



**US Army Corps
of Engineers** ®
Memphis District

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PUBLIC NOTICE

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PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS

Availability of Draft Integrated Feasibility Study Report and Draft Environmental Assessment (DIFR-DEA), Draft Finding of No Significant Impact (FONSI), and 404 (b)(1) Evaluation

REPLY TO:

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TITLE: Mississippi River Hatchie/Loosahatchie, Mississippi River Mile 775-736, Tennessee and Arkansas, Ecosystem Restoration Study

AUTHORITY: Section 1202(a) of Water Resources Development Act (WRDA) of 2018, Public Law 115-270 authorized the study to determine feasibility of habitat restoration for the eight identified priority reaches recommended in the Lower Mississippi Resources Assessment (LMRRA) completed in 2015. One of the eight priority reaches comprises Hatchie/Loosahatchie Mississippi River Mile 775-736 for which this DIFR-DEA has been prepared. This study is the first large-scale ecosystem restoration feasibility study to be completed for the eight identified priority reaches. This study not only identifies solutions for U.S. Army Corps of Engineers (USACE) participation within the respective priority reach but will further advance interconnection for ecosystem restoration initiatives through participation and collaboration with other conservation-focused organizations both within this reach and the remaining priority reaches. WRDA 2018 language is as follows:

*Water Resources Development Act (WRDA) of 2018, Public Law 115-270,
Section 1202*

ADDITIONAL STUDIES. (a) LOWER MISSISSIPPI RIVER; MISSOURI, KENTUCKY, TENNESSEE, ARKANSAS, MISSISSIPPI, AND LOUISIANA.— (1) IN GENERAL.—The Secretary is authorized to carry out studies to determine the feasibility of habitat restoration for each of the eight reaches identified as priorities in the report prepared by the Secretary pursuant to section 402 of the Water Resources Development Act of 2000, titled ‘Lower Mississippi River Resource Assessment; Final Assessment In Response to Section 402 of WRDA 2000’ and dated July 2015. (2) CONSULTATION.— The Secretary shall consult with the Lower Mississippi River Conservation Committee during each feasibility study carried out under paragraph (1).

LOCATION: The study area comprises a 39-mile reach, approximately 146,000 acres, of the lower Mississippi River (LMR) and the surrounding batture, the riverside area between the levee and main channel along the west bank and the riverside area between the natural bluffs and main channel along the east bank. The study area begins at the mouth of the Hatchie River at approximately River Mile 775 and extends south to the mouth of the Wolf River Harbor at approximately River Mile 736. The study area intersects several counties in both Tennessee and Arkansas. In Tennessee, the study area encompasses parts of Lauderdale, Tipton, and Shelby Counties. In Arkansas, the study area encompasses parts of Mississippi and Crittenden Counties.

TO WHOM IT MAY CONCERN: Pursuant to Section 10 of the Rivers and Harbors Act, Sections 401 and 404 of the Clean Water Act, and the National Environmental Policy Act (NEPA) of 1969, as amended, the USACE, Memphis District, is issuing this notice of the intention to construct 38 proposed measures across the study area designed to restore ecological structure and function to the mosaic of habitats along the Mississippi River and its active floodplain and an additional 2 measures designed to improve recreational opportunities, public education, and access to public spaces in the study area.

PURPOSE: The purpose and need for the proposed action are to restore habitat and ecosystem function along an approximate 39-mile reach of the LMR and its floodplain without conflicting with the existing USACE mission areas of ensuring navigation and flood risk reduction.

ALTERNATIVES: Ten alternatives were evaluated. The alternatives included a No Action Alternative and nine different combinations of locations and restoration techniques. For the purposes of NEPA, the no-action alternative serves as the baseline against which impacts and benefits of the action alternatives are evaluated.

No Action Alternative. The No Action Alternative is the future without project condition if no plan is authorized. Under the No Action Alternative, no ecosystem restoration would occur and the resources in the study area would continue to decline within and along the 39-mile reach of river.

Alternative A1. Alternative A includes 32 measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation, and water body management. These ecological measures would provide restoration to 8 habitat types including bottomland

hardwood forest (BLH), borrow areas, cypress-tupelo, meander scarps, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction activities include dike notching, woody debris traps, riprap bank protection, earthwork, grade control structures, culverts, vegetative improvements, weirs and stop log structures, bridge replacement, and river training structures. This alternative would benefit an area of 4,256 acres and provide a total of 3,110 Average Annual Habitat Units (AAHUs).

