DRAFT ENVIRONMENTAL ASSESSMENT

St. Francis Lake Control Structure - Scour Closure Repair

Poinsett County, Arkansas

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

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1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Regional Planning Division South (RPEDS), has prepared this environmental assessment (EA) for the Memphis District (MVM) to evaluate the potential impacts associated with scour closure and repair in the Oak Donnick Floodway between Ditches 60 and 61, near Marked Tree, Poinsett County, Arkansas (Figure 1) in the vicinity of Dam 10. This draft 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) and USACE Engineering Regulation ER 200-2-2. This draft EA provides sufficient information on the potential adverse and beneficial environmental effects to allow the District Commander, U.S. Army Corps of Engineers, Memphis District, to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a finding of no significant impact (FONSI).

1.1 PROPOSED ACTION

The project feature (Figure 22) for the proposed measure is to repair the active scour between Ditches 60 and 61 to restore the ability to maintain and regulate St. Francis Lake pool elevations. The proposed action consists of degrading Dam 10 to approximately 212.5 feet and extending the dam structure to close the scour with a riprap dike and apron. An R2200 riprap closure would be constructed at the existing scour. In addition, R400 riprap armoring would be placed immediately downstream of the riprap closure, and a R400 riprap dike would be added at the adjacent Dam 10. Ancillary to the scour repair is the repair and improvement of an existing gravel road between Ditches 60 and 61 and installation of a riprap hardpoint along the south (downstream) side of the improved road. These ancillary erosion control measures are to prevent further scour between Ditches 60 and 61 and to hold soil in place during periods of overland flow. Approximately 15,100 tons of R2200 riprap, 5,900 tons of R400 riprap, 190 tons of bedding material, and 440 tons of road aggregate are expected to be used in this alternative. Approximately 1,420 square yards of geotextile material is expected to be used also.

Access to the project area would be from existing gravel roads. As the impacts to the waters of the U.S. would be contained within the area of the existing dam and road, it was determined that no additional wetlands would be impacted by this project; therefore, no wetland mitigation would be required. Furthermore, the proposed action would stop the loss of forested habitat that currently occurs after significant storm events.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The soil in the project area and vicinity is very sandy and prone to erosion. Dam 10 was constructed to allow for overland sheet flow at pool elevations of 214.0. At pool elevations of

212.0 feet, flow is concentrated in low areas, accelerating velocities and increasing scour potential. An active scour has existed just west of Dam 10 for several years, but became significantly worse due to the flood of 2011.

Impacts to the Oak Donnick Floodway itself are negligible to minor. The scour does not impact the confining levees, although the creation of new channels may alter hydraulics, reducing the time of concentration through this reach and bringing floodwaters to the Marked Tree area faster than current overland flow. However, the ability to maintain and regulate St. Francis Lake pool elevations is significantly impacted. Any attempts to pool water at the existing control structure would simply divert water through the scour, further enlarging it to a point where both Ditch 60 control structure and Dam 10 are rendered ineffective.

1.3 AUTHORITY

Ditches 60 and 61 were initially constructed by local interests. The Flood Control Act of 1965 authorized the modification for the St. Francis River, Missouri and Arkansas, within Drainage District No. 7, Poinsett County, Arkansas in accordance with the Chief of Engineers' recommendation in Senate Document 57, 88th Congress. That report proposed the use of two gated structures at Ditch 60 and Ditch 61 that would be operated to maintain St. Francis Lake at a minimum elevation of 210 feet or other such elevation as may be agreed upon as a result of periodic review by local interests, the Chief of Engineers, and the Director of the U.S. Fish and Wildlife Service (See Sen.Document.57, 89th Congress, pg. 40). The Flood Control Act of 1965 also authorized fifty-foot wide control structures. The Memphis District General Design Memorandum 108 in 1970 altered the project so that the control structure on Ditch 61 would be replaced by a closure (Dam 10), the 50-foot wide control structure replaced with a single 80-foot wide structure, and a lateral ditch would be constructed to distribute water from Ditch 60 back to Ditch 61.

1.4 PUBLIC CONCERNS

Public concerns exist regarding the ability to control the water levels in St. Francis Lake and the potential for increased flood durations in Marked Tree. St. Francis Lake is a publicly accessible lake providing fishing and other recreational opportunities. Waterfowl hunting accounts for the majority of the recreational use of the area with some small game, deer, and turkey hunting providing the rest. The reduced footprint of the lake due to the inability to control water elevations minimizes these recreational opportunities. Additionally, the reduced timeframe for Marked Tree flood warnings could lead to potential losses of life and property.

