Habitat Rehabilitation and Enhancement Project (HREP) Planning and Sequencing Framework

I. Goals of HREP Planning and Sequencing Process

- To ensure that EMP habitat projects address UMRS ecological needs at pool, reach, and system scales by building on existing HREP prioritization mechanisms and integrating the HNA and other planning efforts into project evaluation.

- To enhance public understanding and trust in the decision-making process by making HREP evaluation criteria explicit and consistent.

- To retain the flexibility necessary to ensure efficient, effective program execution and to apply adaptive management principles to project planning, design and implementation.

II. Overview of HREP Planning and Sequencing Process

Below is a general overview of the proposed four-stage HREP planning and sequencing process. This process seeks to build upon the existing HREP selection process to create a more systemic, comprehensive approach that is transparent and accessible to project partners and stakeholders. The ecological merits of proposed projects will remain the most important factor in determining HREP priorities. Other factors to be considered will include project-specific administrative issues and consistency with overall program goals. It is important to emphasize that project implementation will not proceed rigidly in strict order of numerical rankings. Flexibility is essential; and the Corps of Engineers, in consultation with the program partners, will need to exercise reasonable judgment to resolve unexpected issues, respond to unforeseen opportunities, and ensure efficient program execution.

Fact Sheet Development:

The Fact Sheets will be developed in accordance with the attached Fact Sheet template. The developer of the Fact Sheet for a specific proposed HREP project will provide the requested information; to the extent it is available. The acquisition of new data or mapping is not required for Fact Sheet creation. However, it is expected that well thought-out projects, with information on cost and an assessment of how the project meets site specific, pool, reach and possibly system goals, will be presented. An ecological criteria checklist is also in the Fact Sheet template. This checklist (also shown as Table 1 later in this framework) will help identify the ecological factors that are being addressed by each proposed project.

This framework process addresses only the requirements for a project fact sheet. The way in which projects are initially conceived and identified, how the public is involved, and the role of potential project "sponsors" is not addressed. All of those pre-fact sheet steps are assumed to be the responsibility of the District in collaboration with EMP partner agencies.

Stage I - District Ecological Evaluation:

This first stage of the HREP planning and sequencing process is designed to review and sequence project fact sheets at the District level. A District Ecological Team (DET) will evaluate projects based on ecological factors at the pool and reach scales. In addition, the Team will identify anticipated system ecological benefits of the projects. Ecological evaluations will be completed annually by each District Team but may be postponed if a sufficient number of projects have previously been identified for planning and construction.

- The District Ecological Teams (DETs) will consist of MVP's Fish and Wildlife Work Group (FWWG), MVR's Fish and Wildlife Interagency Committee (FWIC), and MVS's River Resource Action Team - Technical Section (RRAT-tech). The relationship of the FWWG, FWIC and RRAT-tech to the River Resources Forum (RRF), the River Resources Coordinating Team (RRCT) and River Resource Action Team Executive Board (RRAT-exec) will not be affected by this HREP sequencing process. The DET's will be responsible for coordinating with their respective committee and receiving their concurrence on recommendations as is the current policy of each committee.

- Natural processes and ecological sequencing of projects will be considered as part of the Stage 1 evaluation. Ecological Evaluation Criteria will be used to determine how each project addresses pool, reach, and system goals. A draft set of Ecological Evaluation Criteria is shown in Table 1. (The criteria will have to be addressed in checklist form during the Fact Sheet creation.) The matrix in Table 2 may be used by the DETs to help visualize the regional distribution of the project objectives as the matrix will be used in Stage II to visualize the system distribution.

- The three District Ecological Teams will use similar, but not necessarily identical, Ecological Evaluation Criteria. The DETs will have the flexibility to tailor the criteria to reflect differences within the river system. Such modifications will be done in concurrence with the corresponding regional team (RRF, RRCT, or RRAT-exec.), and the System Ecological Team (described below) to ensure there is sufficient compatibility among the three Districts' criteria. The draft criteria were partially drawn from the districts' existing or previously used ranking processes, but will require consideration of the Habitat Needs Assessment (HNA), Pool Plans, and Navigation Study Objectives database and other pertinent databases to evaluate ecological habitat needs at the pool and reach scale.

- The DETs will each retain flexibility and discretion on how to address public involvement, preparation and submission of Fact Sheets, coordination and review procedures in their portions of the UMRS.

