by the Corps. However, if the project is ultimately implemented, the costs of the study and plans and specifications become part of the total cost to be shared 75% federal and 25% nonfederal.

The original authorizing legislation sets an annual ceiling of \$25 million for the Section 1135 program as a whole. Any individual project over \$5 million requires specific authorization by Congress and any project over \$2 million requires review by the Washington Level Review Center. Although the Corps' FY 1994 budget for the Section 1135 program was \$8.13 million, the Administration's FY 1995 budget request would reduce that amount to \$5 million.

Application to UMR Ecosystem Planning

The fundamental purpose of Section 1135, namely restoration of degraded habitats, is consistent with ecosystem management. However, utilizing Section 1135 for that purpose would require that the effort be framed within the context of an existing Corps project. In the case of the UMR, it is most likely that the 9-foot channel project, specifically the locks and dams, would be the Corps project to be modified. Defining ecosystem management in this context would obviously limit the range of actions that might be studied or undertaken.

It may also be possible to define the Corps flood control system as the project to be modified under Section 1135. However, the Corps' guidance on Section 1135 specifically excludes application of Section 1135 to Corps projects constructed under the generic Disaster Relief Acts and P.L. 84-99. This would appear to eliminate consideration of many levee modifications. However, since the 1993 flood, the Corps has actively sought Section 1135 project opportunities associated with levee breaches. The catalogue of federal programs applicable to floodplain management, which the Administration published to assist in the 1993 flood recovery, describes the Section 1135 opportunities as "installation of gated culverts in Corps levees, opening oxbows

cutoff by Corps levees or navigation features, or realignment of a levee to allow areas between the levee and the channel to revert to historic floodplain habitat.”

To be as comprehensive in scope as possible, an ecosystem planning effort for the UMRS under Section 1135 may require combining all Corps projects on the Upper Mississippi River as one unit. Such a “packaging” may challenge the limits of common practice and thus present major difficulties. Even if such a creative approach could be pursued, it would still be limited to consideration of modifications to those Corps projects alone. While that may indeed cover a substantial portion of the ecosystem management concerns on the UMR, it would obviously fail to address actions under the authority of other agencies. In addition, Corps guidance on the Section 1135 program describes a variety of eligibility criteria that may be especially limiting for a UMR ecosystem planning project. In particular, project modifications which are designed for sedimentation control or which require substantial land acquisition could not be addressed.

Under a Section 1135 ecosystem planning approach, the Corps of Engineers would have primary responsibility for the study effort. Presumably the states would be the nonfederal sponsor, although opportunities would certainly exist to include local units of governments and nonprofit organizations as well. The mechanism for defining the relationship and responsibilities of the parties would be a Project Cooperation Agreement (PCA) or Memorandum of Agreement (MOA). It may be possible to have each of the states enter into this agreement with the Corps individually and independently. Alternatively, the Upper Mississippi River Basin Association could act as the agent for the states collectively. Presumably this would require that each state contribute its share of the nonfederal contribution directly to the Association.

While there are mechanisms available in the Section 1135 authority for the direct and substantial involvement of nonfederal parties, it is less clear how federal agencies other than the Corps of Engineers would participate. However, the Section 1135 statutory language specifically directs that the Corps “coordinate any actions taken pursuant to this section with appropriate Federal, State, and local agencies.”

One of the potentially complicating factors in applying Section 1135 to ecosystem management on the UMR is the provision regarding operation, maintenance, repair, rehabilitation, and replacement (OMRRR). Current Corps guidance requires that the nonfederal sponsor be responsible for the incremental OMRRR associated with the project modification. Given the fact that modifications of the Corps’ projects on the UMR would likely involve, among other things, the operation of the lock and dam system, it is not clear how nonfederal sponsors could satisfy this requirement.

Initiation

The first step in any Section 1135 project is the preparation of an Initial Appraisal Report (IAR) for submittal to Corps Headquarters. Funding of up to \$2500 is available for the preparation of this report, which although very brief, has specific compo-

nents it must include. The IAR must include a letter of intent from the nonfederal sponsor stating its willingness and ability to participate and a map of the proposal. The IAR may be submitted at any time during the year.

If the IAR is approved, funds are provided for the feasibility study phase. In general, the study costs should not exceed 10 percent of the total cost of the proposed project modification. In the case of a comprehensive UMR Section 1135 project, it is not at all clear what that total cost would be, although it would presumably need to be estimated in advance of the planning effort. Feasibility studies are typically intended to be completed in less than 2 years.

It is assumed that any comprehensive ecosystem project for the UMR would exceed \$5 million and thus require specific authorization by Congress. However, it is not clear whether this authorization is required before the feasibility study phase can proceed. In any case, given the fact that Congress currently utilizes a biennial schedule for acting on project authorizations, it is not likely that approval could be obtained until at least 1996.

Linkages to Implementation

Since a Section 1135 project is defined as a modification to an existing Corps project, it is by its very nature directly linked to implementation. From the very outset, the IAR defines the specific anticipated structural or operational modifications that the project will include. The total cost of the project includes the cost of implementing those features. In fact, Corps guidance indicates that "a report or study, in and of itself, is not a modification for purposes of Section 1135(b). Therefore, study only proposals will not be funded."

While implementation is an inherent part of Section 1135, as previously discussed, it would not address management actions outside of the jurisdiction of the Corps of Engineers and would thus have no relationship to the implementation of many components that are generally assumed to be part of comprehensive ecosystem management.

