DRAFT ENVIRONMENTAL ASSESSMENT

Mississippi River Channel Improvement
New Madrid Boat Ramp Repair
New Madrid County, Missouri

September 2021

U.S. Army Corps of Engineers
Mississippi Valley Division
Regional Planning and Environmental Division South

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1.0 INTRODUCTION. The U.S. Army Corps of Engineers (USACE), Memphis District (MVM), is proposing the repair of the New Madrid boat ramp, New Madrid, MO (Figure 1). This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation 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).

1.1 Project Action. The proposed project would restore the structurally damaged sections of the boat ramp and place riprap within the project area to repair scour that has occurred. Additional riprap would be placed outside of the original project design area to help offset any potential future scour and stabilize the banks surrounding the boat ramp. Work would include overlaying the existing ramp with a new 12-inch slab with an upstream 3-foot by 3-foot turndown. Damaged areas would be removed, and the existing cast-in-place slab would be cored, and grout would be added to fill any voids that exist in areas that have sustained damage. The new 12-inch slab would be cast-in-place along most of its length and a precast push-in-place slab would be laid for the remaining length of slab that is underwater (the portion extending past the existing curb). Approximately 15,000 tons of riprap would be used to protect the boat ramp from scour. On the upstream side, the riprap will be placed a few feet above the top of the boat ramp and extend out like a berm 15 feet from the boat ramp, and then slope down at 2H:1V. Furthermore, providing the anticipated protection against future damage during high water and velocities requires the placement of riprap approximately 55 feet downstream and 95 feet upstream beyond the current riprap placement. Access to the project area would be from Levee Road. The boat ramp parking lot would be used for a staging area. It is anticipated that no utilities would be disturbed as part of the proposed work.

