

DRAFT ENVIRONMENTAL ASSESSMENT

MISSISSIPPI RIVER MAINLINE LEVEE
SHERARD SEEPAGE CONTROL MEASURES
COAHOMA COUNTY MISSISSIPPI

February 2022



U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District

Mississippi River Mainline Levee
Seepage Control Measures
Sherard, Mississippi

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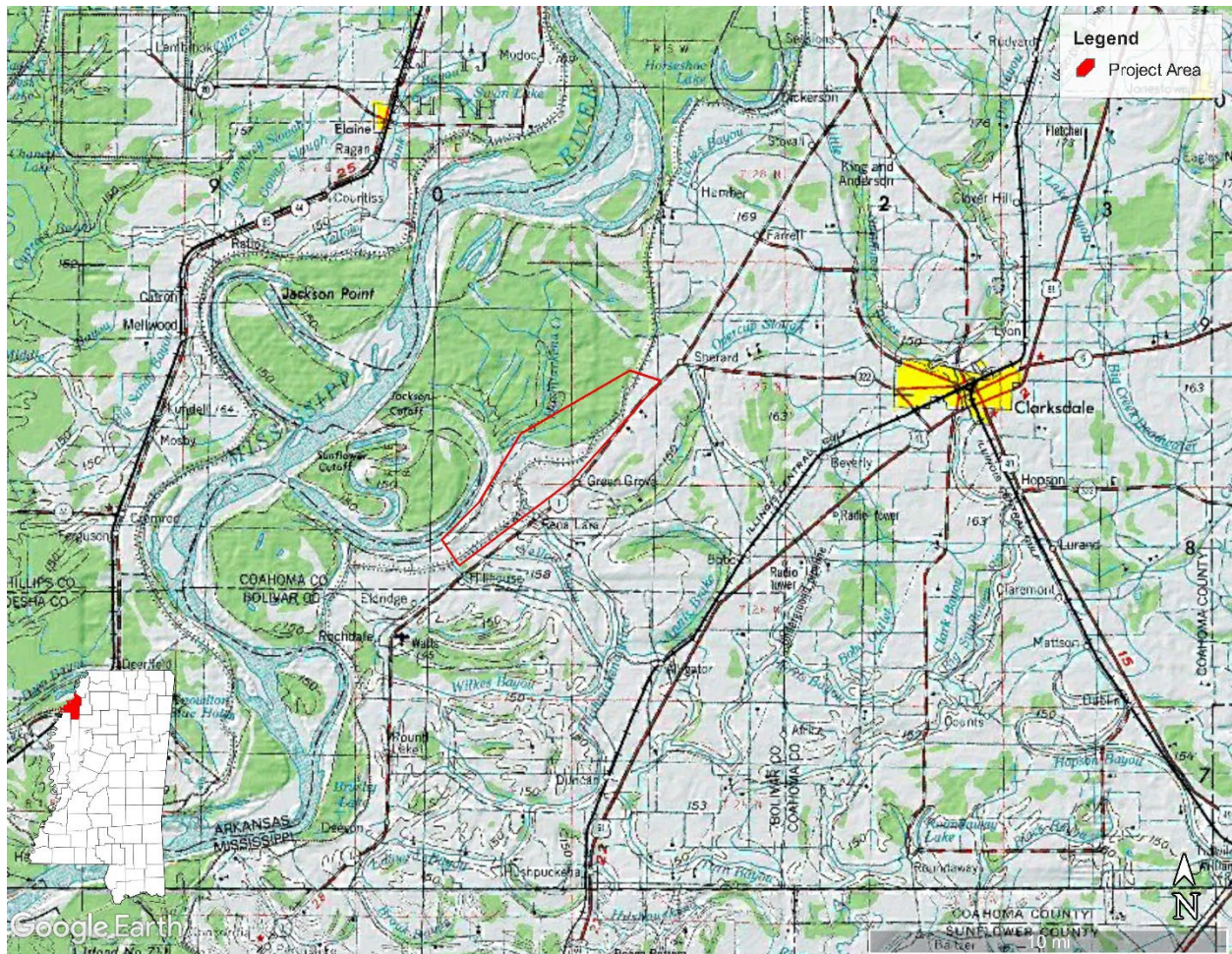
Mississippi River Mainline Levee Seepage Control Measures Coahoma County, Mississippi

1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi River Valley Division, Regional Planning and Environmental Division South, has prepared this environmental assessment (EA) for the Memphis District (MVM) to evaluate the potential impacts associated with the proposed seepage control measures along the Mississippi River mainline levee (MRL), near Sherard, Coahoma County, Mississippi (Figure 1).

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation ER 200-2-2. This EA provides sufficient information on the potential adverse and beneficial environmental effects to allow the MVM District Commander to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a Finding of No Significant Impact (FONSI).

A 1998 final Supplemental EIS (SEIS), *Mississippi River Mainline Levees Enlargement and Seepage Control*, addressed seepage control measures to be implemented along the MRL. Additionally, in 2007, an EA, *Mississippi River Levee Construction Project, Seepage Control Measures*, was completed to address additional seepage issues along the MRL that were not identified when the July 1998 final SEIS was completed. Subsequent to the flood of 2011 it was determined that alternative seepage control measures to those proposed in the 2007 EA needed to be installed at the proposed project location to prevent continued seepage and potential degradation of the levee.