SECTION 22 PLANNING ASSISTANCE TO STATES

Description

Section 22 of the 1974 Water Resources Development Act authorizes the Corps of Engineers to provide assistance to states "in the preparation of plans for the development, utilization, and conservation of water and related resources of drainage basins located within the boundaries of the State." This very general authority has been extended to a range of activities as diverse as flood control, water supply, water

conservation, water quality, hydropower, erosion, and wetlands evaluations. Studies vary in scope from environmental investigations for an individual reservoir to comprehensive study to establish a state water budget. Corps guidance for the Section 22 Planning Assistance to States (PAS) program suggests that "work items should be at least regional and comprehensive in scope." In this region, a recent example of a PAS study is an inventory of spill containment and diversion sites on the Mississippi River north of the Twin Cities together with a computer model to estimate travel time and fate of chemical spills in that area.

Current Corps guidance for the PAS program indicates that, although the collection of new data can be part of the project, PAS is not to be used to undertake large data collection efforts. Nor is the program to extend to the preparation of site-specific structural designs. Just as the program's name suggests, it provides a means for states to secure the Corps' particular expertise in general "planning" relevant to water resources. It is not a grant program.

While there is, theoretically, considerable latitude in the scope and purpose of PAS endeavors, they are typically of limited scale and duration. This is partly a function of the fact that they are usually initiated by a single state as a supplement to its own planning efforts. Although Corps guidance acknowledges that some work items may require several years effort, multi-year projects need to be phased so that discrete portions can be accomplished within one fiscal year.

The rather modest scale of most PAS projects is largely due to funding constraints. Annual appropriations for the PAS program are limited by law to \$6 million, with no more than \$300,000 for any one state in a given fiscal year. In FY 1994, the appropriation for the PAS program nationwide was \$2.9 million. However, the Administration's FY 1995 budget request would reduce that amount to \$2 million.

Phased cost-sharing for the PAS program was instituted in FY 1991 and now stands at 50 percent. Although the 1992 Water Resources Development Act provided that up to half of the states' share could be satisfied by in-kind services, the Corps has indicated that it will not accept in-kind services for any portion of the sponsor's share.

Application to UMR Ecosystem Planning

At least in theory, the PAS could be utilized as a mechanism for development of an ecosystem plan for the Upper Mississippi River. The Corps would have ultimate responsibility for data collection, analysis, modelling, and plan formulation. However, the specific scope, goals, and work tasks would be mutually agreed to by the sponsor(s) of the project and set forth in the cost-sharing agreement.

Presumably, utilization of the PAS program would require an agreement among the basin states to jointly apply for PAS assistance, an approach that apparently has no precedent. Assuming that each of the five states was willing to apply its \$300,000 annual cap to a UMR ecosystem planning project, the combined pool of federal assis-

tance could theoretically total \$1.5 million. The states would be required to match that amount, presumably with \$300,000 per state. It is not clear whether the Upper Mississippi River Basin Association could function as the non-federal sponsoring agent given its legal standing as a 501(c)(3) nonprofit organization.

One of the eligibility requirements for a PAS proposal is that it be consistent with the state's water plan. While the state plan need not be formal, if the five states were eager to apply for UMR ecosystem planning assistance, they would likely need to demonstrate that the project was related in some fashion to the states' overall water planning efforts and priorities.

In so far as the PAS program is designed to accommodate a "contract for services" relationship between the Corps and states, the participation of other federal agencies and private parties is not clear. It is clearly important in the UMR that other agencies be involved and it is possible that an informal structure for such participation could be devised. However, it is highly unlikely that other federal agencies would be considered official parties in the planning process and certainly not parties to the cost-sharing agreement.

Initiation

Each state has a single point-of-contact for the state's PAS requests. It is assumed that these individuals would be directly involved in developing a joint multi-state request for UMR ecosystem planning. Assuming the five states were to agree to submit a joint proposal to the Corps, it would need to be offered no later than May of any given year to be eligible for consideration in the federal fiscal year beginning on October 1 of the following year. However, the initial breakdown of funds available for PAS projects in each Corps Division in that fiscal year is made by Corps headquarters in March. It is therefore likely that any request, particularly one of the magnitude and complexity of a multi-state project on the UMR, would require significant lead-time.

Corps Divisions are responsible for prioritizing PAS work requests within their states. The UMR project would thus "compete" against other projects submitted by states within the region. Since the entire PAS program nationwide is included under a single line item in the Corps' General Investigation, Congress has no direct control over the allocation of funds to specific PAS planning projects. However, it is not uncommon for Appropriations Committee Report language to direct that specific studies be undertaken, particularly if they require that a state's full \$300,000 be provided. It is highly likely that such Congressional intervention would be required to assure that any UMR ecosystem planning effort would proceed.

If PAS funding was secured, a cost-share agreement would need to be negotiated between the states and the "performing Corps District." Under ordinary circumstances, these agreements require Division-level approval only. However, given the potential complexity of a multi-state project, it is safe to assume that headquarters involvement will be required.

Linkages to Implementation

Mechanisms for assuring that the results of a PAS planning project are implemented are certainly not clear. In a typical PAS study, it is assumed that the sponsoring state agency has both the willingness and authority to pursue the necessary measures to effect the plan or otherwise utilize the results of the study. However, since many of the key agencies, such as the Fish and Wildlife Service, which are assumed to be instrumental in implementation, are not official parties to the planning agreement, it is difficult to anticipate how their management authorities and actions would be integrated. It is, however, possible that the product of a PAS planning effort could be utilized by the states as a framework for advocating any federal actions that may be necessary to implement a comprehensive ecosystem management plan.