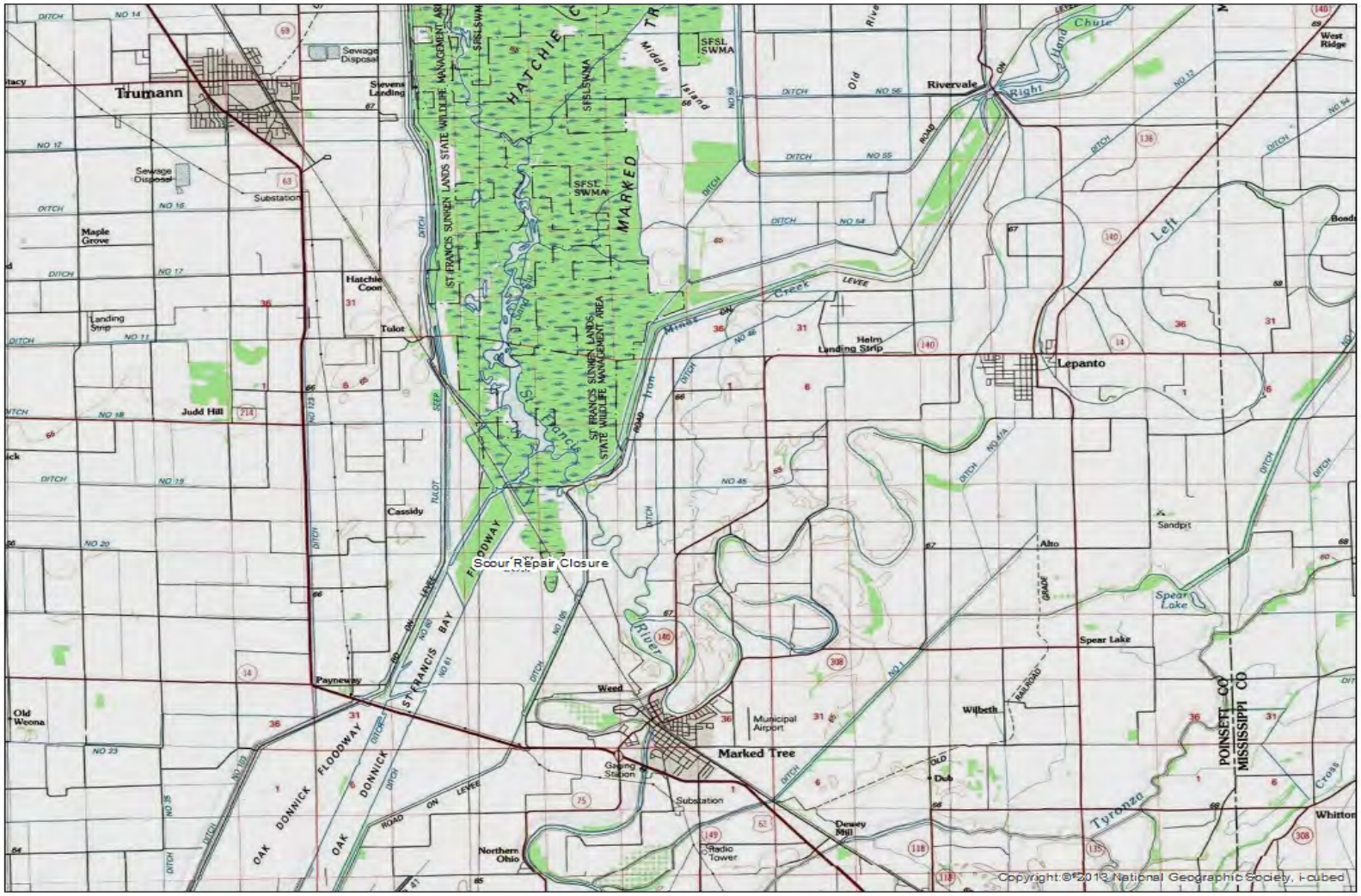

Figure 1. Proposed project Area, St. Francis Scour Closure Repair, near Marked Tree, AR.