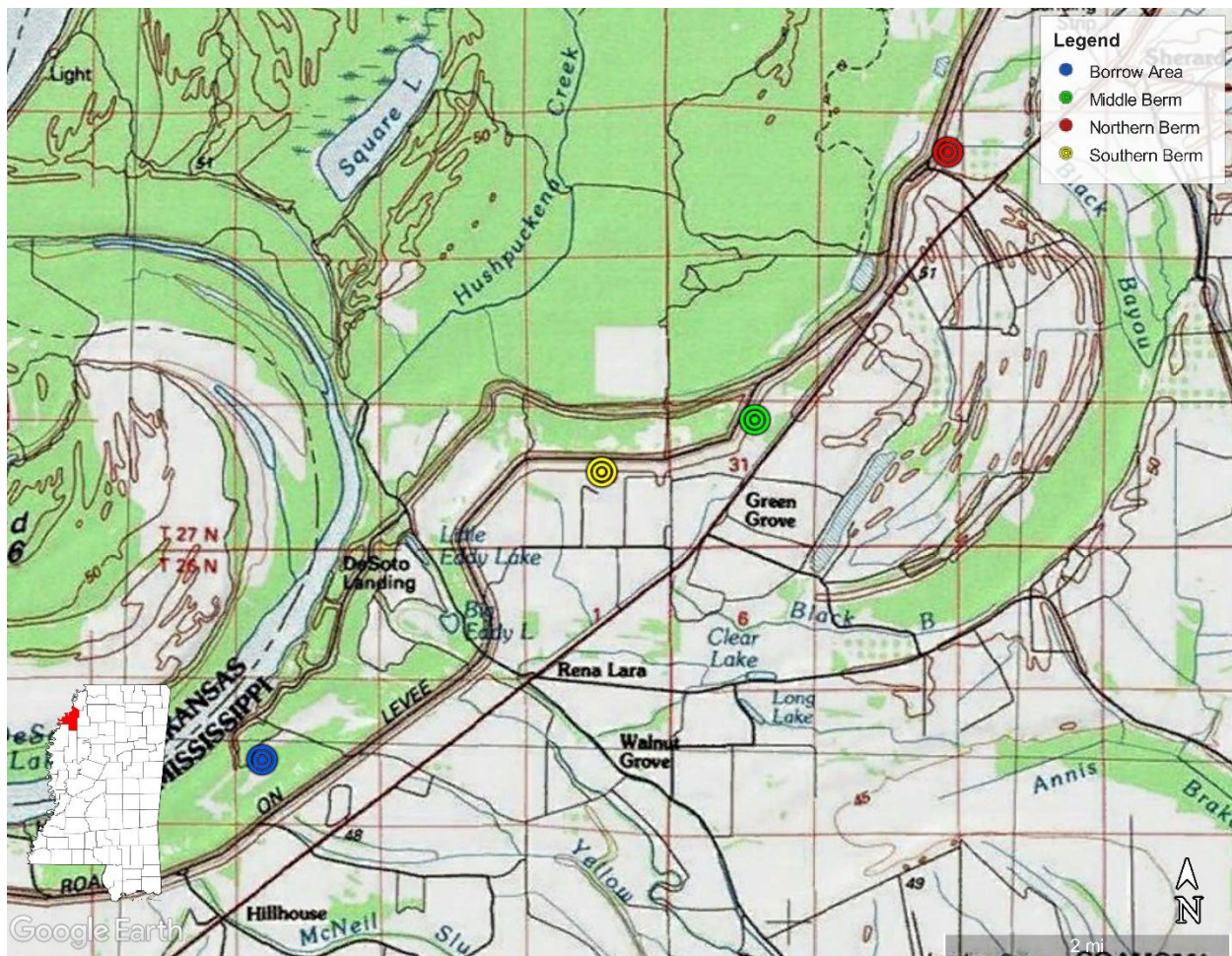


1.1 Proposed Action

The proposed project involves implementing seepage control measures along the MRL in Coahoma County, Mississippi. Project features for the proposed seepage control action consist of constructing three earthen berms adjacent to the landside levee slope within the overall project area (Figure 2). Access to the project area would be from State Highways 1 and 322 and levee roads. Conventional earth moving equipment (e.g., bulldozers and excavators) would be used to construct the seepage berms. Approximately 45,100 cubic yards (CY) of excavated material from an agricultural field riverside of the current MRL would be used to create the earthen berms landside of the existing MRL. As a result of this proposal, it is anticipated that approximately 2.2 acres of seasonal herbaceous wetlands would be filled at the northernmost berm location. Compensatory mitigation requirements for unavoidable impacts to wetlands would consist of reforesting 3.27 acres of prior converted cropland to bottomland hardwood forest as described in the Mitigation Section (6.0) below.

