



Hatchie/Loosahatchie, Mississippi River Mile 775-736, TN and AR Draft Integrated Feasibility Report and Draft Environmental Assessment Appendix 6: Real Estate Plan



February 2023

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Section 1

Purpose of Real Estate Plan

This draft Real Estate Plan (REP) presents the real estate requirements and costs for the draft Integrated Feasibility Report with Environmental Impact Statement (IFR-EIS) for the Hatchie/Loosahatchie, Mississippi River Mile 775-736, TN study. The Real Estate Plan is tentative in nature; it is for planning purposes only and both the final real property acquisition lines and the real estate cost estimates provided are subject to change even after approval of the final Integrated Feasibility Report with EIS09. Design optimization and feature prioritization will be performed after project authorization; therefore, this Real Estate Plan may be revised upon further analysis. Detailed maps for access, staging and other specifics relating to project features may not be developed until each project feature or measure undergoes more detailed design analysis. The Project Area is shown in Figure 1-1 below.

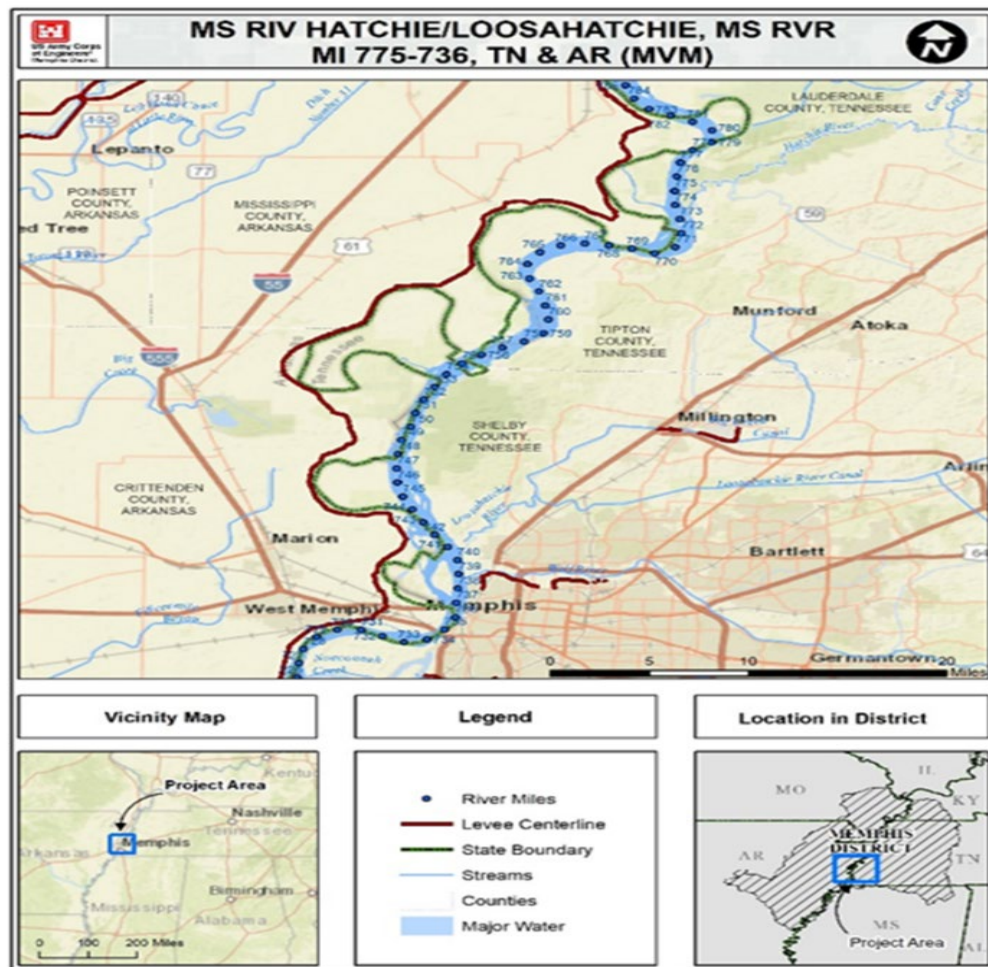


Figure 1-1. Hatchie/Loosahatchie Mississippi River Mile 775-736, TN And AR Feasibility Study Area

1.1 PROJECT PURPOSE

The Non-Federal Sponsor is the Lower Mississippi River Conservation Committee (LMRCC) which is an Inter-agency committee with the mission to promote the restoration and wise use of the natural resources of the Lower Mississippi River through cooperative efforts involving planning, management, information sharing, public education, advocacy and research.