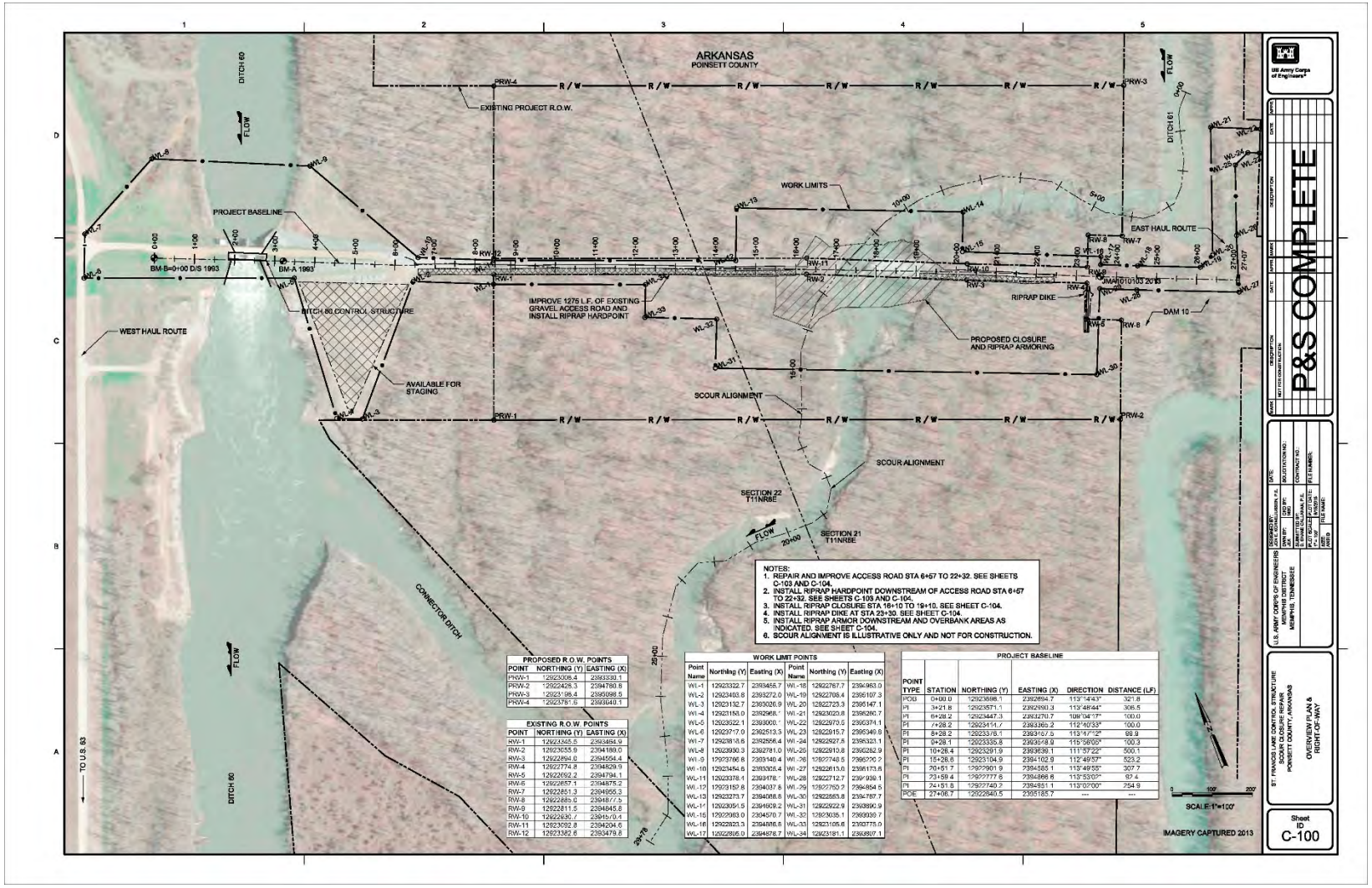

Figure 2. Scour Closure Repair Project Features.

2.0 ALTERNATIVES TO THE PROPOSED ACTION

Five alternatives to the proposed action were considered. These alternatives were: no-action; construct the dam to original design; construct dam with a "safe fail" configuration; reconstruct the dam upstream of Dam 10; and construct second control structure to the original design.

2.1 ALTERNATIVE 1 – FUTURE WITHOUT PROJECT CONDITION

In the future without project condition (*a.k.a.* no-action), the proposed action would not be constructed. The no-action alternative would result in continued scouring of Ditch 61 that would result in the loss of additional acres of forest habitat. New channels would continue to be created in the Oak Donnick Floodway, bringing floodwaters to Marked Tree and decreasing flood warning times. St. Francis Lake water elevations would not be maintained, increasing draining of the lake and reduced recreational opportunities at the publicly accessible waterbody.

2.2 ALTERNATIVE 2 – CONSTRUCT THE DAM TO ORIGINAL DESIGN

Under this alternative, the proposed project action would include the dam being constructed to an elevation of 212.2 feet and extended to close the scour to or above existing ground level (approximately 215.0 feet) without repairing the gravel road or placing a hard point south of the road. This alternative of rebuilding the dam in place would not prevent additional scour between Ditches 60 and 61 and not be constructed to prevent future scour occurring when the dam was naturally overtopped. The soils in the project area are primarily easily erodible sands. These soil conditions have historically allowed un-armored structures to be flanked and required extensive and repeated repairs. Therefore, the dam as originally designed would be expected to fail and require repair prior to the end of the design life.

2.3ALTERNATIVE 3 – (PREFERRED ALTERNATIVE) – CONSTRUCT DAM WITH A "SAFE FAIL" CONFIGURATION

Under this alternative, the proposed project action would include degrading the dam to approximately 212.5 feet and extending the dam structure to close the scour with a riprap dike and apron. A R2200 riprap closure would be constructed at the existing scour. In addition, R400 riprap armoring would be placed immediately downstream of the riprap closure, and a R400 riprap dike would be added at the adjacent Dam 10. Ancillary to the scour repair is the repair and improvement of an existing gravel road between Ditches 60 and 61 and installation of a riprap hardpoint along the south (downstream) side of the improved road. These ancillary erosion control measures would prevent further scour between Ditches 60 and 61 and hold soil in place during periods of overland flow. Approximately 15,100 tons of R2200 riprap, 5,900 tons of R400 riprap, 190 tons of bedding material, and 440 tons of road aggregate would be used in this alternative. Approximately 1,420 square yards of geotextile material would also be used.