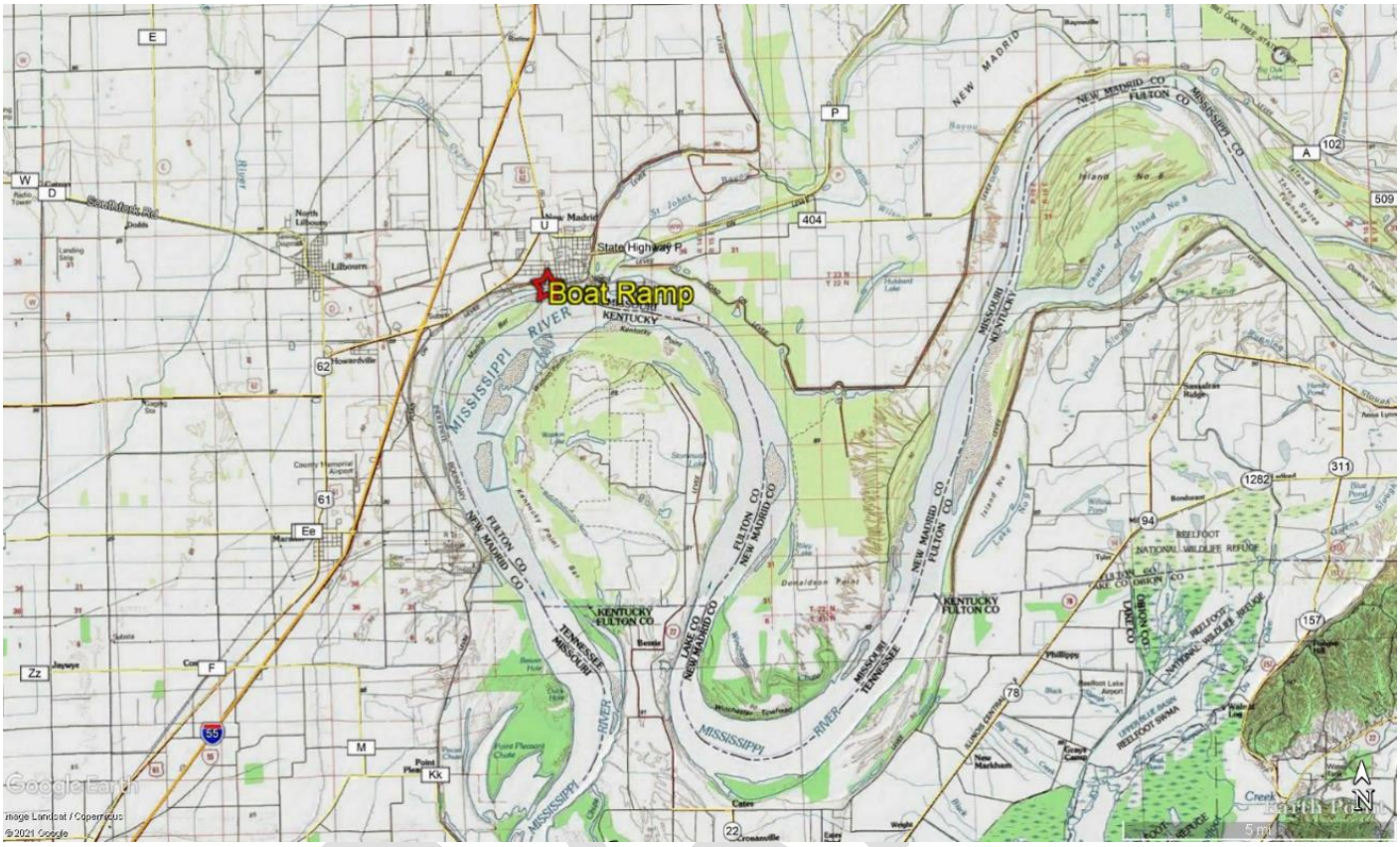


Figure 1: Location of the proposed New Madrid boat ramp repairs in New Madrid County, Missouri.

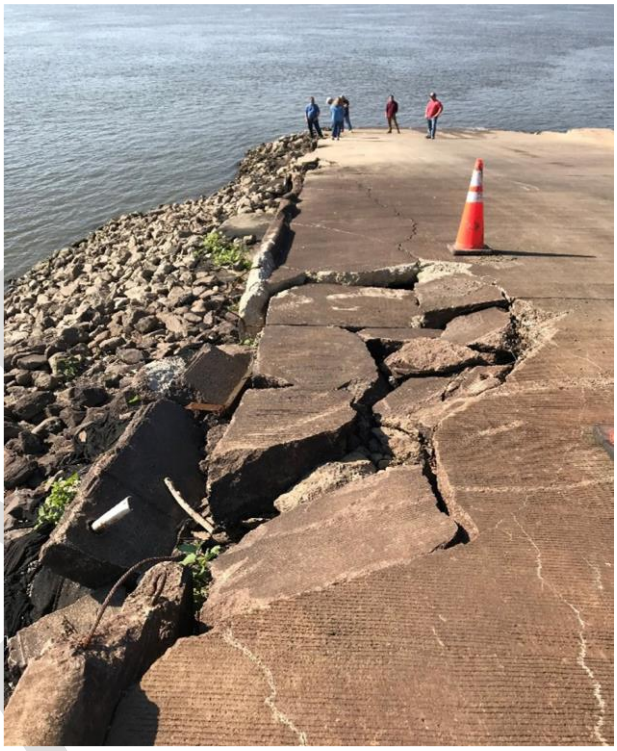
1.2 Purpose And Need For The Action. The boat ramp was constructed in 2002 and has since sustained structural damage. The boat ramp design did not incorporate measures to protect the ramp from large commercial vessels docking at it, which has led to structural impacts and degradation of the ramp. Additionally, recent high-water conditions and high river velocities have caused scouring on the upstream side (Figures 2 and 3). Continued impacts from large vessels, high water levels, and high-water velocities may lead to boat ramp failure and could result in human injuries and/or loss of life and significant economic damages.

1.3 Authority For The Action. The repair of the proposed work is authorized as part of the Mississippi River Channel Improvement (CI) portion of the Mississippi River and Tributaries (MR&T) Project. The MR&T Project is authorized by the Flood Control Act of 15 May 1928 (PL 391-71), as amended.