The purpose and need for the proposed actions are to restore habitat and ecosystem function along an approximate 39-mile reach of the LMR and its floodplain in harmony with the existing USACE mission areas of ensuring navigation and flood risk reduction. The Mississippi River has been significantly disconnected from much of its historical floodplain in response to flood risk reduction to protect surrounding communities. There is a critical need to restore habitat and ecosystem function in the Lower Mississippi River in association with continued operation of significant levee and navigational infrastructure. Hatchie/Loosahatchie Mississippi River Mile 775-736 is the first large-scale ecosystem restoration feasibility study to be completed for the eight priority reaches in WRDA 2018, Public Law 115-270 and will be a valuable reference and framework for the remaining feasibility studies for the priority reaches that are to be completed.

Objective #1: Increase quantity and/or quality of vegetated habitats and maintain a diverse vegetative mosaic in the floodplain to benefit native fish and wildlife resources (e.g., migratory birds and species of conservation concern) focusing on habitat such as: emergent, floating, and submersed aquatic vegetation; rivercane; BLH.

- Riparian buffer strip (agriculture ditch).
- Riparian buffer strip (MS River).
- Increase quality and quantity of existing stands of rivercane.
- Establishment of rivercane on spoil piles.
- Reduction of ponding in forested communities.
- Creation of canopy gaps.
- Restore/create forest in high elevation areas for wildlife corridor and refugia.
- Private levee setbacks within the batture.
- River training structure at meander scarp entrances to divert flow in low water.
- Water control structure on existing drainages adjacent to non-forested areas for moist soil management.

Objective #2: Improve quantity and/or quality of diverse large river habitats (sandbars, gravel bars, secondary channels, etc.) to support critical life history requirements of priority species.

- Rock structure to maintain and/or scour buried gravel bars.
- Dike notching (existing dike fields).
- Large woody debris traps in chutes/secondary channels.
- Bank protection within secondary channels to reduce scour.

- Pilot channel/plug removal in notched dike field.
- Multiple dike notches at different elevations for different guilds of fish and recreation access.

Objective #3: Increase quality of the diverse mosaic of floodplain waterbodies (including but not limited to meander scarps, sloughs, crevasses, and borrow pits) and optimize their aquatic connectivity with the Mississippi River to support critical life history requirements of priority species.

- Meander scarp plug removal.
- Restore channels connecting floodplain waterbodies to MS River main channel.
- Optimize/maintain isolation of rarely connected floodplain waterbodies.
- Optimize depth and diversity of rarely connected floodplain waterbodies.
- Bridge modification to increase connectivity in meander scarps.
- Levee setback of MS River mainline levee.
- Weir/control structures at slough overflows to hold warmer water in spring.

Objective #4: Improve recreational opportunities and access to public spaces in study area.

- Biking trail across MS River levee.
- Change hunting regulations at Wapvanocca NWR to be a refuge/protect wildlife during times when entire study area is inundated.
- Interpretive signage and education.

1.2 PROJECT LOCATION

The study area comprises a 39-mile reach of the Mississippi River and the surrounding batture, the riverside area between the levee and main channel within the Arkansas boundary and the riverside area between the natural ridge and main channel within the Tennessee boundary. The study area begins at the mouth of the Hatchie River and extends south to the mouth of the Wolf River Harbor (River Mile 775-736). 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. The study area contains crossings pools, side channels, old bendways, and wide overbank areas between the west levee and east bluff (2-9 miles). As mentioned above, there are three tributary mouths located within the study area: Hatchie, Loosahatchie, and Wolf Rivers. State parks and refuges that border the study area include Meeman Shelby State Park, Fort Pillow State Park, and the Lower Hatchie National Wildlife Refuge.