2.4 ALTERNATIVE 4 – CONSTRUCT A DAM UPSTREAM OF DAM 10

Under this alternative, the proposed project action would include construction of a dam, but at an optimal location upstream of the existing scour to facilitate the least amount of environmental impact and least amount of materials required. This alternative would not prevent additional

scour between Ditches 60 and 61. The soils in the project area are primarily easily erodible sands. These soil conditions have historically allowed un-armored structures to be flanked and required extensive and repeated repairs. Although this alternative may be cheaper to build than the preferred alternative, it would require additional armoring to prevent the flanking and ultimate failure of the structure prior to the end of the design life. Even if a dam were constructed at a narrower location, there would be an environmental impact to wetlands if the dam were constructed outside the preferred alternative footprint. These wetland impacts would be due to road construction to the new dam location and a new dam footprint.

2.5 ALTERNATIVE 5 – CONSTRUCT SECOND CONTROL STRUCTURE TO THE ORIGINAL DESIGN

Under this alternative, the proposed project action would include constructing a second control structure. This structure would be built upstream or parallel to the Ditch 60 structure. Alternative 5 was determined to be unacceptable because it would incur a higher cost than an earthen dam (unarmored or armored). As stated in the 1970 Memphis District General Design Memorandum 108, additional clean-outs on Ditch 61 would need to occur and under high water conditions in the area, it would be difficult to access the Ditch 61 control structure.

2.6 PREFERRED ALTERNATIVE

The No Action alternative was determined to be unacceptable because of the continued degradation at the scour and the impact to St. Francis Lake. Alternative 2 was determined to be unacceptable because it does not prevent additional scour between Ditches 60 and 61. Additionally, site conditions have not changed and the dam would be expected to fail prior to the end of the design life. Alternative 3 was selected as the preferred alternative because of the ability to maintain desired elevation in St. Francis Lake and provide a “safe fail” configuration that would reduce the threat of future scour under high water conditions. Alternative 4 was determined to be unacceptable because it does not prevent additional scour between Ditches 60 and 61, be prone to failure in a similar fashion to Alternate 2, and could incur a greater environmental impact if not constructed in the previously cleared footprint. Alternative 5 was determined to be unacceptable because it would incur a high cost, and create additional ditch cleanouts and accessibility problems during certain times of the year. Alternative 3 was selected as the preferred alternative because of the ability to maintain desired elevation in St. Francis Lake and provide a “safe fail” configuration that would reduce the threat of future scour under high water conditions. Therefore, Alternative 3 is the proposed action for the St. Francis Lake Scour Closure Repair project assessed in this draft EA.

3.0 AFFECTED ENVIRONMENT

3.0.1 ENVIRONMENTAL SETTING

The project portion of the Oak Donnick Floodway is part of the St. Francis Sunken Lands State Wildlife Management Area managed by the Arkansas Game and Fish Commission (AGFC). The Floodway is contained by mainline levees of the St. Francis River. Just upstream of the project area, the St. Francis River continues via the Marked Tree Siphon with some St. Francis River water flowing south through the project area. Downstream of the project area, the

waterbody is considered to be the Oak Donnick – St. Francis Bay Floodway until it rejoins the St. Francis River west of Parkin, Arkansas.

Bottomland hardwoods make up the primary species of timber associated with the area and include White Oak, Red Oak, Hickory, Locust, Cottonwood, Bald Cypress, Tupelo, Elm, Sycamore, and Pecan. The majority of the watershed area within the levees is forested with the remainder consisting of the St. Francis River channel. St. Francis Lake, although part of a riverine system, detains water for recreational purposes via the control structures. However, due to the current conditions as noted above, the lake has been significantly reduced in size to little more than the channel of the river.

There is a 280-acre Moist Soil Unit located on the west side of the river and to the north of the control structures. This moist soil unit was created in 1998 as a rest area and winter food supply for ducks and other migratory birds.

3.0.2 DESCRIPTION OF THE WATERSHED

The proposed project is located on land between Ditches 60 and 61 immediately to the northwest of Dam 10. The St. Francis Lake Control Structure provides some water control on Ditch 60, with the intent being to provide an adequate upstream water elevation while allowing excess water to pass downstream. Dam 10 effectively closes off Ditch 61 allowing for water control to be effected from one location. However, a lateral ditch just below the Ditch 60 Control Structure allows water back into Ditch 61. Every effort is made to raise winter water elevations suitable for attracting waterfowl; however, this can only be accomplished successfully if there is adequate in-stream flow of the St. Francis River.

Within years of construction of the structures, water flanked the left bank and created a scour in the area. Repairs were completed shortly thereafter in 1979. In early 2000, the current scour began by flanking the right bank on Ditch 61. AGFC attempted to stabilize the eroding road with riprap, but was not able to make effective repairs. AGFC subsequently constructed a block barrier in the channel to stop flow. This block barrier is still in place but was flanked as the scour continued to enlarge.