Alternative B1. Alternative B includes measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation, water management, and water body enhancement. Alternative B consists of 23 ecological measures on public lands encompassing 7 habitat types including BLH, borrow areas, cypress-tupelo forests, meander scarps, moist soil management areas, seasonally herbaceous wetlands, and secondary channels. Construction activities include dike notching, installation of woody debris traps, river training structures, bridge replacement, earthwork, riprap bank protection, vegetative improvement, hardpoints and stoplog structures, and a groundwater well. This alternative would benefit an area of 3,564 acres and provide a total of 2,205 AAHUs.

Alternative C

Alternative C consisted of 7 sub-alternatives formulated from 27 potentially combinable groupings of 58 measures. These are broken out in further detail by sub-alternative below.

Alternative C1. Alternative C1 includes measures for altered connectivity, aquatic channel enhancement, and enhancement and restoration of natural vegetation. Alternative C1 consisted of 31 ecological measures encompassing 6 habitat types including BLH, cypress-tupelo forests, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction activities include dike notching, installation of woody debris traps, riprap bank protection, vegetative improvement activities, culverts, and earthwork. This alternative would benefit an area of 5,494 acres and provide a total of 4,180 AAHUs.

Alternative C2. Alternative C2 includes measures for altered connectivity, aquatic channel enhancement, and enhancement and restoration of natural vegetation. Alternative C2 consists of 32 ecological measures encompassing 7 habitat types including BLH, cypress-tupelo forests, meander scarps, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction activities include dike notching, installation of woody debris traps, riprap bank protection, vegetative improvement activities, culverts, earthwork, river training structures, and bridge replacement. This alternative would benefit an area of 6,199 acres and provide a total of 4,481 AAHUs.

Alternative C3. Alternative C3 includes measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation, and water management. Alternative C3 consists of 38 ecological measures encompassing 8 habitat types including BLH, cypress-tupelo forests, meander scarps, moist soil management areas, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction activities include dike notching, installation of woody debris traps, bridge replacement, weirs and stoplog structures, riprap bank protection, vegetative improvement measures, culverts, earthwork, and

river training structures. This alternative would benefit an area of 6,282 acres and provide a total of 4,673 AAHUs.

Alternative C4. Alternative C4 includes measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation, water body enhancement and water management. Alternative C4 consists of 55 ecological measures encompassing 9 habitat types including BLH, borrow areas, cypress-tupelo forests, meander scarps, moil soil management areas, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction activities include dike notching, installation of wood debris traps, bridge replacements, weirs and stoplog structures, riprap bank protection, vegetative improvement activities, culverts, earthwork, grade control structures, dewatering, and river training structures. This alternative would benefit an area of 6,735 acres and provide a total of 4,722 AAHUs.

Alternative C5. Alternative C5 includes measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation, and water management. Alternative C5 consists of 37 ecological measures encompassing 8 habitat types including BLH, cypress-tupelo forests, meander scarps, moist soil management areas, riverfront forests, seasonally herbaceous wetlands, secondary channels, and sloughs. Construction includes dike notching, installation of wood debris traps, riprap bank protection, vegetation improvement measures, culverts, weirs and stoplog structures, earthwork, river training structures, and bridge replacement. This alternative would benefit an area of 6,274 acres and provide a total of 4,551 AAHUs.

Alternative C6. Alternative C6 includes measures for altered connectivity, aquatic channel enhancement, enhancement and restoration of natural vegetation. Alternative C6 consists of 24 ecological measures encompassing 5 habitat types including BLH, cypress-tupelo forests, riverfront forests, seasonally herbaceous wetlands, and secondary channels. Construction activities include dike notching, installation of woody debris traps, riprap bank protection vegetative improvement, and culverts. This alternative would benefit an area of 4,163 acres and provide a total of 3,232 AAHUs.

Alternative C7. Alternative C7 includes measures for altered connectivity, aquatic channel enhancement, and enhancement and restoration of natural vegetation. Alternative C7 consists of 27 ecological measures encompassing 6 habitat types including BLH, cypress-tupelo forests, meander scarps, riverfront forests, seasonally herbaceous wetlands, and secondary channels. Construction activities include dike notching, installation of woody debris traps, riprap bank protection, vegetative improvement measures, culverts, river training structures, bridge replacement, and earthwork. This alternative would benefit an area of 5,917 acres and provide a total of 4,346 AAHUs.

