# DRAFT ENVIRONMENTAL ASSESSMENT

## Fisk Scour Repair South of Railroad Bridge
## St. Francis River Basin
## Butler and Stoddard Counties, Missouri



**April 2020**

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

## TABLE OF CONTENTS


**1.0 INTRODUCTION ..... 3**

1.1 PROPOSED ACTION ..... 3
1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION ..... 5
1.3 AUTHORITY FOR THE PROPOSED ACTION ..... 5
1.4 PUBLIC CONCERNS ..... 5

**2.0 ALTERNATIVES TO THE PROPOSED ACTION ..... 5**

2.1 ALTERNATIVE 1 – FUTURE WITHOUT PROJECT CONDITION ..... 6
2.2 ALTERNATIVE 2 – ROCKING UPSTREAM HALF OF SCOUR ..... 6
2.3 ALTERNATIVE 3 –RIPRAP ENTIRE SCOUR HOLE ..... 6
2.4 ALTERNATIVE 4 – ROCK BENCHES ON SIDE SLOPES ..... 6
2.5 PREFERRED ALTERNATIVE FOR THE PROPOSED PROJECT ..... 6

**3.0 AFFECTED ENVIRONMENT ..... 7**

3.0.1 ENVIRONMENTAL SETTING ..... 7
3.0.2 CLIMATE ..... 7
3.0.3 GEOLOGY ..... 7
3.1 RELEVANT RESOURCES ..... 7
3.1.1 AGRICULTURAL LANDS, PRIME AND UNIQUE FARMLANDS ..... 10
3.1.2 WETLANDS ..... 10
3.1.3 AQUATIC RESOURCES/FISHERIES ..... 10
3.1.4 BOTTOMLAND HARDWOOD (BLH) FORESTS ..... 10
3.1.5 WILDLIFE ..... 11
3.1.6 THREATENED AND ENDANGERED SPECIES ..... 11
3.1.7 CULTURAL RESOURCES ..... 11
3.1.8 AIR QUALITY ..... 12
3.1.9 HYDROLOGY AND WATER QUALITY ..... 12

**4.0 ENVIRONMENTAL CONSEQUENCES ..... 12**

4.1 AGRICULTURAL LANDS, PRIME AND UNIQUE FARMLANDS ..... 12
4.2 WETLANDS ..... 13
4.0 AQUATIC RESOURCES/FISHERIES ..... 13
4.1 BOTTOMLAND HARDWOOD (BLH) FORESTS ..... 13
4.2 WILDLIFE ..... 14
4.3 THREATENED AND ENDANGERED SPECIES ..... 14
4.4 CULTURAL RESOURCES ..... 14
4.5 AIR QUALITY ..... 15
4.6 HYDROLOGY AND WATER QUALITY ..... 15
4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE ..... 15
4.8 CUMULATIVE IMPACTS ..... 16

**5.0 COORDINATION ..... 16**

**6.0 MITIGATION ..... 16**

**7.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS ..... 17**
7.1 THREATENED AND ENDANGERED SPECIES ..... 17
7.2 CULTURAL RESOURCES ..... 17
**8.0 CONCLUSION ..... 17**
**9.0 PREPARED BY ..... 18**

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## 1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi River Valley Division, Regional Planning and Environmental Division South, has prepared this draft environmental assessment (EA) for the Memphis District (MVM) to evaluate potential impacts associated with proposed scour repair measures at one location along the St. Francis River, near the town of Fisk, Butler and Stoddard Counties, Missouri (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 (CEQ) 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 1973 EIS, *St. Francis Basin Project, Arkansas and Missouri*, addressed flood control measures to be implemented in the St. Francis River Basin. However, since publication of the 1973 EIS, it has been determined that other flood control measures are needed in the St. Francis River Basin to prevent continued seepage and potential degradation of the St. Francis River Basin and associated flood control structures. High water velocities within the St. Francis River has led to bank scouring south of the Missouri State Highway 51 Bridge and adjacent railroad bridge. The existing scour area is approximately 0.5 acre in size, proposed measures are anticipated to prevent the scour from progressing further upstream.

### 1.1 PROPOSED ACTION

The proposed project involves placing R400 riprap 30 to 60 inches thick over 6 inches of bedding stone within the approximate 400 feet long and 360 feet wide scour hole. At the upstream end of the scour, the riprap would tie into existing R200 riprap. Side slopes would be excavated to a 2:1 slope with riprap overlain. Approximately 10,670 tons of R400 riprap and 1,425 tons of bedding material would be used (Figure 2).