3.0.3 CLIMATE

The climate in the area is characterized by long, hot, humid summers and short moderate winters. The average annual temperature in the area is 62° F with monthly normal fluctuations between 40°F in January and 80°F in July. Temperature extremes range from -13°F to 108°F. The frost-free period is about 210 days, with the first killing frost occurring around mid-October and the last around mid-April. The average annual precipitation is about 50 inches with January being the wettest month, averaging over five inches. October is the driest month, averaging approximately three inches. Approximately 58 percent of the annual rainfall occurs during April through November.

3.0.4 GEOLOGY

The project is located within the Northeast portion of the Eastern Lowland of the Alluvial Valley of the Lower Mississippi River. The lowland is sharply bounded on the west by Crowley's Ridge and on the east by the Mississippi River, but grades slowly towards the north into the Morehouse Lowland (Saucier, 1964).

The recent alluvium generally consists of fine grained overburden materials of silts and/or clays of limited thickness underlain by fine sand becoming coarser with depth, with occasional gravel layers above the Tertiary (USACE, 1973).

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, federally recognized tribes, groups, or individuals; and the general public. The following resources have been considered and found to not be affected by the alternative under consideration: wetlands, threatened and endangered species, freshwater marshes, freshwater lakes, state-designated streams, prime and unique farmlands, fisheries, recreation, or aesthetics.

3.1.1 AQUATIC RESOURCES/FISHERIES

Existing Conditions

Aquatic resources within the project area are limited due to channelization caused by the scour and altered hydraulic regime of the St. Francis River and Ditches 60 and 61. St. Francis Lake water elevation is not controlled by the control structures as intended.

Table 1: Relevant Resources

Resource	Institutionally Important	Technically Important	Publicly Important
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.
Terrestrial Resources	Food Security Act of 1985, as amended; the Farmland Protection Policy Act of 1981; the Fish and Wildlife Coordination act of 1958, as amended.	The habitat provided for both open and forest-dwelling wildlife, and the provision or potential provision of forest products and human and livestock food products.	The present economic value or potential for future economic value.
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, USFWS, NMFS, NRCS, and USEPA work 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.	USACE, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Natural Resources Conservation Service, U.S. Environmental Protection Agency, and Arkansas Department of Environmental Quality, and wildlife/fishery offices 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.

3.1.2 TERRESTRIAL RESOURCES/WILDLIFE

Existing Conditions

Areas outside the project vicinity and outside the levees are primarily agricultural lands or urban development. The Sunken Lands Wildlife Management Area serves as a refuge from the farmland and urban development. Wildlife resources are limited outside the project area for these reasons.

Within the floodway, the ability to maintain and regulate St. Francis Lake pool elevations are significantly impacted. Any attempts to pool water at the existing control structure would simply divert water through the scour, further enlarging it to a point where both Ditch 60 control structure and Dam 10 are rendered ineffective. St. Francis Lake is a publicly accessible lake providing fishing and other recreational opportunities. Waterfowl hunting accounts for the majority of the recreational use of the area with some small game, deer, and turkey hunting providing the rest. The reduced footprint of the lake due to the inability to control water elevations minimizes these recreational opportunities.

The forest habitat adjacent to the proposed project area is being negatively impacted as the scour size increases with each subsequent significant rain event. Many trees were observed in the scour channel and several were noted along the channel edge in danger of falling.

3.1.3 THREATENED AND ENDANGERED SPECIES

Existing Conditions

MVM biologists have conducted a site assessment of the proposed project area. No evidence of threatened or endangered species was found during the site visits. The project area is outside the consultation area for the Northern Long-eared Bat (*Myotis septentrionalis*). No Fat Pocketbook (*Potamilus capax*) mussels were found in the project area mussel survey. Habitat within Ditch 61 and the scour was generally found to be highly unstable sand, containing significant amounts of woody debris from the fallen trees, and is characterized by high water velocity. These conditions do not provide habitat considered suitable for *P. capax*.

Endangered species collection records from the U.S. Fish and Wildlife (USFWS) do not indicate that federally listed or proposed endangered or threatened species occur within the project area. Coordination with USFWS has occurred with the determination that “the proposed project may affect but is unlikely to adversely affect the Fat Pocketbook.”

3.1.4 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. 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

No known cultural resources occur in the project footprint. Pursuant to 36 CFR 800.3(a)(1), the District Archaeologist has determined that this project has no potential to cause effects to historic properties eligible for the National Register of Historic Places. Thus, no further section 106 (NHPA) consultation is required. However, if prehistoric or historic artifacts, human bones, or other archaeological materials subject to the Native American Graves Protection and Repatriation Act (NAGPRA) are found during construction, all activities are to cease immediately in that area and the Memphis District Archaeologist, Dr. Robert Dunn (901-544-0706), shall be contacted. The State Historic Preservation Officer and tribal NAGPRA representatives, the local sheriff, etc., will be contacted as required by state and federal law.