SPECIAL CORPS OF ENGINEERS STUDY AUTHORITY

Description

Congress routinely authorizes the Corps of Engineers to undertake specific water resource studies. Although each of these study authorities is unique, an example with similarities to the Upper Mississippi River is the study recently authorized for the Kissimmee River.

By way of background, the Kissimmee River Flood Control Project, constructed by the Corps of Engineers over a 10-year period beginning in 1961, pre-dated much of this nation's contemporary environmental protection legislation and policies. After 30 years, the channelization of the Kissimmee River has yielded severe ecosystem degradation which the State of Florida is eager to reverse. In the 1980s, the South Florida Water Management District undertook its own studies, including physical and mathematical modeling for evaluating restoration alternatives. Then, in 1990, Congress directed the Corps to "conduct a feasibility study of the Kissimmee River ... for the purpose of determining modifications of the flood control project ... which are necessary to provide a comprehensive plan for the environmental restoration of the Kissimmee River." A report to Congress on the results of the study was required by April 1, 1992.

The Corps' feasibility study resulted in a recommended ecosystem restoration project for the Kissimmee River at a total cost of nearly \$427 million, of which \$287 million will be paid by nonfederal interests. This 15-year comprehensive restoration project was authorized for construction by Congress in the 1992 Water Resources Development Act.

Application to UMRS Ecosystem Planning

The Corps of Engineers could be authorized by Congress to develop an ecosystem management plan for the Upper Mississippi River. The scope, components, timetable, and costs of such a study effort could be prescribed in the authorizing language. In addition, the authorization could specify which other agencies should be involved in the planning process. It is difficult to speculate on how such an authorization would be structured given the range of possibilities that theoretically exist. While study authorization language is typically fairly general, it may be advantageous to specify some of the procedural or substantive features of particular concern. In the absence of specific Congressional direction, the Corps would likely frame the study in accordance with existing Corps policies and priorities. In particular, unless specific provisions to the contrary were included, the study would likely require a 50 percent nonfederal cost share, with no more than half of that amount provided by in-kind services. As described with regard to other ecosystem planning options within Corps authority, the nonfederal share could presumably be provided by some interstate mechanism pooling the states' resources.

It is likely that a special authority for the Corps to undertake development of an ecosystem plan for the UMRS would need to be distinguished in some fashion from the existing EMP authority. In particular, it may be necessary to clarify for the Congressional committees why the EMP authorization, which is generally viewed as a fairly comprehensive environmental program, is insufficient for purposes of ecosystem planning and management. From an operational standpoint, it may also be helpful to clearly specify how the two Corps programs will be integrated or at least relate to one another.

Initiation

Obtaining Congressional authorization for a special Corps authority will likely require a higher level of Congressional interest and commitment than would be the case for any Congressional action in the context of an existing program such as the EMP or the navigation study. Nevertheless, the same process would apply, with the 1994 Water Resources Development Act offering the most immediate opportunity for action. Administration support will be critical to the success of gaining Congressional authorization, particularly now that the Congress and White House are controlled by the same party. Even if Congressional authorization could be obtained despite Administration opposition, the likelihood of having the project proceed through the necessary budgeting process would be questionable.

Linkages to Implementation

Authorization of a study effort does not guarantee that the results of the study will be implemented. However, as previously discussed, Corps planning efforts conducted through feasibility studies are typically designed to lead to recommended construction projects. In so far as the plan addresses management actions outside of the jurisdiction

of the Corps, the relationship to implementation may be more obscure. To the extent that a variety of agencies other than the Corps are fully engaged in the planning process, the chances that they would be willing and able to effectuate the plan would be enhanced.

Specific projects or actions that may be recommended as a result of the plan would likely require Congressional authorization and be subject to existing cost-sharing requirements.

U.S. FISH AND WILDLIFE SERVICE LEADERSHIP

Description

The U.S. Fish and Wildlife Service manages an extensive system of refuges on the Upper Mississippi River System, with total area of approximately 297,000 acres. These land management responsibilities alone would make the Service a major player on the river. However, the Service's role extends beyond the stewardship of its refuge lands. Under the Fish and Wildlife Coordination Act, the Service evaluates the anticipated impacts of proposed federal actions on fish and wildlife. The Act requires that the Service coordinate with state natural resource agencies and it has thus developed, over time, a close working relationship with the states. However, the Fish and Wildlife Coordination Act provides a largely reactive role for the Service, illustrated by its responsibility to develop avoid and minimize measures for the effects of navigation. In a more proactive manner, the Endangered Species Act directs the Service to identify and develop protection plans for threatened and endangered species as well as to evaluate the potential impacts of specific proposed actions on such species.

Given this range of authorities, the Service clearly possesses the potential to lead an ecosystem planning effort. In fact, under the leadership of Interior Secretary Babbitt and Fish and Wildlife Service Director Beattie, the entire Service is currently in the midst of evaluating how its existing programs and policies can be restructured to better support ecosystem management. The first phase of this new ecosystem focus will involve identifying the resources that are currently being used to address various Service priorities and then evaluating how they work in combination. As necessary, resources will then be refocused to support overall ecosystem goals rather than isolated program objectives.