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1.2 Purpose and Need for the Proposed Action

The purpose of the proposed action is to control seepage under the MRL that occurs during flood conditions on the Mississippi River to ensure that the levee system does not fail in a flood event. Seepage problems beneath a levee can lead to piping, which occurs when sediment from under the levee is carried away through sand boils, increasing the risk of levee collapse. There is a need to design, build, maintain, operate, and repair the mainline MRL to ensure that the system provides protection up to the congressionally authorized level. A catastrophic failure of the MRL, at any point, would likely inundate land, structures, and result in consequences to humans and a variety of flora and fauna. Earthen berms are vital to strengthening the integrity of the levee system as they apply counter pressure to designed to minimize the risk of levee failure by reducing or stopping the movement of sediment from underneath the levee.

1.3 Authority for the Proposed Action

The proposed action is authorized as part of the Flood Control Act of 1928, as amended.

1.4 Prior Reports

This EA has been prepared because additional rights of way are needed and potential environmental impacts may occur beyond that originally described in the 1998 SEIS. Additionally, in 2007, an EA, *Mississippi River Levee Construction Project, Seepage Control Measures*, was completed to address additional seepage issues along the MRL within MVM that were not identified when the July 1998 final SEIS was completed. Previous seepage remediation measures identified the construction of relief wells at the proposed project location. However, since publication of the 1998 SEIS and 2007 EA, it has been determined that additional and/or alternative seepage control measures need to be installed along the MRL to prevent continued seepage and potential degradation of the levee. The 1998 final SEIS and 2007 EA are incorporated herein by reference.

1.5 Public Concerns

Public concerns exist regarding the ability of the MRL to contain floodwaters during a flood event. Seepage could undermine the levee causing it to breach if unabated, thus posing a threat of flooding. A levee breach could inundate surrounding lands and residential areas, threaten the lives and property of residents within the flooded areas, and displace and/or impact a variety of flora and fauna. The record level flooding of the Mississippi River in May 2011 has heightened public concerns.

2.0 ALTERNATIVES

2.1 Preliminary Alternatives

Various seepage remediation measures including riverside blankets, relief wells, and seepage cut offs were preliminarily considered and eliminated from further analysis. Both relief wells and seepage cut offs were eliminated due to construction and/or maintenance costs, and riverside blankets were eliminated based on geotechnical analysis. Considering these facts, the recommended method for seepage remediation is seepage berm extension or fill in the low-lying areas.

Therefore, two alternatives were considered practicable and carried forward for detailed analysis: Alternative 1 (No-Action); and Alternative 2 (Construct Landside Berms).

2.2 Alternative 1 – Future without Project Condition (No-Action)

In the future without project condition (no-action), the proposed action would not be constructed. The no-action alternative would result in increased seepage risk during flood conditions. Sands

and silts would be carried under the levee, potentially causing sand boils. This could eventually lead to levee failure during a major flood event.

2.3 Alternative 2 – Construct Landside Berms

The proposed project action for alternative 2 involves implementing seepage control measures along the MRL. Project features would include constructing three earthen berms along the landside toe of the MRL. It is anticipated that these actions would result in approximately 2.2 acres of wetlands being filled at the northernmost berm location. Additional impacts beyond those previously discussed are not anticipated at the middle or southern berm locations. Therefore, compensatory mitigation for unavoidable impacts associated with the proposed action would be required and would consist of restoring approximately 3.27 acres of cleared agricultural lands to bottomland hardwood forest as described in the Mitigation Section (6.0) below.

2.4 Preferred Alternative for the Proposed Project

After careful consideration of the alternatives, it was determined that alternative 1 (no-action) was unacceptable because of risks to human life and property. If seepage problems are not addressed, levee failure could ultimately result. All factors considered, alternative 2 is the most practical solution for seepage control and is the preferred alternative for the proposed project assessed in this EA.

3.0 AFFECTED ENVIRONMENT

Though not previously constructed, the purpose and need for seepage control measures at the project location were identified in the 2007 EA. Additionally, anticipated environmental impacts associated with previous plans (*i.e.*, relief wells) would no longer be incurred at the middle and southern berm locations. For those locations, NEPA documentation completed with the 2007 EA is adequate to address environmental effects and compliance with the National Environmental Policy Act of 1969 and the Council on Environmental Quality's Regulations (40 CFR 1500-1508). Therefore, as only the northern berm would incur impacts beyond those previously documented, the following discussion will be limited to the northern berm project area.

3.0.1 Environmental Setting

The proposed Sherard seepage control measures are located in Coahoma County, Mississippi. During the spring and summer of 2021, USACE personnel performed site assessments of the proposed project area. Properties on the landside of the levee and interior of the adjacent highway are dominated by large, row crop agricultural production. Low lying portions of the area are often inundated by run-off and seepage during high water on the Mississippi River and local rain events. In the batture (riverside of the levee), land is primarily occupied by bottomland hardwood forest and borrow pits previously used in levee construction. Tree species in the

batture adjacent to the project areas generally consist of cottonwood, American elm, sugarberry, silver maple, hickory, sycamore, cypress, black willow and various types of oaks.

At the proposed northern berm location (Figure 3), the existing levee toe area has been planted in pasture grass and is subjected to routine mowing and/or cattle grazing (Figure 4). Fill material would be obtained from approximately 7 acres of an agricultural field riverside of the current MRL (Figure 5).