Access to the proposed project area would be from two haul roads (Figure 2). The left descending bank access (east side) would be through the use of an existing gravel road off Old Highway 60. The right descending bank access (west side) would be through the use of a temporary haul road specially constructed for this project. The constructed haul road would be 30 feet wide and run along the southern edge of an existing agricultural field (temporarily only during the construction period), crossing under existing overhead electric line, over an existing single track road, and through a section of woods to the project site. Heavy construction

equipment would be used to place riprap and achieve side slope aspects. Post-construction hydrology would be similar to pre-existing condition.

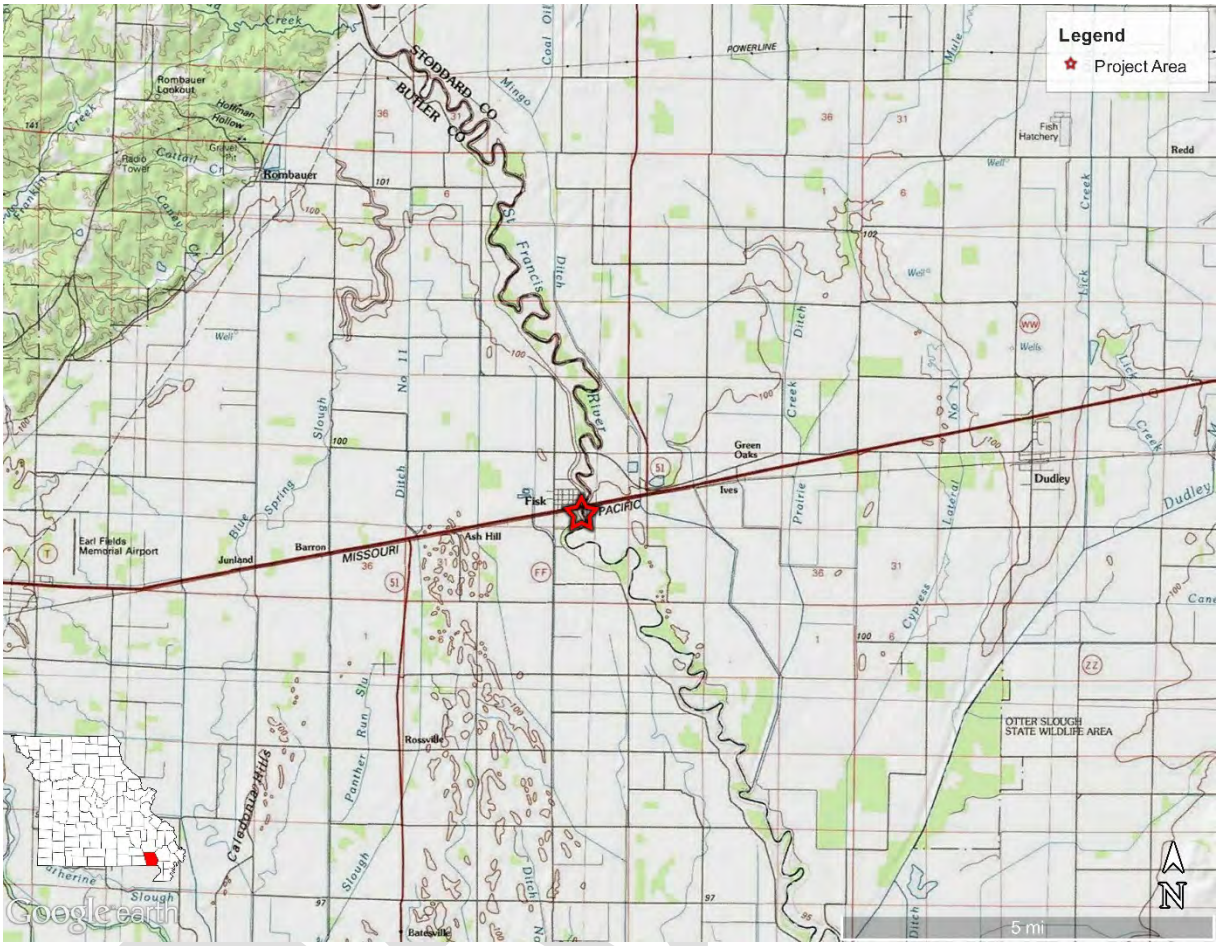


**Figure 1. Location of Proposed Fisk Scour Repair, Butler and Stoddard Counties, Missouri.**


**Figure 2. Proposed location of haul roads and scour location, Fisk Scour Repair, Butler and Stoddard Counties, Missouri.**

## 1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed project is to prevent the scour from further progressing upstream, threatening the Union Pacific Railroad bridge and Missouri State Highway 51.