The Service recently released a memorandum describing its ecosystem approach to fish and wildlife conservation and identifying a preliminary set of ecosystem units. One of the ecosystem units identified is the "Upper Mississippi River/Tall Grass Prairie." The memorandum indicates that the 52 units nationwide will be evaluated to determine which should receive priority emphasis. Although it is not yet clear how

the Upper Mississippi will fare in this exercise, the criteria being used to conduct the evaluation certainly suggest that this unit will be highly ranked. Once priority ecosystem units are identified, a "Planning/Action Framework" will be used to set goals and implement solutions "with all appropriate partners." According to the memorandum, "the focus will be on action; planning and goal setting will be completed quickly"

It would, of course, also be possible to seek a special Congressional directive establishing the Fish and Wildlife Service as the lead agency responsible for developing an Upper Mississippi River ecosystem management plan. However, given the Service's current restructuring effort, it is not clear what the potential benefits of a legislative approach might be and whether they would warrant the additional efforts required to pursue Congressional action. In addition, it may be difficult to demonstrate the need for such an authorization in light of the Service's wide range of existing authorities and its current ecosystem initiative.

Despite the ambiguity surrounding the need for additional special Congressional authority for a Service-led effort, such an approach would undoubtedly confer a unique status on the Upper Mississippi River and likely yield additional resources. Depending upon how it is structured, a special Congressional authorization could also serve as a means of ensuring that the states and other federal agencies are involved in the project. This is essentially what is currently being considered within the context of reauthorization of the Clean Water Act. Based upon a proposal originally offered by the Izaak Walton League and the Natural Resources Defense Council, the Senate Environment Committee has included a section in its Clean Water Act bill (S. 1114) specifically addressing ecosystem restoration of the Mississippi River. As currently drafted, the legislation would direct the Service to work in coordination with U.S. EPA and the states on a newly formed Council to develop a plan for ecosystem restoration and protection. The ultimate fate of that legislation is not yet clear.

Application to UMR Ecosystem Planning

Within Region 3, the Upper Mississippi River ecosystem is likely to be one of the primary focuses of the Fish and Wildlife Service's new approach. An effort by the Service to bring an ecosystem perspective to its many and varied river-related responsibilities could be a significant boost to the development and implementation of a comprehensive ecosystem management plan for the Upper Mississippi River. Indeed, the Service's responsibilities for so many aspects of the river's biological resources make it a strong candidate for leading an ecosystem planning effort. However, its range of responsibilities is, of course, limited. Of particular note, primary responsibility for water quality rests with the states and the U.S. EPA, while the Army Corps of Engineers administers the navigation system. A Service-led planning effort would need to be structured to ensure that all aspects of ecosystem planning, not merely those traditionally related to Fish and Wildlife Service missions, are considered.

As a result, if the Service is to take the lead in developing an Upper Mississippi River ecosystem management plan, then a mechanism for coordinating with other

federal and state agencies as well as local governments, the public, industry, and environmental groups would clearly need to be developed. Given that the Service's ecosystem initiative is a high priority for its administrators and the Service has a long history of interagency cooperation on the river, establishing the necessary coordination mechanism appears to be feasible. As previously noted, a special Congressional authorization could actually specify the way in which other agencies would participate.

Redirection of Service resources could provide substantial support for ecosystem planning. However, funds from other sources would likely be required, particularly for aspects of the plan that do not fall under traditional Fish and Wildlife Service missions. Presumably these resources would be provided by the other federal and state agencies participating in development of the plan. If this effort were to take place in the absence of a special Congressional authorization, no one cost-sharing formula would be mandated.

Initiation

As discussed above, the Fish and Wildlife Service is in the process of evaluating how its many discrete authorities can be better coordinated to support ecosystem planning and management. In addition, Congress is currently considering Clean Water Act legislation that would direct the Service to undertake certain ecosystem management responsibilities on the Mississippi River. Thus, at least to a certain extent, the steps necessary to establish the Service as the lead agency for comprehensive Upper Mississippi River ecosystem planning have already been initiated. Both the Service's internal ecosystem initiatives and the legislative proposal have yet to be fully developed. However, their interrelationship will likely be a significant issue that will need to be resolved if the Service is to have a lead role in UMR ecosystem planning.

Because the current Service initiative is largely focused on how its programs and policies relate to one another, the Fish and Wildlife Service leadership option would require a special effort to determine how to bring other agencies and concerned parties into the planning process. The proposed Clean Water Act legislation would address this issue by establishment of an interagency Council for the Mississippi River. In the absence of such legislation, an agreement establishing a formal structure and scope for the effort and delineating participants' roles and responsibilities would presumably need to be drafted.

Linkages to Implementation

As a major land manager not only on the Upper Mississippi River but throughout the basin, the Fish and Wildlife Service would clearly be well-positioned to implement some components of a comprehensive ecosystem plan. Its other fish and wildlife protection responsibilities would also further implementation, both within its own programs and through its review of other agencies' actions. However, implementation

of a comprehensive ecosystem plan will require the participation of many other agencies and parties. To the extent that a plan developed under Service leadership came to be viewed as a Fish and Wildlife Service plan, implementation could be problematic. It would be important to ensure that the broader range of critical players have a stake in the successful implementation of the plan. The groundwork for this could be established in the multi-party agreement under which the plan would be developed. At the conclusion of the planning phase, it might well be necessary to seek Congressional and state legislation to direct implementation efforts.

U.S. EPA LEADERSHIP

Description

The EPA has a history of leadership in the restoration and protection of large aquatic systems, including the Chesapeake Bay, Great Lakes, and Gulf of Mexico. These rather high profile initiatives have typically been authorized through geographically specific amendments to the Clean Water Act (CWA) and are generally linked rather directly to the EPA's water pollution control mission. However, the Chesapeake Bay Program includes somewhat broader environmental quality mandates that are more in keeping with the scope of ecosystem planning. For example, the EPA is specifically required to consider the impacts of natural and human-caused environmental changes on the bay's biological resources.