The study area was further delineated into 11 separate ecological complexes based on the geomorphic and/or hydrologic evolution of the floodplain using historical maps and existing elevation data. Land ownership and/or management considerations were also factored into the delineation of the complexes (e.g., Meeman Shelby Forest State Park – Eagle Lake State WMA). Ecological complexes listed in location from north to south include (1) Sunrise Island 34, (2) Hatchie Towhead Randolph, (3) Island 35 – Deans Island, (4) Richardson Cedar Point, (5) Densford, (6) Brandywine, (7) Meeman Shelby Forest-Eagle Lake, (8) Island 40/41, (9) Loosahatchie River – Wolf River, (10) Redman Point – Loosahatchie Bar, and (11) Hopefield Point – Big River Park.

1.3 PROJECT AUTHORITY

Section 1202(a) of WRDA 2018, Public Law 115-270 authorized the study to determine feasibility of habitat restoration for the eight identified priority reaches reported in the LMRRA. One of the eight priority reaches comprises Hatchie/Loosahatchie Mississippi River Mile 775-736 for which this Draft Integrated Feasibility Report and Environmental Impact Statement 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 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, P.L. 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).

Section 2

Description of the Recommended Plan and Lands, Easements, Rights-of-Way, Relocations, and Disposal (LERRD) Sites

RECOMMENDED PLANS SUMMARY

The Recommended Plan (RP) as discussed in the main report includes 38 Aquatic Ecosystem Restoration (AER) measures and 2 Recreation Measures. Per USACE Guidance, the Project Delivery Team (PDT) identified the alternatives that reasonably maximize net economic benefits consistent with protecting the nation's environment.

PDT has identified a recommended plan (Alternative C3):

- Best Buy Plan – 38 Measures
- 2 meander scarps – critical, scarce, unique, institutionally recognized
- Rare geomorphology – no longer being created due to river control
- Preferred habitat for T&E species breeding and refugia
(e.g. fat pocketbook mussels, young of the year pallid sturgeon)
- OSE – EJ, accessibility, recreation

2.1 AER-RP STRUCTURAL FEATURES

The AER-RP consisted of 38 measures encompassing 8 habitat types including BLH, cypress-tupelo, meander scarp, moist soil, riverfront, seasonally herbaceous wetland, secondary channels, and slough. Habitats not represented comprise borrow, emergent sand/gravel bars, main channel, and oxbow. Models for measures in C3 included Floodplain Waterbody Bidirectional, LMR Riverine Eddy/River Training Structures, HGM, LMR Riverine Substrate Invertebrate, and LMR Unidirectional Connectivity. Modeling efforts represented all relevant geographic complexes. Average annual habitat units (AAHUs) for C3 were 4637. In comparison to other alternatives, C3 was deemed as a best buy.

The real estate costs presented herein for the structural portion of the AER-RP are based on the estimated acreages and estates shown in the table below. There are a total of 40 landowners holding 6303.60 acres to be acquired. This includes lands that are in open water. *Open water bottom lands are assumed to be state owned lands. The acres that need to be acquired for the project minus the open water bottoms is 3,555.60.*

3 acres of the 6303.60 is allocated for two measures that incorporate recreation features. The measure numbers are LW_1 and M_2 as noted below on page 10.