Figure 3. Aerial of site conditions at the proposed northern seepage control berm along the Mississippi River mainline levee at the Sherard project area, Coahoma County, Mississippi.



Figure 4. Existing condition of the proposed northern seepage control berm location at the Sherard project area, Coahoma County, Mississippi.



Figure 5. Location of proposed borrow source, an agricultural field riverside of the MRL, adjacent to Desoto Lake, Coahoma County, Mississippi.

3.0.2 Climate

Climate in the project area is humid subtropical with average winter low temperatures of 38 degrees (°) Fahrenheit (F) and winter highs averaging 59 °F. Summer temperatures average a low of 72 °F with highs averaging around 92 °F. Total annual precipitation averages approximately 56 inches, generally spread out over the year.

3.0.3 Geology

The proposed project area is located in the Mississippi River alluvial plain. Soils in the project area are predominantly Commerce and Crevasse soils and Sharkey clay. Commerce soils consist of deep, somewhat poorly drained, moderately slowly permeable soils. Crevasse soils consist of very deep, excessively drained, rapidly permeable soils. Sharkey soils consist of very deep, poorly and very poorly drained, very slowly permeable soils.

3.1 Relevant Resources

This section contains a description of relevant resources that could be impacted by the project. The relevant resources (Table 1) described in this section are those recognized by laws; executive orders; regulations; and other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. The following resources have been considered and found to not be affected by the alternative under consideration: agricultural lands, freshwater marshes, freshwater lakes, state-designated scenic streams, fisheries, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic, and environmental justice.

Table 1. Relevant Resources.

Resource	Institutionally Important	Technically Important	Publicly Important
Wetlands	Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968., EO 11988, and Fish and Wildlife Coordination Act.	They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities.	The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of wetlands.
Wildlife	Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act of 1918.	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Threatened and Endangered Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.	USACE, U.S. Fish and Wildlife Service, NRCS, U.S. Environmental Protection Agency, and Mississippi Department of Natural Resources cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.
Cultural Resources	National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979	State and federal agencies document and protect sites. Their association or linkage to past events, to historically important persons, and to design and construction values; and for their ability to yield important information about prehistory and history.	Preservation groups and private individuals support protection and enhancement of historical resources.
Air Quality	Clean Air Act of 1963.	State and federal agencies recognize the status of ambient air quality in relation to the National Ambient Air Quality Standards.	Virtually all citizens express a desire for clean air.
Hydrology and Water Quality	Clean Water Act of 1977 and the Fish and Wildlife Coordination Act.	State and federal agencies recognize value of fisheries and good water quality. The National and state standards are established to assess water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water.

3.1.1 Wetlands

Existing Conditions

Within the Sherard project area, approximately 2.2 acres of the proposed northern berm area have been classified as wetlands and used as such for landcover analyses by the overall MRL program. As described in the 1998 SEIS, a semi-quantitative method developed by the USACE Engineer Research and Development Center was used to evaluate functional impacts to forested and farmed wetlands for MRL projects. Wetland functions evaluated were short-term water storage, long-term water storage, water velocity reduction, sediment detention, onsite erosion control, nutrient and dissolved substance removal, and organic carbon export. Wetland functional impacts were expressed as functional capacity units (FCU), which reflect both the quantity and quality of wetland functional values. FCU were determined by multiplying the functional capacity index (FCI) value of each function by the acreage affected. FCI values ranged from 0 to 1, with 1 representing optimal wetland value. All functions were assumed to have equal value (*i.e.*, one function is not weighted more than another). Therefore, the net FCU change for forested and farmed wetlands on each alternative was determined by summing FCU across all functions over the period of analysis. FCU were annualized to account for temporal changes in with and without project conditions. Additionally, it was assumed that existing conditions would remain constant for the project life.

Approximately 13.95 FCU are anticipated to be provided by the existing wetland area within the proposed northern berm construction footprint at the Sherard project area (Table 2).

Table 2. Wetland functional capacity units at the northern berm location, Sherard Seepage Control project, Coahoma County, Mississippi.	
Wetland Function	Functional Capacity Index
Short Term Water Storage	1.00
Long Term Water Storage	1.00
Water Velocity Reduction	1.00
Sediment Detention	1.00
Onsite Erosion Control	0.67
Nutrient and Dissolved Substance Removal	0.67
Organic Carbon Export	1.00
FCI Sum	6.34
Project Area	
Wetland Acres within Proposed Construction Footprint	2.20
Total FCU	13.95

3.1.2 Wildlife

Existing Conditions

Wildlife species that could be expected to be found within the project area include coyotes, deer, raccoons, opossums, rabbits, gray and fox squirrels, muskrats, mice, rats, shrews, songbirds, turtles, snakes, amphibians, and other small animals typically found along the Mississippi River levees.

Bottomland hardwoods, including forested wetlands, are the only wildlife resources evaluated in this EA. Therefore, as noted in Section 3.0.1, the proposed berm and borrow areas do not contain wildlife habitat typically provided by bottomland hardwoods. However, impacts to wetlands within these areas are accounted for (see Section 4.1).