The EPA's special focus on the Chesapeake Bay began in 1975 when Congress directed the EPA to conduct a comprehensive study of the Chesapeake Bay and its tributaries. Findings and recommendations from that research program laid the foundation for the first Chesapeake Bay Agreement signed in 1983. In that compact, the governments of Virginia, Pennsylvania, Maryland, and the District of Columbia; the Chesapeake Bay Commission (a tri-state legislative body); and the EPA agreed to develop and implement coordinated plans "to improve and protect the water quality and living resources of the Chesapeake Bay estuarine system." A second agreement was signed in 1987, expanding the previous agreement with 29 commitments to action, including a 40 percent reduction in nutrients. Also in 1987, §117 was added to the Clean Water Act, establishing the EPA's current authority to continue the Chesapeake Bay Program. Most recently, in 1992, the 1987 agreement was amended, increasing the emphasis on the bay's tributaries.

Under §117 of the CWA, the EPA is responsible for collecting and disseminating information, coordinating federal and state water quality efforts, describing sediment fate and transport, and determining the impacts of environmental changes on the bay's living resources. The EPA also administers a grant program under which states

receive up to 50 percent federal funding to implement various measures in support of the Chesapeake Bay Program.

NOTE: The EPA does have some existing national authorities that could be applicable to ecosystem planning for the Upper Mississippi River and would have the potential advantage of eliminating the need to seek a special Congressional authorization early in the planning process. However, none of these appears to be a terribly good fit. For example, the §104(b)(3) research and planning grants have historically been limited to pollution reduction and prevention. The §208 program, designed to support development and implementation of regional waste treatment management plans, has not received funding for the past 15 years. The §319 nonpoint source program could certainly lend support to some elements of ecosystem planning, but is limited in scope to nonpoint source pollutants. In addition, §319 funds are extremely limited and states have generally used them to focus on much smaller watersheds.

Application to UMR Ecosystem Planning

Taking an approach similar to that utilized in the Chesapeake Bay Program, the EPA could assume a leadership role in the planning and implementation of ecosystem management for the Upper Mississippi River. In developing an ecosystem management plan for the Upper Mississippi, the EPA would clearly need to coordinate with other federal agencies as well as state agencies, local governments, the public, industry, and environmental groups. The mandate to develop the plan would need to be carefully structured in order to ensure that all aspects of ecosystem planning, not merely water pollution control, are considered. In this regard, it might be desirable to assign the lead for developing specific components of the plan to other entities under the overall direction of EPA. The Chesapeake Bay Program has employed a rather complex committee structure to ensure appropriate representation and a balanced approach. Some kind of similar structure would presumably be necessary for the Upper Mississippi River as well.

Assuming that the ecosystem planning work would not be accomplished under existing authorities, there would be no pre-established cost sharing requirements under the EPA leadership scenario. However, it should be noted that most EPA programs do have a cost-share component. This includes national programs such as the §319 nonpoint source program as well as geographically targeted initiatives like the Chesapeake Bay Program.

Initiation

To establish the EPA as the lead agency in a comprehensive ecosystem planning effort for the Upper Mississippi River, specific authorizing legislation would clearly be required. This could most easily be done in the context of a broader reauthorization of the Clean Water Act. Such legislation is currently pending in the Senate (S. 1114) and in the House (H.R. 3948). However, if it is not feasible to take advantage of this near-term opportunity, authorizing legislation could be pursued as a free-standing bill.

Moving a separate bill through Congress would, of course, present additional challenges. Another alternative would be to begin EPA-led ecosystem planning in a more marginal way, utilizing existing authorities such as §319 or new watershed management initiatives that will likely be included in the current CWA reauthorization. This would permit some progress to be made while establishing the groundwork for special legislation when the next round of CWA amendments is considered. Working within existing authorities would require substantial support from the EPA and the state water quality agencies and would undoubtedly involve the redirection of funds.

NOTE: With regard to the pending Clean Water Act reauthorization, it should be noted that the Izaak Walton League has proposed an amendment to the CWA that is included in the Senate version of the bill (S. 1114). As currently drafted, the proposed legislation would establish an EPA/Fish and Wildlife Service-led Mississippi River Program, which would address a broad range of ecosystem management issues in addition to water quality. As previously noted, the outlook for the Senate proposal is not yet clear.

Other issues that would need to be resolved in an EPA-led effort include the division of responsibility between EPA Regions 5 and 7. Minnesota, Wisconsin, and Illinois are in Region 5, while Iowa and Missouri fall within Region 7. Given that even special program offices within the EPA generally operate within a regional office, it would appear that one region or the other would have to be given the lead. The current Senate legislation would establish a Mississippi River Program Office within EPA, to be located in one of the 10 Mississippi River states.

Linkages to Implementation

One of the primary advantages to utilizing something like the Chesapeake Bay model for developing an Upper Mississippi River ecosystem management plan is the foundation it would provide for implementation of the plan. The authorizing legislation could establish the means by which the transition from the planning to the implementation phase is to be accomplished. At the conclusion of the planning phase, it might be necessary to modify the EPA's authorities to support implementation, but the original language authorizing development of the ecosystem plan would give Congress a context for any such requests.

One of the disadvantages to giving the lead to the EPA or any other single agency is that implementation of the ecosystem plan will undoubtedly require the participation of a myriad of governmental agencies and other entities. In this regard, having the development of the plan so closely linked to any single agency may make it difficult to subsequently change the programs of other agencies to support implementation of the plan.