- The DETs are expected to use the Habitat Needs Assessment (HNA) to demonstrate how the proposed project will help fill the ecological habitat needs. The HNA Query tool will be used to help describe existing habitat conditions, review available Long Term Resource Monitoring Program (LTRMP) data and produce graphics as needed.

- The results of the DET evaluations, including the ecological sequencing of projects, will be forwarded to the Stage II - System Ecological Team (SET) for sequencing at a system level. The DETs will be encouraged to forward innovative projects that address significant resource needs at a pool or systemic scale, but which may not fit perfectly into the current program structure. The DETs will document their considerations for sequencing projects and provide a summary of how a project meets ecological needs at various spatial scales. This documentation will also be forwarded to the SET.

Stage II - System Ecological Evaluation:

Once proposed project sequencing has been identified at the pool and reach scale at the District level (Stage I), the System Ecological Team will conduct a system-level evaluation and sequencing of the projects forwarded by the DETs. The purpose of the system evaluation will be to judge which projects best meet system ecological needs and goals.

- System criteria will consist of the following but may be modified with the concurrence of EMP-CC:
  - Measures of how well the project meets system needs as identified in the HNA, Long Term Resource Monitoring trends data, Environmental Pool Plans and Navigation Study Environmental Objectives
  - Consistency with other habitat goals such as those identified in master plans, the North American Waterfowl Management Program, state watershed and river programs, national hypoxia/nutrient plans, etc.
  - Natural river process considerations, such as hydrology, flow distribution, floodplain connectivity, etc.
  - Sequencing of projects on the basis of their anticipated ecological and geomorphic interrelationships
  - Considerations of the project's habitat sustainability and long term durability

- The System Ecological Team will consist of an interdisciplinary team of scientists and managers from state and Federal agencies and academia, with support from the District Ecological Teams. Team size is anticipated to be 4-6 members with suggested disciplines to include:
  - Geomorphology
  - Hydrology
  - Limnology/Water Quality
  - Wildlife ecology/management
  - Fish ecology/management
  - Wetlands
  - Forestry

- The project evaluation criteria presented above (Table 1) will be used to organize complex ecological characteristics in a spatially organized spreadsheet (Table 2). The matrix can be used to visualize project objectives and their distribution with shaded cells or can be scored to assist project sequencing.

- The system ecological evaluation will be based on the information contained in project fact sheets and the District Ecological Teams' evaluations. All projects will be forwarded to Stage III with the District and System Teams' recommendations. In addition, the System Team will provide feedback to the District Teams, including a narrative outlining factors that were used to determine project sequencing and recommendations for modification of the project if necessary. This system evaluation will be done annually but may be postponed if sufficient number of projects have previously been identified for planning and construction (determination made by Program Planning Team – Stage 3).

- The SET will work closely with the DETs and District HREP managers. The DETs and managers may be contacted for technical input, project clarifications, and results of public involvement or background information as needed.

Stage III - Program Planning:
Once the best ecological projects have been identified (those that best meet pool, reach and system needs), it is reasonable to shift the evaluation criteria to the question of which administrative *mix* of projects is best, rather than attempting to identify which *individual* project is best.

- The Program Planning Team will develop an "HREP Program Plan" based upon the high priority ecological projects resulting from the previous two-stage ecological screening process and documented considerations of the DETs and SET.

- The Program Planning Team will include; the EMP-CC members representing the States, Corps of Engineers, Geological Survey, and Fish and Wildlife Service; each District's HREP manager; and the Division EMP liaison. The EMP Program Manager will lead the Program Planning Team. The District HREP managers will prepare and recommend the HREP Program Plan for review and concurrence by the entire Program Planning Team.

- In selecting among the sequenced ecological projects, the Program Planning Team will use a variety of policy and administrative considerations to determine an optimal project mix. These considerations will include:
  - Combination of innovative and proven techniques
  - Variety in types of measures
  - Geographic distribution
  - Yearly funding
  - Maintaining minimum district delivery capability
  - Cost sharing
  - Public support
  - Readiness (NEPA, permits, land availability)
  - Leveraging non-EMP funds
  - Compatibility with other river uses
  - O&M requirements

- The Program Planning Stage will have two separate phases – initiation of Definite Project Reports (DPRs) and identification of a preferred implementation sequence.
    - Initiation of DPR: This phase will identify which habitat projects should proceed to plan formulation.
    - Identification of preferred implementation: This phase will identify a preferred implementation sequencing for approved DPRs.