3.1.3 Threatened and Endangered Species

Existing Conditions

According to results obtained from USFWS Information, Planning, and Conservation (IPaC) conservation planning tool, there are a total of five threatened, endangered, or candidate species that could potentially inhabit the immediate project area. These species are the northern long-eared bat (*Myotis septentrionalis*) (NLEB), wood stork (*Mycteria americana*), pallid sturgeon (*Scaphirhynchus albus*), fat pocketbook (*Potamilus capax*), and pondberry (*Lindera melissifolia*). Of these five species, only the northern long-eared bat, wood stork, and pondberry could potentially utilize the habitat within the project area. As sturgeon and the fat pocketbook mussel are limited to the nearby Mississippi River, they are not found within the proposed project area.

In the spring and summer of 2021, USACE biologists conducted a site assessment of the project area. Potential impact areas were examined for the presence of suitable/potential habitat for the northern long-eared bat as well as the presence of pondberry and the woodstork. Although not occurring within the proposed project footprint, the presence of trees larger than 3 inches diameter at breast height (DBH) were noted within the project area vicinity. However, at this time, there are no known maternity roost trees in the State of Mississippi and only one known hibernaculum, which is not located in the vicinity of the project area. Additionally, no evidence of pondberry or the woodstork was noted at either the borrow or berm locations. Furthermore, habitat within the project area is not considered critical habitat for any potential species.

3.1.4 Cultural Resources

Existing Conditions

A literature review and cultural resources survey within the project's Area-of-Potential-Effect (APE) were completed by the MVM archaeologist in the summer of 2021. The investigation revealed no significant cultural resources within the Sherard Seepage project's APE.

3.1.5 Air Quality

Existing Conditions

The proposed project area is in attainment for all air quality standards. Although air emissions would not require a permit, best management practices shall be used throughout construction to minimize air pollution.

3.1.6 Hydrology and Water Quality

Existing Conditions

Water flow within the existing ditches and waterways within the proposed project area is dependent on heavy rainfall and seepage under the MRL from the adjacent Mississippi River. The farmland immediately adjacent to the levee on the protected side and Mississippi Highway 1 drain toward the ditches and low-lying areas adjacent to the levee, and as a result, portions of the area get inundated by run off and seepage during high water and rain events. Therefore, the existing drainage ditches typically have flowing water during periods of heavy rain and high river stages. Additionally, Lake Beulah, located riverside of the MRL near the Log Loader Chute industrial facilities, is identified on the State of Mississippi's Section 303(d) list as being impaired due to organic enrichment and low dissolved oxygen.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Wetlands

Future Conditions with No Action

Without implementation of the proposed action, wetland habitats within the project area are expected to remain as noted in Existing Conditions, provided that the adjacent levee remains stable. However, levee failure during a major flood event could negatively impact project area flora and fauna through displacements and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed action, approximately 2.2 acres of wetlands at the northern berm location would be impacted, representing 13.95 FCU. The impacts consist of

approximately 2.2 acres of fallow/depressional wetlands within the northern berm footprint that would be filled with approximately 11,493 CY of material.

To mitigate for the loss of 13.95 FCU, 3.27 acres (13.95 FCU) of the ongoing MRL mitigation in Mississippi would be utilized to compensate for this loss as described in Section 6.0 (Mitigation).

4.2 Wildlife

Future Conditions with No Action

Without implementation of the proposed action, the wildlife resources within the project area are expected to remain as noted in Existing Conditions.

Future Conditions with the Proposed Action

With implementation of the proposed action, impacts to wildlife resources would be limited to temporary dispersal and disturbance from the construction equipment and related noise. However, once the project is completed, wildlife species would be expected to return to the project area.

4.3 Threatened and Endangered Species

Future Conditions with No Action

Without implementation of the proposed action, threatened and endangered species within the project area are expected to remain as noted in existing conditions.

Future Conditions with the Proposed Action

Pursuant to Section 7 of the Endangered Species Act, as amended, USACE has determined that the proposed project would have no effect on the NLEB, wood stork, fat pocketbook, pallid sturgeon, or pondberry. Additionally, no evidence of bald eagles, or their nests, were observed at any project location. The bald eagle is no longer listed as a threatened species, but is still protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act.

4.4 Cultural Resources

Future Conditions with No Action

Without implementation of the proposed action, cultural resources are expected to remain as noted in Existing Conditions. However, continued seepage could lead to a levee failure during a major flood event, potentially impacting cultural resources.

Future Conditions with the Proposed Action

With implementation of the proposed action, no historic properties are anticipated to be affected. Additionally, there are no historic properties listed in or determined eligible for inclusion in the NRHP in the project's APE. No additional cultural resources investigations are recommended prior to project implementation. However, should an inadvertent discovery be made during construction, the resource would be evaluated, assessed for effects, avoided if possible, and mitigated in accordance with Federal statutes and regulations (36 CFR, Part 800).

4.5 Air Quality

Future Conditions with No Action

Without implementation of the proposed action, no change in air quality would occur.