STATE LEADERSHIP

Description

The states of the Upper Mississippi River Basin have a long history of working cooperatively on river management issues. They have supported and participated actively in a variety of interagency organizations, including the Upper Mississippi River Basin Association and its predecessor, the Upper Mississippi River Basin Commission. Going back to the Upper Mississippi River Comprehensive Basin Study that commenced in FY 1963 and continuing through the GREAT and Master Plan processes, the states have demonstrated considerable interest in river planning. This interest continues in the present day, as evidenced by the states' initiation of the current ecosystem planning effort as well as by their commitment to providing input to the Upper Mississippi River-Illinois Waterway System Navigation Study being conducted by the Army Corps of Engineers. The states do not, however, currently have an institutional mechanism capable of developing an ecosystem management plan for the Upper Mississippi River.

Application to UMR Ecosystem Planning

Building on their past history of cooperation, the states could assume joint responsibility for undertaking an ecosystem planning effort. There appear to be four basic mechanisms for doing so. The states could:

- expand the resources and staff of an existing institution such as the UMRBA or the UMRCC;
- establish a new interstate institution expressly for the purpose of developing, and perhaps implementing, an ecosystem management plan;
- use staff from existing agencies within the states, giving one of the states lead responsibility for coordinating the effort; or
- retain the services of an independent consulting firm.

Any of these alternatives would involve a substantial commitment of state resources. It is, of course, possible that state money could be used to leverage additional funding from other sources, such as federal programs or philanthropic foundations.

Regardless of the mechanism selected, it would be essential to ensure that all relevant state agencies are involved. The states would also need to coordinate with affected federal agencies, local governments, the public, industry, and environmental groups. This coordination would presumably involve some type of consultation process or advisory committee structure.

Initiation

Depending on the mechanism selected, a state-led ecosystem planning effort might or might not require special authorizing legislation. For example, state legislation might be necessary to establish a new institution charged with preparing an ecosystem plan. Indeed, depending on its structure and authority, such an institution might require federal legislation as well. With the other options, state or departmental restrictions on expending funds for non-site-specific planning or for interstate purposes could necessitate authorizing legislation. Such restrictions might well vary among the states. In addition, any of the four options outlined above might require the passage of special funding. In the absence of specific appropriations to support the effort, funds would have to come from within existing agency resources. Depending on the number of agencies involved and the scope of the undertaking, this might be a viable option. Of course, it might be possible for some agencies to fund the effort out of existing funds while others opted for a special appropriation.

Linkages to Implementation

Given the extent of federal regulation and land ownership on the Upper Mississippi River, a state-led ecosystem planning effort would need to have extensive federal involvement in order to move smoothly into an implementation phase. Without such involvement, the states risk developing a plan that would not have the support of many of the agencies whose policies and programs most affect the river.

In addition, none of the state leadership options outlined above are likely to produce a viable institution for actually implementing ecosystem management. No single state, nor any institution formed solely by the states, would have the necessary authority to enact comprehensive ecosystem management measures. Thus, at the implementation phase, it would presumably be necessary to get Congressional involvement or seek some other means of bringing in the federal agencies as full partners. Additional state legislation might also be needed to implement components of the plan.

COASTAL AMERICA CONCEPT

Description

Coastal America was initiated in 1991 as a multi-agency effort to address environmental problems in coastal areas of the United States. The stated problem which the initiative is designed to address is that "While environmental laws and programs have accomplished much to protect ... valuable resources from long-term degradation, our traditional approach to coastal environmental protection has been piecemeal, splitting resource protection, environmental management, and public health responsibilities among a number of federal and state agencies, and in most cases, failing to integrate these concerns into development and infrastructure planning."

To respond to this lack of integration, Coastal America brings together a variety of different federal agencies, all with separate authorities, missions, and resources, to work with state and local governments on specific environmental projects. The hallmark of Coastal America is its emphasis on coordinated "problem solving," demonstrable results, use of existing authorities, and coordination among agencies with natural resource stewardship responsibilities and those with responsibility for infrastructure development and maintenance. It is not a "program" so much as a "mechanism."

To guide this integrating mechanism or partnership, a Memorandum of Understanding was signed by 10 federal agencies. That MOU describes the goals and process for coordinating and carrying out project activities. The MOU defines the primary focus of Coastal America to be: habitat loss and degradation, nonpoint source pollution, and contaminated sediments.

The 10 federal agencies which signed the MOU and thus comprise the federal partnership are:

- Department of Agriculture
- Department of the Air Force
- Department of the Army
- Department of Commerce
- Department of Housing and Urban Development
- Department of the Interior
- Department of the Navy
- Department of Transportation
- Environmental Protection Agency
- Council on Environmental Quality

Coastal America policy is formulated at the national level by a subcabinet-level committee of representatives from each of the federal signatory agencies, called the

Principals Group, and a National Implementation Team (NIT), comprised of senior level representatives from the partner agencies. Coastal America planning occurs at the regional level, where interagency Regional Implementation Teams (RITs) in seven coastal regions develop strategic action plans to address specific local problems, including a working list of priority projects for which they have pledged to develop interagency partnerships. Working with the states, the RITs have also developed region-specific action strategies to provide thematic guidance for their future work. Project implementation occurs at the local level. Within each region, site-specific coastal problems are addressed through the cooperative efforts of federal, state, local, private, and public participants. These local efforts range from removing obstructions to fish migration and constructing wetlands to reducing agricultural nonpoint source pollution from fertilizers and stabilizing eroding shorelines.