1.4 Prior Reports. An EA entitled "*Riverfront Improvements New Madrid, Missouri*" was completed in June 2002 to evaluate the potential impacts associated with the replacement of the existing boat ramp and to add riprap improvements to the project area. The original boat ramp was in poor condition and too steep for safe access to the river by small boats. The plans for the boat ramp replacement were investigated and cleared for cultural resources and endangered species in 2002. The original ramp was demolished and replaced with the current boat ramp, which was

longer and less steep than the original, making it safer and easier to access. The related impacts were addressed in the 2002 EA.

1.5 Public Concerns. The safety and stability of the New Madrid boat ramp is a significant public concern. Continued degradation of the boat ramp could cause a catastrophic failure risking human life and property.



Figures 2 and 3: Concrete damage and scour conditions at the New Madrid boat ramp, New Madrid County, Missouri.

2.0 ALTERNATIVES TO THE ACTION

Three alternatives were considered to accomplish the rehabilitation of the New Madrid boat ramp: 1) no-action; 2) repair the boat ramp to its original design; 3) remove sections of damaged boat ramp and replace with new slabs, add a turndown, and reinforce with riprap.

2.1 Alternative 1 – No-action alternative. The no-action alternative would result in the continued degradation of the New Madrid boat ramp. High water would continue to allow large boats and barges to navigate too close to shore, impacting the integrity of the boat ramp. Scour damage on the upstream side would continue to occur and undermine the stability of the boat ramp, making it inoperable. Therefore, the MVM has determined that this alternative would not effectively address the active degradation of the New Madrid boat ramp. In addition, the boat ramp would not meet safety standards.

2.2 Alternative 2 – Repair the boat ramp to its original design. This alternative would involve repairing the damaged boat ramp to the original 2002 design. Damaged areas would be removed,

and the existing cast-in-place slab would be cored, and grout would be placed to fill any voids that exist in areas that have sustained damage. No environmental or cultural impacts would be incurred as a result of this alternative. This alternative would not alleviate the structural impacts caused by the docking of larger motor vessels nor would it provide protection to the ramp during high-water events. Thus, MVM determined this alternative was not practicable and removed it from further consideration.

2.3 Alternative 3 – Remove sections of damaged boat ramp and replace with new slabs, add a turndown, and reinforce with riprap. This alternative would involve overlaying the existing ramp with a new slab with an upstream 3-foot by 3-foot turndown, which is anticipated to add protection to allow larger commercial vessels to dock. Damaged areas would be removed, and the existing cast-in-place slab would be cored and grouted. The new 12-inch slab would be cast-in-place along most of its length, and a precast push-in-place slab would be used for the remaining length of slab that is underwater. Riprap would be set to add stabilization. The potential impacts of the additional features added to the original project design are discussed below.

All factors considered, Alternative 3 is the most practicable solution for boat ramp longevity and safety. The addition of the 3-ft turndown on the upstream side of the ramp and the additional amounts of riprap would allow for larger commercial vessels to dock at it without significant damage. Therefore, this is the preferred alternative for the project assessed in this EA.

3.0 AFFECTED ENVIRONMENT

3.0.1 Environmental Setting. The proposed project area's land use is classified as developed. The project area is surrounded primarily by riprap and grass. The immediate riparian zone is dominated by grasses and weed species with no trees or shrubs. Available in-stream habitat is sparse throughout the project area as there are few trees along the right descending bank (RDB) to provide any organic matter input. The Mississippi River sediment load consists of shifty sands, silt, and clay.

3.0.2 Climate. New Madrid County, Missouri, has a humid, warm-temperate climate characterized by moderately cold winters, warm or hot summers, and generally abundant rainfall. The average annual temperature for New Madrid County is 58.5 degrees Fahrenheit, which is higher than the Missouri average temperature of 54.7 degrees Fahrenheit. Total annual precipitation for New Madrid County averages 47.2 inches, which is slightly higher than the Missouri average of 45.2 inches. In contrast, the annual snowfall average of 4.8 inches within New Madrid County is less than the annual state average of 12.7 inches.