Selecting the tentatively selected plan (TSP) requires identification of the alternative that maximizes benefits over multiple benefit categories in National Economic Development - NED, Environmental Quality - EQ, Regional Economic Development - RED, and Other Social Effects – OSE, along with meeting planning objectives and constraints and reasonably maximizing environmental benefits. The TSP must also pass the test of cost effectiveness and incremental cost analyses, significance of outputs, completeness, effectiveness, efficiency, and acceptability.

After reviewing the evaluation and comparison of the final array of alternatives, A and B were not selected since they did not meet the efficiency criteria since they were not cost-effective. From the set of cost-effective plans, “best buy” plans are the most efficient and give the greatest increases in output for the least increase in cost. Although cost-effective, Alternative C7 was removed from further consideration since it was not a best buy and did not provide the greatest increase in output for the least increase in cost as compared to the best buy alternatives. The No-Action Alternative does not improve or maintain the ecosystem resources within the study area. No action would have no financial cost to the federal government but would result in a decrease in habitat functions and values over the study period. The no action alternative was not selected since the study produced best buy plans that addressed study area problems, opportunities, objectives, and technically significant habitat within the study area. Evaluation of the best buy plans C1, C2, C3, C4, C5, and C6 in comparison to the no-action alternative allowed the study team to make well-informed decisions regarding restoration benefits of the alternatives. Progressing through the increasing levels of cost effectiveness/incremental cost analysis (CE/ICA) output helped determine whether the increase in output (habitat units) was worth the additional cost. In the evaluation of the seven action best buy plans, “break points” or significant increases or jumps in incremental cost per output were identified.

The National Ecosystem Restoration (NER) Plan, Alternative C3, was selected as the TSP as this plan provides positive ecosystem and social benefits that support the USACE’s restoration mission and are consistent with the study purpose. This plan also reasonably maximizes the benefits across all benefit categories and net benefits.

DESCRIPTION OF WORK: The identified TSP (Alternative C3) is a comprehensive plan that collectively addresses historically and technically significant and ecologically important habitats across the 11 geographic complexes of the study area. The TSP includes 38 different ecosystem restoration measures and 2 recreational measures that will benefit over 6,000 acres. Figure 1 shows where the restoration sites are located in the study area. Detailed information for each measure can be found in Appendix 1 of the DIFR-DEA. The expected environmental impacts of implementing the TSP would be overwhelmingly beneficial to the flora and fauna, and the public living in the surrounding study area. As documented in the DIFR-DEA, no significant adverse environmental impacts would occur as a result of implementation of the TSP. The TSP provides 4,673 AAHUs to eight unique habitats including BLH, cypress-tupelo, meander scarp, moist soil, riverfront forest, seasonally herbaceous wetland, secondary channels, and slough. The significance of these habitats is further explained in section 5.1.2 of the DIFR-DEA. While all are important, the TSP includes restoration to meander scarps, cypress-tupelo swamp, moist soil, and seasonally herbaceous wetlands (rivercane), which are scarce habitats that are important to endangered species. Endangered species that would benefit from the TSP include the Pallid Sturgeon and Fat Pocketbook Mussel, as well as numerous other federal trust species, species of conservation concern, and native species.