Table 2-1. AER Structural Features: Real Estate Requirements

Structural Components for the AER				
Measure #	Measure Type	Landowners	Estate	Acres
BR_1	Dike Notching-Stone and Pile dikes	1	Open Water Bottom/Assumed to be state owned	106
BR_2	Woody Debris Trap	1	Open Water Bottom/Assumed to be state owned	(Part of BR_1)
BR_4	Meander Scarp Flow Restoration	1	FEE	5
BR_5	Hardpoint Bank Protection	1	Open Water Bottom/Assumed to be state owned	501
BR_6	Forest Stand Improvement-BLH	1	FEE	78
BR_7	Forest Stand Improvement-BLH	1	FEE	196
Br_8	Forest Stand Improvement-BLH	1	FEE	207
Br_11	Forest Stand Improvement-BLH	1	FEE	600
D_3	Woody Debris Trap	1	Open Water Bottom/Assumed to be state owned	125
HB_1	Wetland Complex Restoration	1	FEE	47
HB_2ab	Wetland Complex Restoration Flow Restoration to Backwater Slough	1	FEE	8
HB_2c	Flow Restoration and Wetland Complex Restoration	1	FEE	22
HT_6	MS River Riparian Buffer	1	FEE	52
I35_2	Reforestation-BLH	1	FEE	23
I35_6b	Reforestation-BLH	1	Open Water Bottom/Assumed to be state owned	11
I35_7a	Dike Notching-Pile Dike	1	Open Water Bottom/Assumed to be state owned	341
I35_7g	Hardpoint Bank Protection	1	Open Water Bottom/Assumed to be state owned	3
I35_7h	MS River Riparian Buffer	1	FEE	8
I35_9b	Reforestation-BLH	1	FEE	12
I35_12a	Reforestation-Cypress/Tupelo	1	FEE	14
I35_12b	MS River Riparian Buffer	1	FEE	55
I40_1a	Reforestation-BLH	1	FEE	37

I40_1b	Flow Restoration to Backwater Slough	1	FEE	161	
I40_3	MS River Riparian Buffer	1	FEE	59	
M_5	Forest Stand Improvement-Cypress/Tupelo	1	Assumed to be state owned	6	
M_6	Moist Soil Management Creation	1	Assumed to be state owned	30	
M_14	Woody Debris Traps	1	Open Water Bottom/Assumed to be state owned	740	
RCP_1	Reforestation-Cypress/Tupelo	1	FEE	8	
RCP_2	Wetland Complex Restoration	1	FEE	115.6	
RCP_4	MS River Riparian Buffer	1	FEE	11	
RL_3	Dike Notching-Stone Dikes	1	Open Water Bottom/Assumed to be state owned	4	
RL_4	Forest Stand Improvement-BLH	1	FEE	1049	
RL_6	Woody Debris Traps	1	Open Water Bottom/Assumed to be state owned	790	
S_4	Meander Scarp Flow Restoration	1	Open Water Bottom/Assumed to be state owned	709	
S_6	Dike Notching-Pile Dike	1	Open Water Bottom/Assumed to be state owned	127	
S_7	Woody Debris Traps	1	Open Water Bottom/Assumed to be state owned	Part of S_6	
S_8	Reforestation-Cypress/Tupelo	1	Reforestation-Cypress/Tupelo	19	
S_10	Reforestation-BLH	1	Reforestation-BLH	21	
LW_1	Partner with stakeholders to create a display board (Interpretive Media) and possibly a Large Woody Debris Demonstration in Harbor to promote ER Measures with project.	1	FEE	2	
M_2	Trail access improvements (1 mile loop paved) (note: There is an existing trail that can be refurbished, educational signage for surrounding ER measures to include large wood debris trap (boating hazard).	1	FEE	1	
		Total	40	Total	6303.60

2.2 ACCESS

FRM Structural - Floodwall and Levee

Access to all of the project features will have to be defined during planning engineering and design (PED). We have assumed at this stage of the study that 56 acres will be needed for access by way of perpetual and/or temporary road easement to access the project features. This number was calculated by assuming that 28 of the measures would need 2 acres of road easement each.

2.3 BORROW

No borrow will be needed. It is assumed that the contractor will be able to excavate or dispose of material within the measure areas.

2.4 DISPOSAL

A disposal site will not be needed for the project. It is assumed that the contractor will be able to excavate or dispose of material within the measure areas.

Section 3

Non-Federal Sponsor Owned LERRD

The Non-Federal Sponsor (NFS) for the study, Lower Mississippi River Conservation Committee (LMRCC), currently owns some of the real property interest needed for the project features. Several features, M5, M6, and M14 are assumed to be owned by the State of Tennessee. The State of Tennessee and Arkansas are assumed to be the owners of several of the water bottoms that lie under proposed project features.