- The Program Planning Team in developing its recommendations, will consult, as necessary, with the RRF, RRCT, RRAT-exec., project sponsors, SET and others regarding various factors affecting project implementation (including technical input, project clarifications, results of public involvement or background information as needed). The Team's recommended package of projects (i.e., the HREP Program Plan) will be forwarded to Mississippi Valley Division (MVD) for consideration. MVD will retain final approval authority.

Stage IV – COE Management:

- MVD would retain ultimate responsibility and final approval authority on all programming and budgetary decisions.

- Authority may be delegated to the Districts for projects less than $1 million.

Table 1. Draft Ecological criteria to evaluate Habitat Rehabilitation Projects. (The DETs have flexibility to tailor the criteria with concurrence with the regional teams and SET).

Geomorphology	**Habitat**
Channel formation	Floodplain-river connectivity
Channel sedimentation	Longitudinal aquatic connectivity
Channel migration	Forest corridors
Filling between wingdams	Riparian buffers
Island erosion	Forest blocks
Backwater formation	Grassland blocks
Backwater sedimentation	Wetland blocks
Bathymetric diversity	Wetland patches
Sediment quality	
Backwater delta formation	**Biota**
Tributary delta formation	Plants species
Wind-wave erosion of islands	Animal species
Island dissection	Representative spp./guilds
Island formation	T&E Species
Island migration	Game species
Topographic diversity	Conservation targets
Upland Watershed Dynamics	Recovery plans
	Proximity of critical habitat
Water Quality	Proximity of life requisite habitat
Water clarity	
Suspended sediment	**Hydrology and Hydraulics**
Nutrients	Water stage regulation
Oxygen	Floodwater distribution
Natural toxicity (ammonia)	Current velocity
Contaminants	Flow distribution
Temperature	Water retention time
	Isolation/desiccation
	Natural hydrograph

Table 2. UMRS Habitat Rehabilitation and Enhancement Projects listed from upstream to downstream with the draft ecological criteria they address. [This table may be populated and used by the DETs and SET to visualize ecological characteristics, project objectives and their distribution in a spatial format. The DETs and SET have flexibility in the use of this table and to tailor the criteria (from Table 1) with concurrence from the regional teams and SET].

Essential Ecosystem Characteristic/ Ecological Critera	Rice Lake, MN	Long Meadow Lake, MN	Goose Lake, MN	Peterson Lake, MN	Indian Slough, WI	Finger Lakes, MN	Island 42, MN	Whitewater River, MN	Spring Lake Peninsula, WI	Spring Lake Islands, WI	Polander Lake, MN	Small Scale Drawdown, WI	Trempealeau Refuge, WI	Long Lake, WI	Lake Onalaska, WI	East Channel, WI/MN	Pool 8 Islands, Phase I, WI	Pool 8 Islands, Phase II, WI	Pool Slough, IA/MN	Blackhawk Park, WI	Lansing Big Lake, IA	Conway Lake, IA	Capoli Slough, WI	Pool 9 Island, WI	Cold Springs, WI	Harpers Slough, IA/WI	Ambrough Slough, WI	Bussey Lake, IA	Guttenberg Ponds, IA	Miss River Bank Stabilization, IA/MN/WI	Bertom-McCartney Lakes, WI	Pool 11 Islands, IA/WI	Peosta Channel, IA	Pool 12 Overwintering, IA-IL	Pleasant Creek,IA	Brown's Lake, IA	Spring Lake, IL	Potters Marsh, IL	Princeton Refuge, IA	Andalusia Refuge, IL	Big Timber, IA	Lake Odessa, IA	Huron Island, IA	Gardner Division, IL	Cottonwood Island, MO	Monkey Chute, MO	Bay Island, MO	Peoria Lake, IL	Banner Marsh, IL	Rice Lake, IL	Chautauqua Refuge, IL	Clarksville Refuge, MO	Alton Pool, IL	Pharrs Island, MO	Angle Blackburn, MO	Norton Woods, MO	Stag & Keeton Islands, MO	Sandy Chute, MO	Batchtown Mgmt. Area, IL	Pools 25 & 26, MO	Cuivre Island, MO	Dresser Island, MO	Stump Lake, IL	Swan Lake, IL	Calhoun Point, IL	Osborne Side Channel, IL	Least Tern, MO	Stone Dike Alterations, MO/IL	Schenimann Chute, MO	Fort Chartres Side Channel
Geomorphic Reach																																																																							
Floodplain Reach																																																																							
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River Mile																																																																							
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