3.1.5 ENVIRONMENTAL JUSTICE

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations and the Department of Defense's Strategy on Environmental Justice of 1995 directs Federal agencies to identify and address any disproportionally high adverse human health or environmental effects of federal actions to minority and/or low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. The Census Bureau defines a "poverty area" as a Census tract with 20 percent or more of its residents below the poverty threshold and an "extreme poverty area" as one with 40 percent or more below the poverty level. This resource is technically significant because the social and economic welfare of minority and low income populations may be positively or disproportionally impacted by the proposed actions. This resource is publically significant because of public concerns about the fair and equitable treatment (fair treatment and meaningful involvement) of all people with respect to environmental and human health consequences of Federal laws, regulations, policies, and actions.

A potential disproportionate impact may occur when the percent minority in the study area exceeds 50 percent and/or the percent low income exceeds 20 percent of the population. Additionally, a disproportionate impact may occur when the percent minority and/or low income in the study area are meaningfully greater than those in the reference community. For purposes of this analysis, the city of Marked Tree, Arkansas, is defined as the Environmental Justice area. The city is located in Poinsett County and, for the purposes of this analysis, is considered the reference community of comparison.

The methodology, consistent with E.O. 12898, to accomplish this environmental justice analysis includes identifying low income and minority populations within the study area using up-to-date economic statistics, aerial photographs, 2010 U.S. Census records, the 2005-2009 U.S. Census

Bureau's American Community Survey (ACS) estimates, as well as conducting community outreach activities such as public meetings.

The 2010 U.S. Decennial Census data were used in the current analysis as the primary deciding variable to determine whether the study area exceeds the minority threshold and therefore potentially disproportionately impacts minority population groups. These data provide population (including minority status) and housing characteristics. Other social characteristics (*e.g.*, low income) are provided in the ACS which provides estimates of social characteristics based on data collected over five years. The ACS data were used to determine whether the study area exceeds the low income threshold and therefore potentially disproportionately impacts low income populations.

Existing Conditions

The 2010 U.S. Decennial Census data indicate 72% of the residents of the Marked Tree area are non-minorities. The percentage of people living below the poverty level, in 2010, was almost 31%.

Analyses of the above information show the Marked Tree area does not exceeds the 50 percent minority threshold, but it does exceed the 20 percent low income threshold. However, the project area is located within a state-managed area and does not have an immediate population that would be affected. Therefore, this project does not qualify as an Environmental Justice study area.

3.1.6 AIR QUALITY

Existing Conditions

Poinsett County is in attainment for all air quality standards. Construction activities are not regulated, so no permitting would be required. Fugitive dust would be minimized as well as use of best-management practices to minimize air pollution.

3.1.7 HYDROLOGY AND WATER QUALITY

Existing Conditions

The channel maintains minimum flow throughout the year. High flow velocities are experienced during storm events. These extreme flows and the scour precludes the presence of valuable aquatic habitat.

4.0 ENVIRONMENTAL CONSEQUENCES

4.0.1 AQUATIC RESOURCES/FISHERIES

Future Conditions with No Action

Without implementation of the proposed action, aquatic resources within the project area would be limited to the existing ditches and river as noted in Existing Conditions. Continued scouring and erosion would further reduce available habitat. The St. Francis Lake would not hold significant amounts of water necessary for a healthy fishery.

Future Conditions with the Proposed Action

With implementation of the proposed action, the scouring in the ditch would be arrested, resulting in a more stable system, including more stable habitat in upper Ditch 61. Additional erosion would be significantly reduced during flood or high water flow periods. Aquatic habitats would stabilize resulting in wildlife resources being able to utilize the system. With the added control of the scour closure and repair, stable water levels can be maintained in St. Francis Lake allowing for aquatic resources to fully recover.

4.0.2 TERRESTRIAL RESOURCES/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. Additional acres of bottomland hardwoods would be lost as the scour size increases during flood events.

Future Conditions with the Proposed Action

With implementation of the proposed action, disturbance and noise from the construction equipment would temporarily disperse wildlife species from the project area. However, once the project is completed, wildlife species would be expected to return to the project area. Direct construction impacts to wildlife are expected to be minimal due to the limited construction area and nature of the proposed construction; furthermore, the proposed project would prevent the loss of additional bottomland hardwoods from scouring. Upon completion of the project, stable water levels can be maintained in St. Francis Lake providing food and shelter for fish, other aquatic organisms, and migratory waterfowl.

4.0.3 THREATENED AND ENDANGERED SPECIES

Future Conditions with No Action

Without implementation of the proposed action, there would be no change to the current status of threatened or endangered species within the project area.

Future Conditions with the Proposed Action

With implementation of the proposed action, aquatic habitat would stabilize and current velocities in upper Ditch 61 would return to normal conditions. Because *P. capax* are known to inhabit both Ditch 60 and 61, it is possible that once the habitat stabilized, this species and other freshwater mussels would colonize the upper portion of Ditch 61.

4.0.4 CULTURAL RESOURCES

Future Conditions with No Action

Without implementation of the proposed action, no change in the status of cultural resources are expected within the project footprint.

Future Conditions with the Proposed Action

With implementation of the proposed action, no change in the status of cultural resources are expected to be found within the project footprint. An MVM archeologist has determined that the proposed project would have no effect on significant cultural resources because the project area lies in an area having undergone previous construction, causing disturbance to the work area. Any cultural resources discovered during construction would require a work stoppage and consultation would be initiated with the appropriate agencies.