Future Conditions with the Proposed Action

With implementation of the proposed action, project-related equipment would produce small amounts of engine exhaust during construction activities. The temporary, minor impacts to air quality would be localized to the project area and would not affect area residents. The project area would still be in attainment for all air quality standards. Additionally, best management practices would be used throughout the construction to minimize air pollution.

4.6 Hydrology and Water Quality

Future Conditions with No-Action

Without implementation of the proposed action, hydrology and water quality within the project area would be as noted in Existing Conditions. However, in the event of a levee failure, due to seepage or overtopping, the impacts to water quality could be significant.

Future Conditions with the Proposed Action

With implementation of the proposed action, hydrology riverside of the levee would be as noted in Existing Conditions. Impacts to water quality within, and adjacent to, the Mississippi River would be minimal or have no effect, as the river normally carries a heavy sediment load and that the project action would be conducted during dry or low water periods. Installation of the seepage berms would have only minor impacts on water quality to adjacent areas. Turbidity and suspended solids would be increased to minor degrees as a result of runoff from cleared areas. However, best management practices (e.g., silt fences, seeding) would be employed throughout construction to minimize impacts. Any temporary impacts to water quality would be anticipated to return to normal shortly after construction ceases. Additionally, hydrologic inputs to Lake Beulah are not anticipated as sources have been determined not be from the project area. Thus, no significant impacts to water quality would occur as a result of the proposed project. A Section 404(b)(1) Evaluation has been prepared for the proposed project action and

is included as an attachment. A state water quality certification is requested from the State of Mississippi, Department of Environmental Quality.

4.7 Hazardous, Toxic, and Radioactive Waste

Pursuant to (ER) 1165-2-132, USACE assumes responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed actions. ER 1165-2-132 identifies that HTRW policy is to avoid the use of project funds for HTRW removal and remediation activities. A record search has been conducted of the Environmental Protection Agency's (EPA) EnviroMapper for Envirofacts web site (<https://www.epa.gov/emefdata/em4ef.home>). The web site was checked for any superfund sites, toxic releases, or hazardous waste sites within the vicinity of the proposed project area. Additionally, a site inspection of the proposed project was conducted by USACE personnel during the spring of 2021. The environmental record search and site survey conducted did not identify the presence of any hazardous or suspected hazardous wastes in the project area. As a result of these assessments, it was concluded that the probability of encountering HTRW is low. If any hazardous waste/substance is encountered during construction activities, the proper handling and disposal of these materials would be coordinated with the EPA and applicable state agencies.

4.8 Cumulative Impacts

The Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7)". Cumulative Effects can result from individually minor but collectively significant actions taking place over a period of time."

A final SEIS, *Mississippi River Mainline Levees Enlargement and Seepage Control*, was completed in July 1998 to address all remaining work on the levee enlargement and seepage control project. However, the seepage problems at the proposed project locations were not anticipated when the SEIS was completed. Benefits resulting from cumulative effects in the SEIS included 1) the mitigation plan and borrow area reforestation which resulted in a net gain of 4,070 acres of bottomland hardwoods; 2) incremental impacts which resulted in a net gain in nationally significant habitat and environmental values; 3) the action would not improve or worsen any cumulative effects associated with the existing Mississippi River levees; 4) the project did not affect the hypoxia zone in the Gulf of Mexico; and 5) the environmental design and compensation features result in a net increase in terrestrial, wetland, waterfowl, and aquatic resource values such that no significant cumulative environmental impact resulted on an ecosystem, landscape, or regional scale.

Impacts of the proposed project action were evaluated during the preparation of this EA on the natural and human environment. A total of approximately 2.2 acres of wetlands would be

impacted by the proposed project action. The proposed mitigation would include restoring approximately 3.27 acres of agricultural land to high quality bottomland hardwood forest. The impacts associated with the proposed project activities should not have any significant adverse cumulative effects on the environment in addition to those reported in the 1998 SEIS.

5.0 COORDINATION

The proposed action, draft EA, and Finding of No Significant Impact (FONSI) have been coordinated with members of the project interagency environmental team (IAT) through distribution of the draft EA. The IAT is comprised of representatives from USACE, USFWS, EPA, and Mississippi Department of Environmental Quality. In addition, this EA is being coordinated with these agencies: Mississippi Department of Archives and History, federally recognized tribes, and other interested parties.

6.0 MITIGATION

With implementation of the alternative 2, approximately 2.2 acres of wetlands at the northern berm would be impacted by the proposed project. Utilizing mitigation analysis described in the 1998 SEIS, approximately 3.27 acres of reforested prior converted cropland would be required to mitigate the impact. However, as final MRL construction project designs have been developed, wetland impacts for the MRL program within Mississippi are currently below the 1998 SEIS estimate. To date, USACE has purchased 5,094 acres of land for construction items within the Vicksburg District (MVK), which tracks and provides mitigation for MVM MRL projects within the State of Mississippi. A mixture of bottomland hardwood species comprised of 70 percent red oaks have been planted on acquired tracts. This acreage represents over 90 percent of the total 5,200 acres recommended for purchase by the mitigation plan. Therefore, required mitigation is 292.83 acres (1,235.49 functional capacity units) less than the expected amount for MRL construction projects to date. Thus, environmental impacts resulting from the recommended alternative are addressed through the ongoing mitigation plan for Mississippi River Levees and Seepage projects. Table 4 provides a detailed cumulative account of losses/required mitigation for MRL items with project modifications not accounted for in the 1998 SEIS.