## 1.3 AUTHORITY FOR THE PROPOSED ACTION

The proposed project is authorized as part of St. Francis Maintenance in the Flood Control Acts of 1928 (P.L. 70-391), 1936 (P.L. 74-678), 1941, Section 3 (P.L. 77-228), 1946, Section 10 (P.L. 79-526), 1950, Section 204 (Title II of P.L. 81-516), 1965 (Title II of P.L. 89-298) and 1968 Section 203 (90-483); Water Resources Development Act of 2007, Section 3011 (P.L. 110-114).

## 1.4 PUBLIC CONCERNS

Public concerns exist regarding the integrity of the existing highway and railroad bridges. Failure of the very active Union Pacific railroad line would create logistical bottlenecks and cause major disruptions in rail service in the Midwestern part of the country. Failure of the adjacent highway bridge, the Missouri State Highway 51 Bridge, would create impositions to the public trying to cross the St. Francis River.

## 2.0 ALTERNATIVES TO THE PROPOSED ACTION

Four alternatives to the proposed project were considered. These alternatives were: (1) No-action; (2) rock the upstream half of the scour hole at a given thickness and constant slope with

riprap; (3) place riprap throughout the entire scour hole; and (4) instead of uniform rock placement, stack rock in benches along the side slopes. Alternative 1 (no action) is not acceptable because of potential damage to the highway bridge and railroad. Alternative 3 (riprap the entire scour) was not considered practical due to scour depths and associated construction equipment requirements. Alternative 4 (benches on side slopes) was not considered practical due to the possibility of slope stability failure resulting from concentrated loading. Alternative 2 (rocking upstream half of scour) is the preferred alternative.

## 2.1 ALTERNATIVE 1 – FUTURE WITHOUT PROJECT CONDITION

In the future without project condition (a.k.a. no-action), the proposed project would not be constructed. The no-action alternative would result in continued scouring. The scour area would likely increase and potentially work its way upstream and place the railroad bridge and even the highway bridge in jeopardy of instability or structural failure. Failure of the very active railroad and highway bridges could cause major disruptions to business, industry, and the public and/or could impact public safety.

## 2.2 ALTERNATIVE 2 – ROCKING UPSTREAM HALF OF SCOUR

The proposed project for this alternative involves rocking the upstream portion of the scour hole with riprap of a given thickness and constant slope, with a key at the downstream end of the rock layer. This alternative involves placing sufficient riprap to stabilize erosion. As the scour progresses upstream and the resulting erosion occurs below the riprap, the stone is undermined and rolls/slides down the slope, halting the erosion.

## 2.3 ALTERNATIVE 3 –RIPRAP ENTIRE SCOUR HOLE

This alternative involves placing sufficient riprap to stabilize erosion throughout the entire scour hole. Placing riprap to the deepest portion of the hole would not be practical as the amount needed would be excessive and drive up construction costs. The amount of riprap required to riprap the entire scour hole would be approximately six times that required for Alternative 2. Additionally, current USACE Engineering Manuals dictate using designs similar to Alternative 2.

## 2.4 ALTERNATIVE 4 – ROCK BENCHES ON SIDE SLOPES

Under this alternative, benches would be constructed along the side slopes. This alternative was not considered practical as loading on the slopes of the river banks could result in slope instability leading to slope failure and further increasing of the scour.

## 2.5 PREFERRED ALTERNATIVE FOR THE PROPOSED PROJECT

After careful consideration of all alternatives, it was determined that Alternative 1 (no action) was unacceptable because of risks to major disruptions in rail service and public access impositions and could impact public safety. Alternative 2 (rocking upstream half of scour) would create the least environmental impacts and would generate the level of protection needed. Alternative 3 (riprap entire scour) was not considered practical because of the significant

increase in construction materials and cost and it goes against current design criteria. Alternative 4 (rock benches on side slopes) would lower the project costs, but under high loading conditions could fail, resulting in increased scour potential. These latter two alternatives were eliminated during the screening process and not carried forward for further detailed analyses. All factors considered, Alternative 2 was selected as the preferred plan.