Section 4

Estates

4.1 ROAD EASEMENT (PERPETUAL AND TEMPORARY)

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, and _____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving, however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4.2 TEMPORARY WORK AREA EASEMENT

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed _____, beginning with date possession of the land is granted to the (Grantee), for use by the (Grantee), its representatives, agents, and contractors as a (borrow area) (work area), including the right to (borrow and/or deposit fill, spoil and waste material thereon) (move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the _____ Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

4.3 FEE

The fee simple title to (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Section 5

Existing Federal Projects within LERRD Required for the Project

There are no Federal projects within the Lands, Easements, Right of Way, Relocations and Disposal Sites (LERRD) required for the project.

Section 6

Federally Owned Lands within LERRD Required for the Project

There are no Federally owned lands within the Lands, Easements, Right of Way, Relocations and Disposals Sites required for the project.

Section 7

Federal Navigation Servitude

The navigation servitude is the dominant right of the Government, under the Commerce Clause of the U.S. Constitution, to use, control, and regulate the navigable waters of the United States and submerged lands thereunder. None of the features for the Hatchie/ Loosahatchie Project will be constructed within navigable waters of the United States, therefore, the navigation servitude will not apply.

Section 8

Project Maps

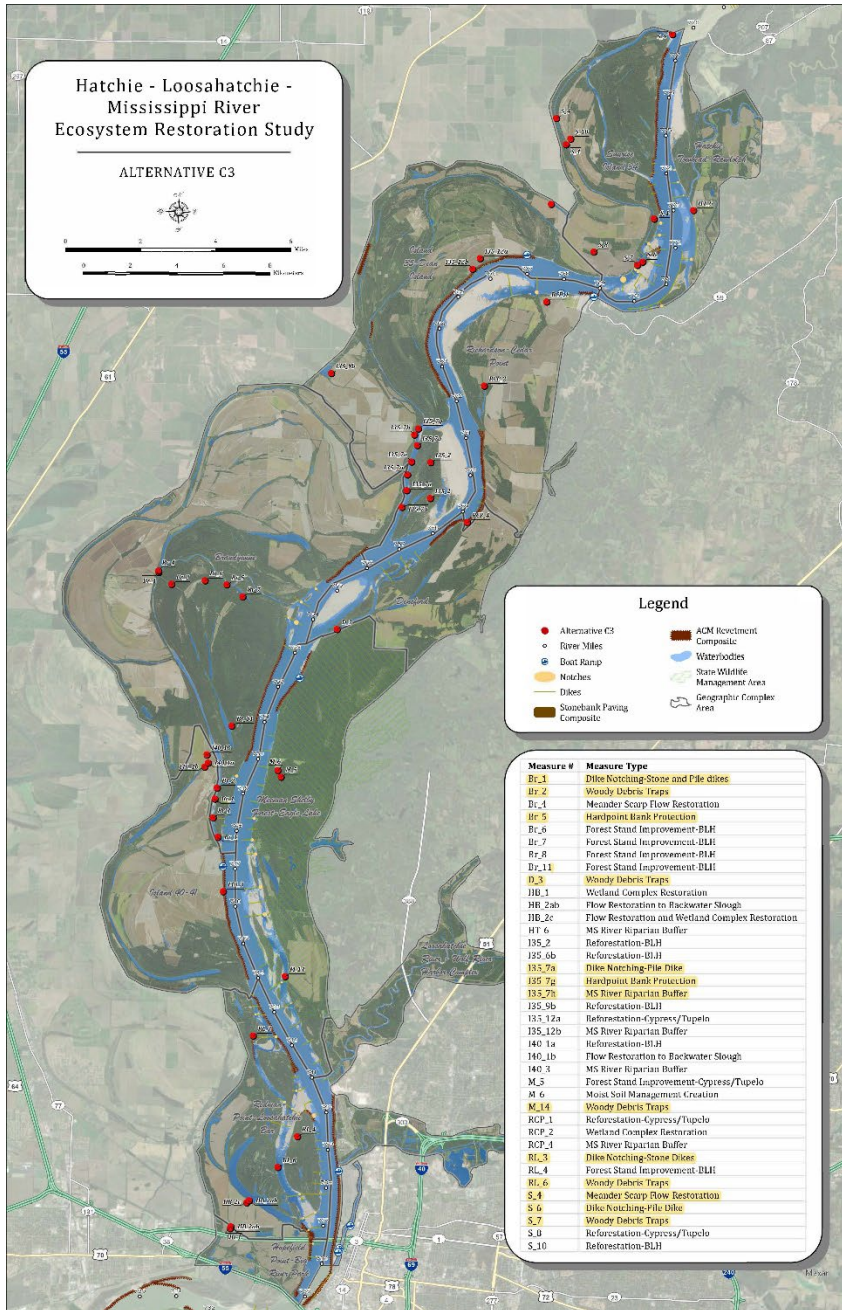


Figure 8-1. Alternative Plan C3

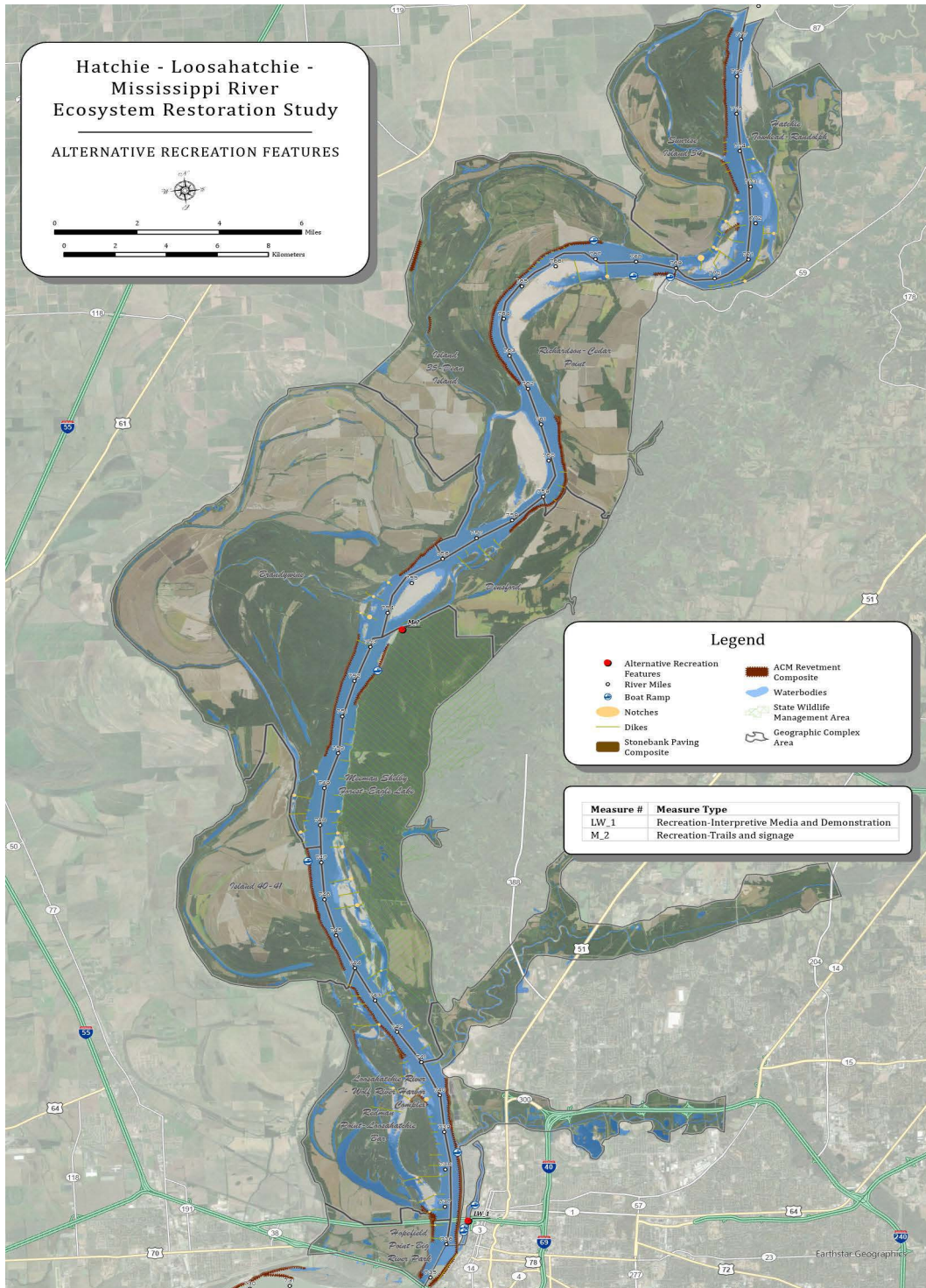


Figure 8-2. Recreation Features

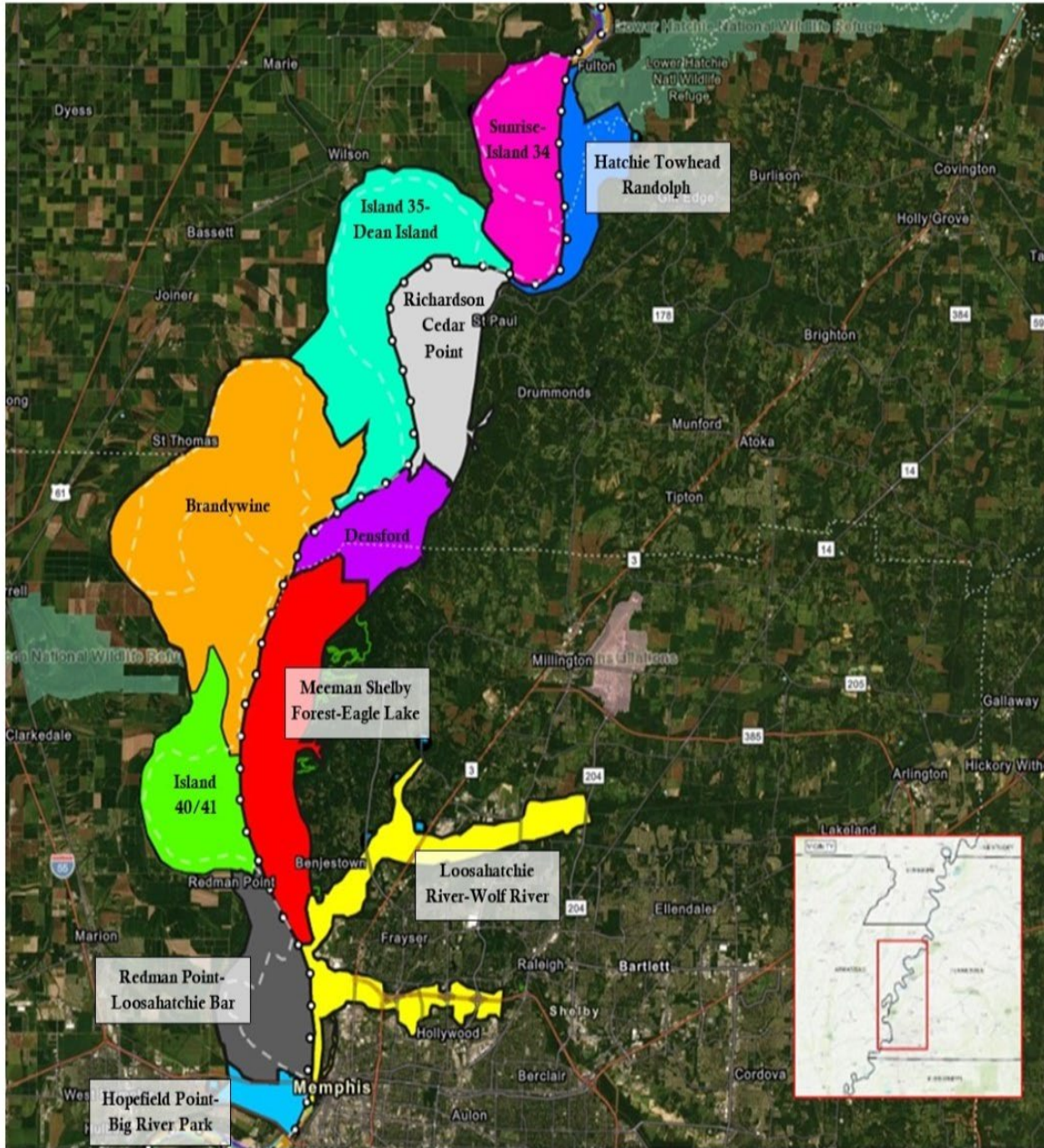


Figure 8-3. Delineation of the Separate Ecological Complexes within the Study Area

Section 9

Induced Flooding

No induced flooding is anticipated as a result of the Hatchie/Loosahatchie Project.