3.0.3 Geology. The majority of the proposed New Madrid project is composed of Commerce silt loam, Caruthersville silt loam, and Sharkey clay soils. Commerce soils consist of deep, somewhat poorly drained, moderately slowly permeable soils. Caruthersville soils consist of deep, moderately well drained, moderately permeable soils. Sharkey soils are poorly drained and more suitable for wetland vegetation such as bottomland hardwoods.

3.1 RELEVANT RESOURCES

This section contains a description of those resources that would be impacted by the project. The important resources described in this section and Table 1 are those recognized by laws, executive orders, regulations, and other standards of National, state, or regional agencies and organizations; federally recognized tribes; technical or scientific agencies, groups, or individuals; and the general public. The following resources have been considered and found not to be affected by the alternative under consideration: freshwater marshes, freshwater lakes, state-designated scenic streams, forested wetlands, prime and unique farmlands, aquatic resources/fisheries, cultural resources, municipal utilities, roadways, aesthetics, socio-economic, environmental justice, and water quality.

Table 1: Relevant Resources

Resource	Institutionally Important	Technically Important	Publicly Important
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.	U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Environmental Protection Agency, and Missouri 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.
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, 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 Wildlife

Existing Conditions: Typical wildlife species that would be expected or have been observed within the project area include various species of fish, raccoons, opossums, rabbits, squirrels, mice, rats, songbirds, raptors, turtles, snakes, and amphibians.

3.1.2 Threatened and Endangered Species

Existing Conditions: The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation webpage was utilized to ensure all potentially affected threatened and endangered species were considered. Although the project area falls within range of the endangered Indiana bat, gray bat, and threatened northern long-eared bat, the proposed project is located on a developed boat ramp with no suitable habitat for these species. Additionally, no evidence of bald eagles, or their nests, were observed within the project vicinity. Due to the high traffic of large barges and smaller boat activities at this boat ramp location, it was also concluded that this site would not be suitable habitat for the endangered pallid sturgeon.

3.1.3 Air Quality

Existing Conditions: New Madrid County is in attainment for all air quality standards. As equipment to be used during construction is a mobile source, the project is exempt from air quality permitting requirements. Although air emissions would not require a permit, best management practices shall be used throughout the construction to minimize air pollution.

3.1.4 Hydrology and Water Quality

Existing Conditions: The Mississippi River is categorized as having swift currents, unstable substrates, and high turbidity.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Wildlife

Future Conditions with No Action: Without implementation of the action, the wildlife resources within the project area are expected to remain as noted in Existing Conditions.

Future Conditions with Preferred Action (Alternative 3): Disturbance and noise from project-related activities would temporarily displace most wildlife species from the project work areas. Project impacts are not expected to adversely impact the general population of wildlife species within the region.

4.2 Threatened and Endangered Species

Future Conditions with No Action: Without implementation of the action, threatened and endangered species within the project area are expected to remain as noted in Existing Conditions.

Future Conditions with Preferred Action (Alternative 3): Based on the project location, lack of suitable habitat, and the survey provided, the U. S. Fish and Wildlife Service determined on April 29, 2021 the work may affect, but is not likely to adversely affect, the pallid sturgeon or its habitat.

4.3 Air Quality

Future Conditions with No Action: Without implementation of the action, no change in air quality would occur.

Future Conditions with Preferred Action (Alternative 3): With implementation of the action, the project-related equipment would produce small amounts of engine exhaust during construction activities. However, these temporary, minor impacts to air quality would be localized to the project area and would not affect surrounding residents. The equipment to be used is a mobile source, thus the project is exempt from air quality permitting requirements. Although air emissions would not require a permit, best management practices would be used throughout the construction to minimize air pollution.

4.4 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.