4.0.5 ENVIRONMENTAL JUSTICE

Future Conditions with No Action

Without implementation of the proposed action, there would be no direct, indirect, or cumulative impacts to minority and/or low income communities under this alternative. Therefore, no disproportionately high or adverse human health or environmental effects on minority or low income populations would occur. Quality of life for the minority population of the area of Marked Tree would likely remain in its current condition. However, the scour potentially reduces the time of concentration through the floodway bringing floodwaters to the Marked Tree area faster than current overland flow thus impacting the residents of low lying areas.

Future Conditions with the Proposed Action

The study area does not qualify as an Environmental Justice study area. Therefore, there would be no direct, indirect, or cumulative impacts to minority and/or low income communities under this alternative. Quality of life for the minority population of the area of Marked Tree would likely remain in its current condition with the potential for reduced flooding.

4.0.6 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, the 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. Since the equipment to be used is a mobile source, 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.

4.0.7 HYDROLOGY AND WATER QUALITY

Future Conditions with No Action

Without implementation of the proposed action, hydrology within the project area would remain as noted in Existing Conditions. Continued scouring and erosion would occur as the scour progressed upstream.

Future Conditions with the Proposed Action

With implementation of the proposed action, the construction of the scour closure would affect the existing hydrology within the project area by preventing further scouring and transporting sediments downstream. Temporary impacts to water quality would occur, as the project action would increase the sediment load and resulting turbidity. Best management practices would be used throughout construction to ensure that construction would not violate water quality standards. Construction would prevent further erosion of ditch bank and potential lateral migration of the scour. Therefore, erosion rates are expected to be significantly reduced following completion of the proposed project. Total suspended solids and turbidity levels are expected to decrease after construction. No significant permanent impacts to water quality are expected.

4.1 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 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 Web Page (http://www2.epa.gov/emefdata/em4ef.home). The EPA search engine was checked for any superfund sites, toxic releases, or hazardous waste sites within the vicinity of the proposed project area. An intensive site inspection of the proposed project was conducted by MVM personnel in 2006, 2014, and 2015. Environmental record search and the site surveys 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 should be encountered during construction activities, the proper handling and disposal of these materials would be coordinated with the Arkansas Department of Environmental Quality (ADEQ).

4.2 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)." Cumulative Effects can result from individually minor but collectively significant actions taking place over a period of time."

Past Actions

Several past actions have occurred within the immediate St. Francis River basin that have significantly influenced the existing environment. These actions include past projects by the Corps of Engineers, the Arkansas Game and Fish Commission, and local interests.

Ditch 60 and 61 Creation

Prior to the Flood Control Act of 1965, the local drainage district created Ditches 60 and 61.

Flood Control Act of 1965

The Flood Control Act of 1965 authorized the modification for the St. Francis River, Missouri and Arkansas, within Drainage District No. 7, Poinsett County, Arkansas in accordance with the Chief of Engineers' recommendation in Senate Document 57, 88th Congress. That report proposed the use of two gated structures at Ditch 60 and Ditch 61 that would be operated to maintain St. Francis Lake at a minimum elevation of 210 feet or other such elevation as may be agreed upon as a result of periodic review by local interests, the Chief of Engineers, and the Director of the U.S. Fish and Wildlife Service (See Sen.Document.57, 89th Congress, pg. 40). The Flood Control Act of 1965 also authorized fifty-foot wide control structures.

Memphis District General Design Memorandum 108

This 1970 memorandum altered the original project to replace the control structure on Ditch 61 with a closure (Dam 10) and construction of a lateral ditch to distribute water back to Ditch 61. This allowed for better control of water elevations in St. Francis Lake by utilizing only one control structure. This was the locally-preferred option. This option negated cleaning out Ditch 61 and avoided difficulty with access to a control structure at Ditch 61.

1979 Repairs

Within years of construction, water flanked the left bank and scoured to 190.0 feet (natural ground is approximately 212.0 to 215.0 in the immediate project vicinity). Plans were developed in 1979 and repairs were completed shortly thereafter. Plans called for Dam 10 to be degraded and topped with rip rap to elevation 212.2. The longitudinal scour repair was made, but Dam 10 was never degraded and remains at an approximate elevation of 218.0.

Arkansas Game and Fish Commission Repairs

The current scour began in 2008 as a flank of Ditch 61's right bank. The AGFC attempted to stabilize the eroding road with riprap, but control was not effective so a block barrier in the channel to stop flow was constructed. This structure was quickly flanked and the scour continued to enlarge.

Present Actions

No construction projects are currently underway to ameliorate scouring and loss of bottomland hardwood wetlands.

Future Actions

The proposed project would have a beneficial cumulative effect within and adjacent to the project area by halting the scouring and bank instability. The control of the scour would stop the loss of bottomland hardwood trees that are currently falling into the channel after storm events. The recommended plan would add to the overall amount of bank protection measures being undertaken in the vicinity of the St. Francis River. The proposed work would incrementally improve water quality in the ditch and would result in some improvement in the St. Francis River, due to the projected decrease in erosion of bank materials, and subsequent decrease in sediment load. Additional recreational and aquatic benefits would be derived from maintaining a stable water level in St. Francis Lake.