## 3.0 AFFECTED ENVIRONMENT

### 3.0.1 ENVIRONMENTAL SETTING

The proposed project work sites are dominated by row crop agricultural production. Riparian tree species generally consist of cottonwood, American elm, sugarberry, silver maple, hickory, sycamore, cypress, black willow and various types of oaks. The town of Fisk, Missouri, is located across the state highway and to the northwest. A state of Arkansas boat ramp allows for recreational access to the St. Francis River immediately upstream of the project area.

### 3.0.2 CLIMATE

Butler and Stoddard counties have a humid subtropical climate with cool winters and hot summers. Summertime high temperatures average in the 90s (degrees Fahrenheit), whereas the average wintertime lows are in the 30s (degrees Fahrenheit). The average annual precipitation is approximately 50 inches, generally spread out over the year.

### 3.0.3 GEOLOGY

The proposed project area is located primarily on Falaya silt loam and Calhoun silt loam soils with some Dubbs silt loam and Amagon silt loam. These materials are generally considered to be occasionally (Falaya and Amagon soils) to rarely flooded (Calhoun and Dubbs soils). Dubbs soils are considered deep, well drained, somewhat permeable soils while the remaining soil types are considered deep, 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 important 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 under the alternative being considered: freshwater marshes, freshwater lakes, state-designated scenic streams, municipal facilities, municipal utilities, recreation, and aesthetics. Additionally, proposed alternatives would not be expected to have disproportionate adverse environmental or health effects on minority or low-income populations, as the proposed project would be beneficial to all area residents. Therefore, the proposed project is in full compliance with Executive Order 12898, Environmental Justice in Minority and Low-Income Populations.

**Table 1: Relevant Resources**

| Resource | Institutionally Important | Technically Important | Publicly Important |
|---|---|---|---|
| **Agricultural Lands** | Food Security Act of 1985, as amended; the Farmland Protection Policy Act of 1981 | The habitat provided for the provision or potential provision of human and livestock food products. | The present economic value or potential for future economic value. |
| **Wetlands** | Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; Estuary Protection Act of 1968; Executive Order 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 marshes. |
| **Aquatic Resources/ Fisheries** | Fish and Wildlife Coordination Act of 1958, as amended. | They are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of the various freshwater and marine habitats; and many species are important commercial resources. | The high priority that the public places on their esthetic, recreational, and commercial value. |
| **Bottomland Hardwood Forest** | Section 906 of the Water Resources Development Act of 1986 and the Fish and Wildlife Coordination Act of 1958, as amended. | Provides necessary habitat for a variety of plant, fish, and wildlife species; it often provides a variety of wetland functions and values; it is an important source of lumber and other commercial forest products; and it provides various consumptive and non-consumptive recreational opportunities. | The high priority that the public places on its esthetic, recreational, and commercial value. |

| 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. | USACE, U.S. Fish and Wildlife Service, NRCS, U.S. 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. |
| **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, 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 AGRICULTURAL LANDS, PRIME AND UNIQUE FARMLANDS

Existing Conditions

The U.S. Department of Agriculture Web Soil Survey was utilized to determine the presence of prime farmland within the proposed construction limits. The inquiry revealed that although prime farmland was noted in the project vicinity, none was located within proposed construction limits. Agriculture within the immediate proposed project vicinity consists of a mix of corn and soybeans.

### 3.1.2 WETLANDS

Existing Conditions

In the immediate project vicinity, previous borrow areas can be described as Waters of the United States, which due to groundwater influence, typically remain wet throughout the year. As these areas are outside project limits, they would not be impacted by any project related activities. The proposed access road to the western side of the project was specifically designed to avoid any wetland impacts. Access from the eastern side would be routed through an existing farm road.

### 3.1.3 AQUATIC RESOURCES/FISHERIES

Existing Conditions

Commercial fisheries are present within the St. Francis River system and provide some economic value to the population alongside the river. Fish species expected to occur in St. Francis River in the project vicinity would include gar, bass, sunfish, carp, and minnows. Several species of freshwater mussel are known to occur in the river although the active scour provides extremely limited suitable habitat for mussels due to substrate instability.