Table 4. Mississippi River Levee construction items, impacts, and required mitigation, Vicksburg District, U.S. Army Corps of Engineers.

Resource Category	Terrestrial		Wetlands		Waterfowl		Aquatics	
	AAHUs Loss	Acres Required	AAFCUs Loss	Acres Required	DUDs Loss	Acres Required	AAHUs Loss	Acres Required
MRL SEIS	5,694	1,930	22,206	5,200	199,440	849	-27,131	N/A
MFRs								
Item 509-L	-74.88	-25.42	-168.54	-39.47	-73,498.61	-312.76	0.00	0.00
Lake Jackson	-22.32	-7.58	-56.76	-13.29	108.56	0.46	-2.92	-0.72
Ben Lomand	-2.06	-0.70	-4.82	-1.13	-68.56	-0.29	0.00	0.00
Greenville	-0.81	-0.28	-1.14	-0.27	0.00	0.00	0.00	0.00
Lake Chicot Pumping Station	-49.50	-16.80	-18.42	-4.31	-4,342.31	-18.48	0.00	0.00
Davis Landing	-4.68	-1.59	-64.08	-15.01	-23,025.65	-97.98	-1.17	-0.29
Item 511-L	-21.06	-7.15	-66.18	-15.50	-1,471.36	-6.26	-110.96	-27.40
EAs								
Item 336-R	0	0	0	0	0	0	0	0
Item 365-R	-33.57	-11.4	368	86.2	17,783	75.7	34	8.35
Item 368-R	146.02	49.57	408.77	95.73	-39,013	-166.01	0	0
Item 374-R	-80.53	-27.33	-125.46	-29.38	-2194.01	-9.34	-18.8	-4.64
Item 377-R	20.18	6.85	20.74	4.86	-1714.07	-7.29	-51.68	-12.76
Item 380-R	-15.6	-5.3	-55.53	-13	-2825.42	-12.02	5.84	1.44
Item 385-R	-413.36	-140.31	-998.6	-233.86	-23784.64	-101.06	-2.92	-0.72
Item 388-R	-31.2	-10.59	-371.84	-87.08	-60982.38	-259.5	-14.6	-3.6
Item 398-R	121.06	41.09	-180.8	-42.33	-29,780	-126.72	26.46	6.53
Item 401-R	92.35	31.35	48.01	11.24	23,941	101.88	-28.85	-7.12
Item 407-R	123.02	41.76	314	73.54	-95,932	-408.22	9.69	2.39
Item 411-R	-154.11	-52.31	-88.66	-20.76	3,737	15.9	0	0
Item 414-R	76.65	26.02	87.25	20.43	10,001	42.56	-5.75	-1.42
Item 416-R	306.94	104.19	114.58	26.83	-13281.14	-56.52	0	0
Item 422-R	8.89	3.01	18	4.19	1,550	6.6	-235	-57.95
Item 445-R	1.85	0.63	-5	-1.17	-16334	-69.51	-75	-18.52
Item 450-R	326.5	110.83	-120	-28.1	1081	4.6	1.5	0.37
Item 456-L	-1.5	-0.51	-132.88	-31.12	2536.88	10.8	0.35	0.09
Item 458-L	31.18	10.58	-220.38	-51.6	-2,289	-9.74	-2.92	-1
Item 461-R	244	83	215	50	20,329	86	-38	-9
Item 462-L	386.66	131.25	764.38	179.01	3,029	12.89	0	0