Section 10

Baseline Cost Estimate

AER STRUCTURAL

Total real estate costs, excluding mitigation, for the structural component (dike notching, woody debris traps, bank protection, forest stand improvements, wetland restoration, flow restoration, riparian buffers, moist soil management, and meander scarp restoration) is \$ 17,288,160 (01 Account). This figure encompasses the cost of acquiring real property interest, damages, LERRD administrative costs, and contingencies, as well as cost for potential condemnations.

Detailed baseline cost tables will be sent in separate from the REP as they are not releasable to the public.

Section 11

P.L. 91-646 Relocation Assistance Benefits

AER STRUCTURAL

At this time, there have not been any residential or nonresidential structures identified for the structural portion of the project that would require the application of Public Law 91-646 relocation assistance benefits.

Section 12

Mineral Activity/Crops

AER-RP: For some of the AER project elements, lands with potential agricultural use may be removed from agricultural use. Any timber present within required right-of-way is included in the overall appraised value of the land. In the event the agricultural lands are cultivated, the owner will be allowed to harvest crops prior to acquisition. In the event that project schedules do not allow for such, the contributory value of crops will be included in the estimate of property value in the appraisal.

Section 13

Non-Federal Sponsor Capability Assessment

The Capability Assessment has not been completed but will be included as an attachment to the Final Real Estate Plan.

Section 14

Zoning Ordinances

During PED, planning and zoning regulations would be further reviewed, and discussions would be conducted with the NFS regarding the development and adoption of land use regulations for future activities within the project area. The NFS would be required to coordinate these matters with local planning commissions.

Section 15

Acquisition Schedule

AER STRUCTURAL

The following schedule shows the tasks and duration for acquisition of the LERRD required for the project. This affects 40 total landowners. This schedule is subject to change based on project refinement during planning, engineering, and design. This schedule is for preliminary planning purposes and assumes that all tracts are acquired at the same time. This schedule assumes a staff of 4 negotiators.

1. Preliminary Investigations (i.e., HTRW, structural, surveys, etc.)	3 months
2. Mapping	3 months
3. Title	3 months
4. Appraisals (begin concurrent with title)	3 months
5. Negotiations and Closing	8 months
6. Condemnation (overlaps with negotiation and closing)	12 months
7. LERRD Certification	3 months

Based upon this schedule, all real property interests will be acquired in 15 months, with the exception of real property interests requiring condemnation. It is assumed that all properties will be acquired simultaneously. It could take up to 1 year and 9 months if the property is condemned.

Titles and Appraisals will run concurrently.

Negotiations, Closings, and Condemnations (if necessary) will run concurrently.

Section 16

Facility/Utility Relocations

AER-RP: No facility/utility relocations are anticipated to be required for the AER features of the Project.

Section 17

HTRW and Other Environmental Considerations

Based on record searches and land-use history, the risk of encountering HTRW was determined to be low. While there are no adverse impacts to historic properties identified at this time, a draft Programmatic Agreement is being prepared governing USACE's Section 106 review process for the series of undertakings in regard to cultural resources.

Section 18

Landowner Attitude

Nothing in writing has been received from the landowners. Discussions with landowners so far is generally supportive of the restoration ideas. Stakeholders (NRCS, Big River Park Conservancy, etc.) have relayed that they would be interested in discussions on site-specific financial incentives for them to participate.

Section 19

Risk Notification

A risk notification letter has not been sent to the NFS. The NFS will be notified in writing about the risks associated with acquiring land before the execution of the Project Partnership Agreement and the Government's formal notice to proceed with acquisition.

Section 20

Other Real Estate Issues

It is not anticipated that there will be any other real estate issues for this project.

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