In the first year, approximately \$10 million was committed to 24 projects in 15 states. Matching funding by non-federal partners is strongly encouraged, with an original goal of 25 percent of project costs. However, in the first year, over 50 percent of total project costs were provided by non-federal sponsors. Nonfederal contributions on individual projects range from 0 to 95 percent. It is important to note that none of the federal funding devoted to Coastal America projects is "new" money. Rather, it is part of existing agency program and project budgets.

Application to UMR Ecosystem Planning

Coastal America is clearly not directly applicable to the Upper Mississippi River because it was designed to address environmental problems in coastal areas. However, it has received considerable praise as an institutional model for integrating existing programs to gain environmental benefits and has been a vehicle for promoting ecosystem and watershed management strategies more broadly. In particular, a recent Coastal America publication entitled "Toward a Watershed Approach: A Framework for Aquatic Ecosystem Restoration, Protection, and Management" lays out general ecosystem and watershed management concepts and uses three case studies as illustrations. One of those is the South Platte River Watershed, an area of Colorado, Wyoming, and Nebraska that is clearly outside the geographic scope of Coastal America.

In addition to the fact that Coastal America, as currently defined, does not apply to inland waterways, it also lacks a comprehensive planning function. With an emphasis on action-oriented problem-solving at specific locations, Coastal America does not provide a particularly good "planning" model in the traditional sense. Thus, if one of the goals in the Upper Mississippi River Basin is to formulate an integrated ecosystem management plan, the Coastal America model would require some adjustment. However, it is precisely the "action-oriented" qualities of Coastal America that make it so popular. Attempts to use the concept for more routine planning exercises may prove unsuccessful if this key ingredient is eliminated.

While state involvement in UMR ecosystem management planning is critical, it is not particularly clear how a Coastal America model would fully accommodate that

need. Both state and local agencies are intimately involved in implementing Coastal America projects, but their participation in the national and regional level strategy development is less clear. It may be possible to institute a state advisory role at the Regional Implementation Team level or to expand the MOU to include state signatories. It should be noted, however, that the latter option would substantially change the character of the Coastal America model. In particular, one of the advantages of a federal interagency MOU is that it avoids the potentially problematic political and legal issues that arise when states are official parties to such agreements.

Despite these limitations, the Coastal America model is designed to respond to precisely the types of problems which many claim plague the UMR, namely the absence of a mechanism for integrating agency programs into a unified management strategy. The first year progress report of Coastal America claims that "Coastal America's collaborative approach yields unprecedented opportunities for collective creativity in environmental problem-solving. Coastal America has fostered positive working relationships between the 'stewardship,' 'infrastructure', and 'development' agencies by encouraging collaboration rather than confrontation. The partners work together to identify and integrate appropriate legislative authorities and programs, and leverage these assets with nonfederal resources in cooperative, site-specific, action-oriented projects. Coastal America puts all these agencies on the same team, resulting in creative, proactive solutions that address environmental restoration and protection objectives while recognizing economic and infrastructure development needs. In many cases, no single agency could accomplish this alone, due to a lack of authority, funding, or resources."

Initiation

If the Coastal America framework in its current form were to be replicated in the UMR, it would require commitment and action by the Administration. This could be accomplished by either revising the existing Coastal America MOU to include inland riverine systems or by developing a similar but separate MOU for such areas. In either case, it would likely require that the approach be broadly applied to all inland systems rather than the UMR exclusively.

Given what appears to be substantial enthusiasm within the Administration for the Coastal America program, it is possible that proposals for expanding or replicating the model would be entertained. The UMR could offer itself as a "pilot" for testing the applicability of the Coastal America approach to inland rivers if a full-scale national riverine initiative did not appear to be immediately feasible. Such a proposal could be advanced through a variety of channels, one of which might be the Environmental Roundtable. The Environmental Roundtable is an ad-hoc group of federal and state agencies formed in 1991 to "work together on ecosystems research, protection and management issues in the midwest." To date, the effectiveness of that group has been limited. However, its potential could be substantial if it operated in the context of a high-level commitment by the Administration.

Theoretically, it may also be possible to establish a program similar to Coastal America by Congressional action rather than by the Administration's initiative. However, that avenue would likely yield a more formalized mechanism and sacrifice the advantages of building upon a model within the domain of the executive branch. While there are benefits to having a statutory basis, it may be more useful to explore those options in the context of an interagency commission.

Linkages to Implementation

As previously noted, the Coastal America program is focused almost exclusively on implementation, with a strong emphasis on collaborative "problem-solving" and "action-oriented" projects. It is therefore not so much a question of whether this model would lend itself to implementation activities, but rather, if it is sufficiently well-suited to the up-front planning which is widely acknowledged to be a necessary first step in the UMR.

INTERAGENCY COMMISSION

Description

There is a long history in the United States of using interagency commissions of various types to accomplish cooperative water resources planning. Among the best known of these interagency efforts were the river basin commissions authorized under the Water Resources Planning Act of 1965 and funded primarily by the federal government through fiscal year 1981. These commissions included federal and state representatives and were charged with coordinating water resources planning and development. The Upper Mississippi River Basin Commission, author of the *Comprehensive Master Plan*, was among the six commissions established under this authority. More recently in this region, Congress authorized a Mississippi River Heritage Corridor Study Commission to assess and make recommendations regarding management and protection of the river's cultural resources.