Mississippi River Mainline Levee
Seepage Control Measures
Sherard, Mississippi

U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District

Resource Category	Terrestrial		Wetlands		Waterfowl		Aquatics	
	AAHUs Loss	Acres Required	AAFCUs Loss	Acres Required	DUDs Loss	Acres Required	AAHUs Loss	Acres Required
Item 463-L	177.05	60.1	408.93	95.77	5805	24.7	1.46	0.39
Item 465-L	-311.12	-105.6	-551.58	-129.2	-7,830	-33.3	-2.92	-1
Item 465-L	321.62	109.17	710.28	166.34	4685.12	19.94	0	0
Items 466, 464, & 397-R	0.53	0.18	0.24	0.06	114.97	2.48	0	0
Item 474-L	141	48	-599	-140	10,475	45	3	0.8
Item 477-L & 488-R	-171	-58	-1,400	-328	-27,176	-115	-1,561	N/A
Item 485-R	100	34	192	45	-81,985	-349	-300	-74
Item 487-R	3.3	14	87.1	17	-230	-13	-2.5	-1
Item 496-L	0	0	-66.8	-15.6	974	4.14	-178	-44
Item 524-L Avon	0	0	0	0	0	0	0	0
Item 525-L	18.72	6.35	17.45	4.09	1894.07	8.06	0	0
Item 526-L	17.1	5.8	-30.43	-7.13	-41.46	-0.18	0	0
Item 531-R	-3.31	-1.12	-19.1	-4.47	-3314.4	-14.1	0	0
Item 536-R	11.43	3.88	-92.98	-21.77	-32567.29	-138.58	0	0
Item 536-R Laland Chute Berm	-24.65	-8.37	-46.91	-10.99	-446.46	-1.9	0	0
Item 543-L	-4.3	-1.46	-8.21	-1.92	-1373.21	-5.84	0	0
Item 546-R	-101.19	-34.35	16.2	3.79	-47953.91	-204.06	0	0
Item 616-L	-0.87	-0.29	-20.55	-4.81	-6619.23	-28.17	0	0
2020 Norfolk (MVM)	999.00	3.40	0.00	0.00	0.00	0.00	0	0
2003 Trotters (MVM)	104.56	35.49	298.9	70	NC	NC	0	0
2018 Trotters (MVM)	9.76	33.12			0	0	0	0
2018 Rena Lara (MVM)	0	0	7.61	1.8			0	0
2022 Sherard	0	0	13.95	3.27				
Blackhawk I	1.38	0.47	3.1	0.73	44.01	0.019	10.06	2.51
Blackhawk II	390.36	132.51	164.67	38.56	2114.1	9	0	0
Grand Lake	0	0	0	0	0	0	0	0
Leota	0	0	0	0	0	0	0	0
Willow Lake	0	0	0	0	0	0	0	0
Wilson Point	0	0	0	0	0	0	0	0
Current Total	2,659.49	610.14	-1,235.49	-292.83	-489,870.43	-2,094.10	-2,540.63	-242.27

Mississippi River Mainline Levee
Seepage Control Measures
Sherard, Mississippi

U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District

7.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed action would be achieved upon: coordination of this draft EA and draft FONSI with appropriate agencies, organizations, and individuals for their review and comments; receipt of a Water Quality Certificate from the State of Mississippi; public review of the Section 404(b)(1) Public Notice; and signature of the Section 404(b)(1) Evaluation. The draft FONSI would not be signed until the proposed action achieves environmental compliance with applicable laws and regulations, as described above.

7.1 Threatened and Endangered Species

In the spring and summer of 2021, USACE biologists conducted a site assessment of the project area. Potential impact areas were examined for the presence of suitable/potential habitat for the northern long-eared bat as well as the presence of pondberry. Pursuant to Section 7 of the Endangered Species Act, as amended, USACE has determined that the proposed project would have no effect on the NLEB, wood stork, fat pocketbook, pallid sturgeon, or pondberry. Additionally, no evidence of bald eagles, or their nests, were observed at any project location. The bald eagle is no longer listed as a threatened species, but is still protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act.

7.2 Cultural Resources

A literature review and cultural resources survey within the project's Area-of-Potential-Effect (APE) were completed by the MVM archaeologist in the summer of 2021. The investigation revealed no significant cultural resources within the Sherard Seepage project's APE and no historic properties are anticipated to be affected as a result of the proposed project. Therefore, no additional cultural resources investigations are recommended prior to project implementation. However, should an inadvertent discovery be made during construction, the resource would be evaluated, assessed for effects, avoided if possible, and mitigated in accordance with federal statutes and regulations (36 CFR, Part 800). Concurrence from the Mississippi State Historic Preservation Office is requested with this draft EA.

7.3 Water Quality, State Certification

Impacts to water quality within the Mississippi River would be minimal or have no effect, as the river normally carries a heavy sediment load. Thus, no significant impacts to water quality would occur as a result of the proposed project. A Section 404(b)(1) Evaluation was prepared for the proposed project action and is included as an attachment. A state water quality certification is requested from the State of Mississippi, Department of Environmental Quality with this draft EA.

8.0 CONCLUSION

The proposed action involves implementing seepage control measures along the MRL. A total of approximately 2.2 acres of wetlands at the northern berm would be impacted by the proposed

project. To mitigate for the impact, approximately 3.27 acres of cleared agricultural land would be restored to bottomland hardwoods.

This office has assessed the environmental impacts of the proposed action and has determined that the proposed work is expected to have only minor impacts on agricultural lands, wildlife, air quality, and hydrology. Impacts to wildlife and air quality would be temporary and would be expected to return to existing conditions after completion of the project action. The proposed project would have no impacts upon freshwater marshes, freshwater lakes, state designated scenic streams, prime and unique farmlands, cultural resources, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic, or environmental justice. Also, no significant adverse impacts would occur to wetlands, aquatic resources/fisheries, wildlife, threatened and endangered species, hydrology/water quality, air quality, or the human environment. Therefore, a supplemental EIS is not required.

9.0 PREPARED BY

This EA and FONSI were prepared by Mr. Joshua M. Koontz, USACE biologist, with cultural resources information provided by Ms. Pam Lieb, USACE archeologist. For additional information, contact Mr. Joshua M. Koontz at (901) 544-3975, or by email at joshua.m.koontz@usace.army.mil, or by mail at USACE Memphis District, Attn: Joshua M. Koontz, 167 North Main St., RM-B202, Memphis, TN 38103-1894.

ATTACHMENTS

Attachment A – Section 404(b)(1) Evaluation