### 3.1.4 BOTTOMLAND HARDWOOD (BLH) FORESTS

Existing Conditions

There is limited Bottomland Hardwood Forest (BLH) landside of the St. Francis River in the proposed project location, primarily located along the western side. Tree species in the project area vicinity generally consist of cottonwood, American elm, sugarberry, silver maple, hickory, sycamore, cypress, black willow and various types of oaks.

### 3.1.5 WILDLIFE

Existing Conditions

Wildlife species that could be expected to be found within or in the vicinity of 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 within the St. Francis River Basin.

### 3.1.6 THREATENED AND ENDANGERED SPECIES

Existing Conditions

According to results obtained from the U.S. Fish and Wildlife Service (USFWS), there are a total of three threatened, endangered, or candidate species that could potentially be found within the proposed project area. These species are the Indiana bat (*Myotis sodalis*), grey bat (*M. grisescens*), and northern long-eared bat (*M. septentrionalis*). Of these species, only the endangered Indiana bat and threatened northern long-eared bat could potentially utilize the forested habitat within the project areas. Grey bats are cave-dependent species, and caves are not found within the project area.

In the summer of 2019, USACE biologists conducted a site assessment of the proposed project area. Scattered vegetation, primarily on the western side, was examined for the presence of suitable/potential habitat for the Indiana and northern long-eared bat. Dominant tree species include American elm, sugarberry, silver maple, hickory, sycamore, various types of oaks, and cottonwood. Some trees were documented as being larger than 3 inches diameter at breast height, although no evidence of suitable roost trees (snags or live trees with exfoliating bark, cracks, crevices, or hollows) were observed. Any proposed tree clearing is of such small size (approximately 0.1 acres) and would be conducted in the winter tree clearing timeframe prior to project construction. Furthermore, habitat within the proposed project area is not considered critical habitat by USFWS for any other potential threatened or endangered species.

In August 2019, a freshwater mussel survey was conducted by USACE biologists. No evidence of threatened or endangered species was found during this effort. Habitat within the project area and immediately downstream was generally found to be highly unstable sand and characterized by high water velocity. These conditions do no provide habitat considered suitable to the endangered Fat Pocketbook mussel (*Potamilus capax*). Coordination with USFWS has occurred with the determination that "the proposed project may affect but is unlikely to adversely affect the Fat Pocketbook."

### 3.1.7 CULTURAL RESOURCES

The National Historic Preservation Act of 1966 (Public Law 89 80 655), as amended; NEPA of 1969 (Public Law 91-90), as amended; and other applicable laws and regulations require Federal agencies to take into account the effects of their undertaking on the environment and any significant cultural resources within the project area of the proposed undertaking, as well as its Area of Potential Effect (APE). Typically, these studies require archival searches and field

surveys to identify any cultural resources. When significant sites are recorded, efforts are made to minimize adverse effects and preserve the site(s) in place. If any significant sites cannot be avoided and would be adversely impacted, an appropriate mitigation plan would be implemented to recover data that would be otherwise lost due to the undertaking.

Existing Conditions

A literature review and cultural resources survey within the project's APE was previously completed by the MVM archaeologist in the summer of 2019. The investigation revealed no identified cultural resources within the proposed project footprint. Furthermore, the proposed laydown area and access roads were surveyed with no identified cultural resources within the proposed footprint.

### 3.1.8 AIR QUALITY

Existing Conditions

The proposed project area is in attainment for all air quality standards. As equipment to be used during construction is a mobile source, best management practices shall be used throughout the construction to minimize air pollution.

### 3.1.9 HYDROLOGY AND WATER QUALITY

Existing Conditions

Within the project area, the St. Francis River typically flows throughout the year with some input from irrigation water draining adjacent agricultural fields. Water flow within the existing ditches and waterways within the proposed project area is dependent on heavy rainfall, and groundwater within the St. Francis River. The St. Francis River normally carries a heavy sediment load with heavy turbidity and suspended solid loads due to runoff from adjacent fields.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 AGRICULTURAL LANDS, PRIME AND UNIQUE FARMLANDS

Future Conditions with No Action

Without implementation of the proposed project, agricultural lands (prime and unique farmland) within the project vicinity area are expected to remain as noted in Existing Conditions. Floodwaters and active scouring could negatively impact existing agricultural lands through erosion and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed project, agricultural lands (prime and unique farmland) within the project area would be expected to be provided the authorized level of protection as described in the 1973 EIS.