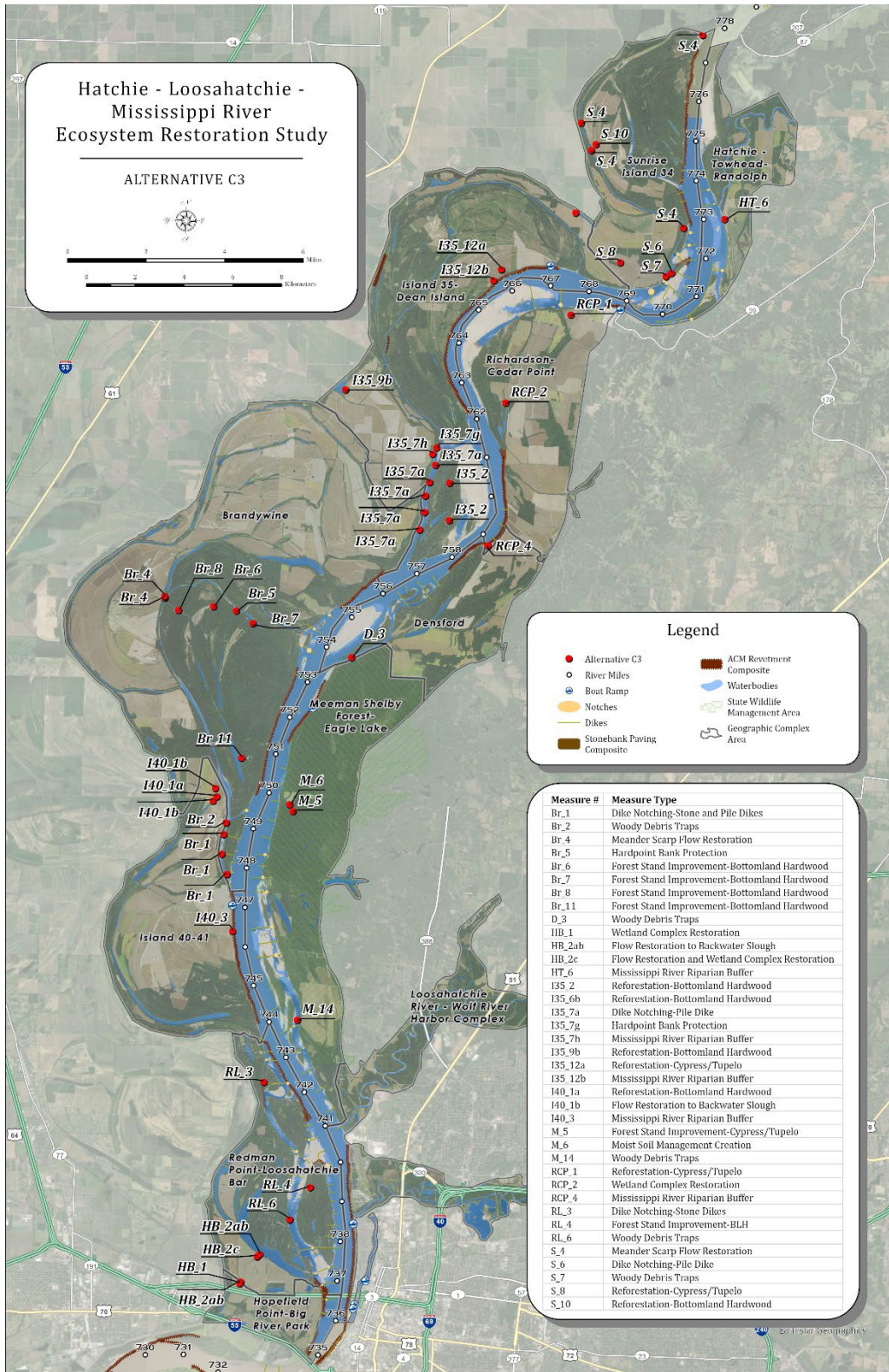


Figure 1. Map of the ecosystem restoration measures of the tentatively selected plan within the study area.

WATER QUALITY CERTIFICATION: Water quality certification will be obtained from the Arkansas Department of Energy and Environment, and an Aquatic Resources Alteration Permit will be obtained from the Tennessee Department of Environment and Conservation prior to construction. Concurrent with this public notice and DIFR-DEA, the USACE, Memphis District, is requesting water quality certification or a statement that the tentatively selected plan appears to meet the requirements of the water quality certification, pending confirmation based on information to be developed during the pre-construction engineering and design phase. All conditions of the water quality certification(s) will be implemented in order to minimize adverse impacts to water quality.

SECTION 404 (b)(1) EVALUATION OF THE CLEAN WATER ACT: The impact of the activity on the public interest is being evaluated in accordance with the Environmental Protection Agency guidelines pursuant to Section 404(b)(1) of the Clean Water Act. The Section 404(b)(1) Evaluation is included in Appendix 2c of the associated DIFR-DEA.

THREATENED AND ENDANGERED SPECIES: The U.S. Fish and Wildlife Service (USFWS) provided a list of threatened, endangered, proposed and candidate species that may occur within the boundaries of the study area and/or may be affected by the proposed project. The list of species is shown in Table 1.