In other parts of the country, interagency commissions have been used to manage, and in some cases regulate, interjurisdictional waters. One of the oldest of these is the Delaware River Basin Commission (DRBC), formed in 1961 by the United States, Delaware, New Jersey, New York, and Pennsylvania. The DRBC has extensive powers, including water quality regulation, water allocation, rate setting, floodplain management, and capital project financing. The Chesapeake Bay Commission, first formed by Maryland and Virginia and later joined by Pennsylvania, is an example of a state-initiated effort that ultimately fostered joint federal-state action. Established in

1980 by the Maryland and Virginia legislatures to coordinate interstate planning and programs, the Chesapeake Bay Commission was a key player in crafting the 1983 and 1987 Chesapeake Bay Agreements, signed by the states and the U.S. Environmental Protection Agency.

The composition, legal foundation, mandates, and resources of interagency commissions can vary significantly. Some commissions and compacts require approval of the states as well as Congress, while others do not. Some are created for a specific planning purpose, while others have a continuing management authority. The range of official members can also vary, with some including only federal and state agencies, while others confer official status on local governments and other parties. Some have a rather narrow focus, such as hydroelectric development, while others like the DRBC are charged with comprehensive water resources management.

Application to UMR Ecosystem Planning

In many regards, an interagency commission could be ideally suited to developing a comprehensive ecosystem management plan for a complex, multi-jurisdictional resource such as the Upper Mississippi River. It would allow for the participation of all the critical federal and state agencies as full partners and could provide a mechanism for the integration of other interested parties as well. Such a commission could be established by Congress, by the states, or by the joint action of Congress and the states. This last alternative would probably be optimal in terms of the ultimate product, though admittedly more difficult initially. A commission formed solely by the states would risk inadequate federal participation while commissions established solely by Congress tend to be primarily federally-driven efforts, with states and other members restricted to largely peripheral roles.

The commission could be charged with exploring the full range of ecosystem management issues relevant to the Upper Mississippi River. This would be a distinct advantage over many of the other ecosystem planning alternatives, which would be limited in scope by restrictions on agency and program authorities.

Because the formation of an interagency commission would likely involve the creation of a specific authority, there are no pre-established cost-sharing requirements. However, with a joint federal-state commission, it is probably safe to assume that costs would be shared by the federal government and the states. This was the case with the Upper Mississippi River Basin Commission and continues to characterize interagency efforts in other parts of the country.

Initiation

There is a range of options for establishing an interagency commission for ecosystem planning. The Water Resources Planning Act of 1965 remains on the books, and it would be possible to request that the President reestablish an Upper Mississippi

River Basin Commission (UMRBC). However, the old basin commissions were focused primarily on water development issues and were in fact criticized for failing to integrate other water resource concerns such as water quality more fully into their work. Given this history, the Water Resources Planning Act might not provide an optimal foundation for advancing comprehensive ecosystem planning.

Other alternatives for establishing an interagency commission would involve special legislation at the national and/or state levels. If multiple legislative bodies are involved, significant coordination would obviously be required. Strategies to ensure the timely enactment of the desired legislation would be complex. Clearly, well-crafted authorizing language would be critical because subsequent changes would be quite difficult to make if the concurrence of Congress and the state legislatures was required. The range of commission authorities and responsibilities, the scope of the plan to be developed, the status and roles of various participants, and other key issues would need to be clearly addressed.

The federal and state agencies could, of course, create a more informal interagency working group to develop an ecosystem management plan, leaving formation of a commission to the implementation phase. This would reduce the initial hurdles for the planning effort, but would produce more of an ad-hoc effort. In particular, there would be no commission structure and staff with direct responsibility for the planning. With varying levels of commitment from the participants, it might well resemble some of the other options involving single agency or state leadership.

Linkages to Implementation

An ecosystem management plan developed by an interagency commission would likely have an advantage over a plan developed by a single agency when it comes to implementation. It would have broader credibility among the key agencies needed to implement various components of the plan because, as participants in the planning process, they would have had an opportunity to shape the plan.

In addition, the commission could serve as an implementation as well as a planning mechanism. The commission's implementation role would obviously depend on its authorizing legislation. Some commissions, such as the DRBC, have a very strong implementation role while others, including the UMRBC, have been limited to planning. Implementation responsibilities could be established at the same time as the commission's planning mandate. Such legislation would provide a relatively seamless transition between implementation and planning, but might be difficult to craft in the absence of the plan itself. Alternatively, the commission's role could be reexamined at the completion of the planning phase. This assessment could be called for under the planning authorization and would provide an opportunity for the relevant legislative bodies to consider not only the substance of the plan, but what role, if any, the commission should have in its implementation. The commission could also be restructured if necessary at this time to support implementation.

Summary Evaluation of UMR Ecosystem Management Planning Alternatives

(There are a variety of criteria which could be used to judge the merits of alternatives and a variety of perspectives on how well the alternatives meet those criteria. The following table is provided to facilitate comparison of the alternatives and should not be used as a substitute for the text.)

	Accommodates state involvement	Accommodates multiple federal agencies	Addresses full range of ecosystem issues	Precludes need for Congressional action	Precludes need for state legislative action	Has linkages to implementation of individual features	Has potential capacity to implement comprehensive set of management actions
EMP	●	●	●	●	●	●	○
Navigation Study	●	○	○	●	●	●	○
Section 1135	●	○	○	●	●	●	○
Section 22 PAS	●	○	●	●	●	○	○
Special Corps Authority	●	●	●	○	●	●	○
Fish & Wildlife Service Lead	●	●	●	●	●	●	○
EPA Lead	●	●	●	○	●	●	●
State Lead	●	○	●	●	●	●	○
Coastal America Concept	●	●	●	●	●	●*	●*
Interagency Commission	●	●	●	○	●	●	●

● likely or fully ● possibly or partially ○ unlikely or minimally

* While Coastal America has strong implementation capacity, it is relatively weak in its planning functions.



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