## 4.2 WETLANDS

Future Conditions with No Action

Without implementation of the proposed project, wetland habitats within the project area are expected to remain as noted in Existing Conditions. Floodwaters and active scouring could negatively impact wetlands within the project area through erosion and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed project, no impacts to existing area wetlands would be anticipated.

## 4.0 AQUATIC RESOURCES/FISHERIES

Future Conditions with No Action

Without implementation of the proposed project, aquatic resources and fisheries within the project area are expected to remain as noted in Existing Conditions. Floodwaters and active scouring could negatively impact these resources within the project area through erosion and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed project, fishery resources within the project footprint would be temporarily impacted through the disturbance from construction. Once the project is completed, fish species would be expected to return to the project area. Resident fish are adapted to turbidity increases that occur after every rainstorm. Project-related turbidity increases would be minor compared to these natural events. Since fish and other sight feeders are highly mobile, project impacts to sight-feeding organisms would be insignificant and short term. No impacts to other aquatic resources would be anticipated.

## 4.1 BOTTOMLAND HARDWOOD (BLH) FORESTS

Future Conditions with No Action

Without implementation of the proposed project, BLH habitats within the project area are expected to remain as noted in Existing Conditions. Floodwaters and active scouring could negatively impact BLH within the project area through erosion and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed project, an existing road would temporarily be widened on the western side of the proposed project by approximately 10 feet resulting in about 0.10 acres of upland hardwood tree clearing. Trees would be allowed to re-vegetate after project completion. No BLH habitat would be impacted by project activities. It is anticipated that post-construction,

vegetative characteristics within the temporary haul road right-of-way and surrounding BLH would return to those noted in Existing Conditions.

## 4.2 WILDLIFE

Future Conditions with No Action

Without implementation of the proposed project, 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 project, wildlife resources within the project footprint would be temporarily impacted through the disturbance and noise from construction equipment. Once the project is completed, wildlife species would be expected to return to the project area. Temporary habitat impacts associated with the vegetative removal for haul road access are not anticipated to impact general populations of wildlife species within the region, as the site is expected to re-vegetate post-construction and extensive forested areas and suitable habitat is readily available within the vicinity of the project area.

## 4.3 THREATENED AND ENDANGERED SPECIES

Future Conditions with No Action

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

Future Conditions with the Proposed Action

USACE proposes to conduct tree clearing between 1 November and 31 March, prior to initiation of project implementation. Based on the project and surveys of the project areas, USACE has determined the proposed project would have no adverse effect on threatened or endangered species, with coordination being undertaken with USFWS. 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 project, any potential cultural resources are expected to remain as noted in Existing Conditions.

Future Conditions with the Proposed Action

With implementation of the proposed project, no impacts to cultural resources are anticipated and there are no historic properties listed or determined eligible for inclusion in the National

Register for Historic Places. However, should an inadvertent discovery be made during construction, the resource would be evaluated, assessed for effects, avoided if possible, or mitigated if unavoidable 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 project, no changes in air quality would occur.

Future Conditions with the Proposed Action

With implementation of the proposed project, 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. Since the equipment to be used is a mobile source, best management practices shall 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 project, hydrology and water quality within the project area would be noted as in Existing Conditions.

Future Conditions with the Proposed Action

With implementation of the proposed project, hydrology is expected to remain as noted in Existing Conditions. Impacts to water quality within the St. Francis River would be minimal or have no effect, as the river normally carries a heavy sediment load and the proposed project would be conducted during low water periods. Turbidity and suspended solids would be increased to minor degrees as a result of sedimentation from project construction. 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. Thus, no significant impacts to water quality would occur as a result of the proposed project. Application for State of Missouri water quality certification has occurred. A determination concerning water quality certification has not been made to date.

## 4.7 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

The USACE is obligated under ER 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of the proposed project. 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

website was checked for any superfund sites, toxic releases, or hazardous waste sites within the proposed project area. Additionally, a site inspection of the proposed project was conducted by USACE personnel during the summer of 2019. 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 for the proposed project is minimal. If any hazardous waste/substance is encountered during construction activities, the proper handling and disposal of these materials would be coordinated with the Missouri Department of Environmental Quality, EPA, and other applicable agencies.

## 4.8 CUMULATIVE IMPACTS

The CEQ regulations (40 CFR 1500-1508) implementing the procedural provisions of the 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."