Table 1. List of federally threatened, endangered, proposed threatened, proposed endangered, and candidate species in the study area.

Species (Common Name)	Scientific Name	Status
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Threatened*
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Eastern Black rail	<i>Laterallus jamaicensis spp. jamaicensis</i>	Threatened
Piping Plover	<i>Charadrius melodus</i>	Threatened
Red Knot	<i>Calidris canutus rufa</i>	Threatened
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered
Fat Pocketbook Mussel	<i>Potamilus capax</i>	Endangered
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate
Pondberry	<i>Lindera melissifolia</i>	Endangered
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	Proposed Threatened

*Northern Long-eared Bat is being reclassified from threatened to endangered under the ESA, with an effective date of March 31, 2023 (88 FR 4908).

The proposed measures were formulated to restore the ecological functions of lower Mississippi River habitats, including for the overall benefit of federally listed threatened and endangered species habitats. However, there is the potential for some minor temporary impacts to listed species and/or their habitats, such as minimal tree clearing for access and temporary aquatic disturbances during construction. Thus, the effects determination for the TSP is a may affect but not likely to adversely affect (NLAA) determination for listed species. Concurrence with this effects determination was requested from USFWS with this public notice and associated DIFR-

DEA, pursuant to the ESA. Site-specific ESA surveys and associated tiered ESA consultations will be conducted for any measure in the TSP prior to implementation. These surveys and associated tiered ESA consultations during implementation stages will allow for time-sensitive (1-2 years) effect determinations and will incorporate any changed habitat or species presence/absence conditions, or changes in listing status that could occur at each of the measure locations included in the tentatively selected plan prior to its implementation.

CULTURAL RESOURCES: USACE has determined that the effects on historic properties cannot be fully determined before congressional funding approval; and in accord with ER 1105-2-100, paragraph C-4(d)(5)(d)(2), USACE has elected to fulfill its obligations under Section 106 of the National Historic Preservation Act (NHPA) through the execution and implementation of a programmatic agreement (PA). Pursuant to 36 CFR 800.4(b)(2), Phased Identification and Evaluation and 800.8, Coordination with NEPA, USACE has notified the State Historic Preservation Officers for the States of Arkansas and Tennessee and the Federally recognized Tribes having an interest in the study area. Consultation was initiated by letter on January 25, 2022, followed by consultation meetings to discuss and develop the language of the PA.

PUBLIC INTEREST REVIEW: The purpose of this public notice is to advise all interested parties of the completed activities and to solicit comments and information necessary to evaluate the impact on the public interest. This notice is being circulated to federal, state and local agencies and to the public.

The decision to proceed with this project was based on an evaluation of the probable impact, including cumulative impacts, of the activity on the public interest. That decision reflects the national concern for both protection and utilization of important resources. The potential benefits that reasonably may be expected to accrue from the activity must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the activity were considered, including the cumulative effects thereof; among those were conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; federally recognized Tribes; and other interested parties in order to consider and evaluate the impacts of the proposed activity. Comments will be used in preparation of the final environmental assessment and/or draft environmental impact statement pursuant to the National Environmental Policy Act and are also used to determine the overall public interest of the project. The DIFR-DEA, draft FONSI, and Section 404(b)(1) Evaluation will be circulated to agencies and any other parties that respond to this notice requesting copies. Copies of these documents have been placed on the Project's website at:

<https://www.mvm.usace.army.mil/Missions/Environmental-Stewardship/Hatchie-Loosahatchie-Mississippi-River-Ecosystem-Restoration-Study/>

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this proposed project. Requests for a public hearing shall clearly state the reason for holding a public hearing. The District Engineer will determine if the issues raised are substantial and whether a hearing is needed in order to reach a decision on the project. Failure of any agency or individual to comment on this notice will be interpreted to mean that there is no objection to the proposed work.

COMMENTS OR REQUEST FOR ADDITIONAL INFORMATION: If you wish to obtain additional information or to submit comments on this proposal, contact Mike Thron at the U.S. Army Corps of Engineers, Environmental Compliance Branch, 167 North Main Street, Room B-202, Memphis, Tennessee 38103-1894, telephone 901/544-0708. **Comments should be forwarded to this office by March 13, 2023.**

Sincerely,



Edward P. Lambert
Chief, Environmental Compliance Branch,
Regional Planning and Environmental Division South