5.0 COORDINATION

Preparation of this draft EA and draft FONSI is being coordinated with appropriate congressional interests, federally recognized Native American tribes, federal and state agencies, local interests, environmental groups, and other interested parties. The following agencies have received copies of this draft EA and draft FONSI:

United States Department of Interior, U.S. Fish and Wildlife Service, Conway, AR
Environmental Protection Agency, Region VI, Dallas, TX
Arkansas Game and Fish Commission, Little Rock, AR
Arkansas Natural and Cultural Resources Council, Little Rock, AR
Arkansas Department of Environmental Quality, Little Rock, AR

A public notice has been issued that describes the proposed action and states that the draft EA would be made available for a 30-day review and comment period. Comments would be used by the Corps of Engineers in deciding the level of significance for the proposed action. A State water quality certification and Short Term Activity Authorization has been requested from ADEQ. Comments regarding this EA and the 404(b)(1) determination of meeting Nationwide Permit Section 3 Maintenance (a) would be used by the ADEQ in deciding whether to issue the state certification and permit.

6.0 MITIGATION

The appropriate application of mitigation is to formulate an alternative that first avoids adverse impacts, then minimizes adverse impacts, and lastly, compensates for unavoidable impacts. The proposed project would be constructed within the existing dam footprint and would have no impacts to wetlands or woodlands. In addition, the proposed action would stop the loss of forested habitat that currently occurs after significant storm events. No significant impacts to undisturbed aquatic or terrestrial resources would occur. Therefore, no mitigation would be required for the proposed project.

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; review of the Section 404(b)(1) Public Notice; and receipt and acceptance or resolution of all ADEQ comments on the impact analysis documented in this draft EA. The draft FONSI would not be signed until the proposed action achieves environmental compliance with applicable laws and regulations.

7.1 CLEAN WATER ACT

The proposed project is authorized as part of the Flood Control Act of 1965, as amended, and the proposed project action to close the scour at Dam 10 is considered to be maintenance. Requirements for Section 404 of the Clean Water Act are fulfilled by the Nationwide Permit Section 3 Maintenance (a) as follows:

> 3. Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized.

The proposed project action also meets the requirements set forth in the State of Arkansas, Clean Water Act Section 401 Water Quality Certification, 2012 General and Specific Conditions. The project does not trigger any new permit requirements set forth in the conditions noted in the Arkansas Re-Issuance of Nationwide Permit Regional Conditions for all Nationwide Permits. In particular, the proposed project will not physically alter a significant segment of the waterbody and will not violate the water quality criteria. Additionally, the proposed project will not impact Arkansas Extraordinary Resource Waters, Ecologically Sensitive Waters, and Natural and Scenic Waters; a Short Term Activity Authorization will be applied for prior to construction; and Arkansas NPDES Stormwater Program requirements will be met.

8.0 CONCLUSION

The proposed action consists of degrading Dam 10 to approximately 212.5 and extending the dam structure to close the scour with a riprap dike and apron. An R2200 riprap closure would be constructed at the existing scour. In addition, R400 riprap armoring would be placed immediately downstream of the riprap closure and a R400 riprap dike added at the adjacent to the scour closure. Ancillary to the scour repair is the repair and improvement of an existing gravel road between Ditches 60 and 61 and installation of a riprap hardpoint along the south (downstream) side of the improved road. These ancillary erosion control measures are to prevent further scour between Ditches 60 and 61 and to hold soil in place during periods of overland flow.

This office has assessed the environmental impacts of the proposed action and has determined that the proposed work is expected to have no impacts on: wetlands, threatened and endangered species, freshwater marshes, freshwater lakes, state-designated streams, prime and unique farmlands, agricultural lands, fisheries, recreation, aesthetics, cultural resources, municipal facilities, roadways, recreation, socio-economic, environmental justice, or human environment. Impacts to aquatic resources/fisheries, terrestrial resources/wildlife, hydrology, water quality, and air quality would be temporary, and would be expected to return to existing conditions after project completion. Aquatic resources/fisheries would benefit from a more stable system during flood or low water flow periods. The existing bottomland hardwood forest habitat would be protected from further loss due to the scour. Water quality would improve by arresting erosion, reducing total suspended solids and turbidity levels. It was also determined that the risk of encountering hazardous, toxic, and radioactive waste is low. Therefore, an environmental impact statement is not required.

9.0 PREPARED BY

This draft EA and associated draft FONSI was prepared by Kevin Pigott, biologist, with cultural resources information provided by Jimmy McNeil and Dr. Robert Dunn. The address of the preparers is: U.S. Army Corps of Engineers, Memphis District; Regional Planning Division South, Environmental Compliance Branch, Upper Delta Environmental Compliance Section, CEMVM-PDC-UDC; ATTN: Kevin Pigott; 167 North Main St., B-202, Memphis, TN 38103-1894.

10.0 BIBLIOGRAPHY

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