In the vicinity of the area of potential impact, a ditch cleanout was conducted in Dudley Ditch, located approximately 6 miles to the east of the proposed project area in 2013. Dudley Ditch enters into the St. Francis River approximately 7 straight line miles downstream of the project area.

Therefore, the analysis set forth in this report indicates that no significant beneficial or adverse impacts to the various resources within the project area are anticipated under either the future with-project conditions scenarios, or the future without-project conditions scenario. Overall, the project, in comparison to past, present, and reasonably foreseeable future actions, will not contribute significant impacts to the general project area. The proposed project would provide for the continued integrated protection of lands in this part of the St. Francis Levee system.

## 5.0 COORDINATION

Preparation of this draft EA, draft FONSI, and 404(b)(1) is being coordinated with appropriate Congressional, Federal, state, and local interests, as well as environmental groups and other interested parties. The following agencies have received copies of this draft EA, draft FONSI, and 404(b)(1): USFWS, U.S. Environmental Protection Agency, Missouri Department of Environmental Quality, Missouri Department of Conservation, federally recognized tribes, and other interested parties.

## 6.0 MITIGATION

With the implementation of the proposed project, no BLH or wetlands are anticipated to be impacted. Impacts to vegetation would be minor and temporary in nature; and therefore, would not require mitigation.

## 7.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed project would be achieved upon coordination of this draft EA, draft FONSI, and 404(b)(1) evaluation with appropriate agencies, organizations, and individuals for their review and comments on the impact analysis documented in this draft EA. The draft FONSI would not be signed until the proposed project achieves environmental compliance with applicable laws and regulations.

### 7.1 THREATENED AND ENDANGERED SPECIES

Any proposed tree clearing is of such small size and would be conducted in the winter tree clearing timeframe prior to project construction. Some trees were documented in the vicinity of the project as being larger than 3 inches diameter at breast height, although no evidence of suitable roost trees (snags or live trees with exfoliating bark, cracks, crevices, or hollows) were observed. Furthermore, habitat within the proposed project area is not considered critical habitat by USFWS for any other potential threatened or endangered species. Any potential roost trees would be avoided to the extent practicable, especially in areas where complete clearing is not necessary. Removal of vegetation outside peak breeding seasons to help protect bird species would also be restricted to the extent practicable.

### 7.2 CULTURAL RESOURCES

A literature review and cultural resources survey within the Project's Area-of-Potential-Effect (APE), including the proposed borrow locations, were completed by the MVM archaeologist in the summer of 2019. The proposed project APE was previously cleared during construction of prior scours on the St. Francis River. Field surveys of potential borrow locations not previously surveyed were conducted in the summer of 2019 with results coordinated with the Missouri State Historic Property Office.

No significant cultural resources were identified within the proposed projects APE. No additional cultural resources investigations are recommended prior to project implementation. However, should 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).

## 8.0 CONCLUSION

The proposed project involves placed R400 riprap 30 to 60 inches thick over 6 inches of bedding stone. At the upstream end of the scour, the riprap would tie into existing R200 riprap. Side slopes would be excavated to a 2:1 slope with riprap overlain. A total of 0.1 acres of upland hardwoods are anticipated to be temporarily impacted by the proposed projects. Proposed project impacts are temporary in nature and would not require mitigation with disturbed areas allowed to re-vegetate.

This office has assessed the environmental impacts of the proposed project and has determined that the proposed project is expected to have only minor impacts on agricultural lands, wildlife, air quality, and hydrology and water quality. Impacts to agricultural lands, wildlife, air quality, and hydrology and water quality would be temporary and would be expected to return to existing

conditions after completion of the proposed project. The proposed project would have no significant impacts on the following resources: terrestrial resources, bottomland hardwood forests, wildlife, threatened and endangered species, cultural resources, aesthetics, socio-economic resources, environmental justice, air quality, or hydrology and water quality. It was also determined that the risk of encountering hazardous, toxic, and radioactive waste is low. Therefore, a supplemental EIS is not required.

## 9.0 PREPARED BY

This draft EA and associated draft FONSI and 404(b)(1) evaluation was prepared by Kevin Pigott, USACE biologist, with cultural resources information provided by Pamela Lieb, USACE District Archaeologist. The address of the preparers is: U.S. Army Corps of Engineers, Memphis District, Regional Planning Division South, Environmental Compliance Branch, 167 North Main St., B-202, Memphis, TN 38103-1894.