Future Conditions with Preferred Action (Alternative 3): With implementation of the proposed action, hydrology would be as noted in Existing Conditions. Impacts to water quality within the Mississippi River would be minimal. The river normally carries a heavy sediment load which would be unaltered by construction and the project action would be conducted during low water periods to further minimize sediment runoff. Placement of riprap would have a direct impact on any benthic macroinvertebrates existing in the immediate footprint; however, this impact would be short term and benthic communities would return to pre-existing conditions soon after project completion. Turbidity and suspended solids would be increased to minor degrees as a result of construction activities. However, best management practices 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. 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 was requested from the State of Missouri, Department of Natural Resources (MDNR).

4.5 Hazardous, Toxic, and Radioactive Waste (HTRW)

The USACE is obligated under Engineer Regulation 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all HTRW contamination within the vicinity of the action. A record search has been conducted of the Environmental Protection Agency's (EPA) EnviroMapper Web Page (http://maps.epa.gov). The web site was checked for any superfund sites, toxic releases, and hazardous waste sites within the vicinity of the project area. MVM biologists conducted site inspections of Riverfront Park. The environmental records 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 the construction activities, the proper handling and disposal of these materials would be coordinated with the Missouri Division of Environmental Quality.

4.6 Cumulative Impacts

The Council on Environmental Quality's regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act 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)."

Impacts of the proposed project action were evaluated during the preparation of this draft EA on the natural and human environment. Besides USACE authorized projects, other activities in the vicinity, including recreation, have not increased and impacts are not projected to increase in the future. Therefore, the temporary impacts associated with the proposed project activities should not have any significant adverse cumulative effects on the environment.

5.0 COORDINATION

Preparation of the draft EA and FONSI were coordinated with the representatives from USACE and the USFWS. In addition, the environmental assessment has been coordinated with the following agencies and stakeholders: Missouri State Historic Preservation Officer, Missouri Historic Preservation Program, Missouri Department of Natural Resources, Missouri Department of Conservation, U.S. Environmental Protection Agency, federally recognized tribes, and other interested parties. Coordination with these agencies would continue, as required, throughout the planning and construction phases of the project.

6.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the New Madrid boat ramp repair project would be achieved upon coordination of the draft EA and FONSI with the above mentioned agencies and stakeholders.

6.1 Cultural Resources

The New Madrid boat ramp repair project has no potential to impact historic properties, and no further Section 106 consultation is required per 36 CFR 800.3 (a)(1).

6.2 Clean Water Act

The project does trigger a new permit requirement as set forth in the conditions noted in the Missouri Nationwide Permit Regional Conditions for all Nationwide Permits due to its requirement of riprap placement beyond the current boat ramp footprint. Coordination with MDNR for permitting of this project is ongoing.

7.0 CONCLUSION

The project involves repair of the New Madrid boat ramp by removing damaged areas, replacing these slabs with new cast-in-place slabs and precast push-in-place slabs where necessary, placing grout to fill any voids that may exist in damaged areas, and adding a 3-foot by 3-foot turndown on

the upstream side of the ramp. Riprap would be placed on both the upstream and downstream sides of the ramp to help armor the banks and provide additional ramp protection.

This office has evaluated the environmental impacts of the alternatives in accordance with technical and environmental criteria in the 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and in accordance with all applicable laws, executive orders, regulations, and local government plans. The proposed work will have only minor impacts on wildlife, water quality, hydrology, and air quality. Any impacts would be temporary and would be expected to return to existing conditions soon after construction. The project would have no impacts upon forested wetlands, freshwater marshes, freshwater lakes, state-designated scenic streams, prime and unique farmlands, aquatic resources/fisheries, cultural resources, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic conditions, or environmental justice concerns. No significant adverse impacts would occur to forested wetlands, wildlife, threatened and endangered species, hydrology, air quality, or the human environment. Therefore, an environmental impact statement would not be required.

8.0 PREPARERS

This EA and associated FONSI were prepared by Jennifer Hiltonsmith, with cultural resources information provided by Pam Lieb, archeologist. For additional information, contact Jennifer Hiltonsmith at (901) 579-7473, by email at Jennifer.Hiltonsmith@usace.army.mil, or by mail at USACE Memphis District, Attn: Jennifer Hiltonsmith, 167 North Main St., B202, Memphis, TN 38103-1894.