

Draft Compatibility Determination

Compatibility Determination for Right-of-Way for the Arkansas-White River Cutoff Project on Dale Bumper White River National Wildlife Refuge

Refuge Use Category

Rights-of-way and Rights to Access

Refuge Use Types

Rights-of-way (levee)

Rights-of-way (road)

Rights to Access

Navigation Aids and Other Facilities

Material Staging

Refuge

Dale Bumpers White River National Wildlife Refuge (DB White River NWR, refuge)

Refuge Purpose and Establishing and Acquisition Authorities

The purpose of the refuge is to protect and conserve migratory birds and other wildlife resources in accordance with the following laws:

“...as a refuge and breeding ground for migratory birds and other wildlife...”
(Executive Order 7173);

“...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” (16 U.S.C. 715d, Migratory Bird Conservation Act);

“...shall be administered by him [the Secretary of the Interior] directly or in accordance with cooperative agreements ... and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon...” (Fish and Wildlife Coordination Act);

“...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...”, 16 U.S.C., 460k-1; “...the Secretary...may accept and use...real...property. Such acceptance may be accomplished under the terms and

conditions of restrictive covenants imposed by donors...”, 16 U.S.C. 460k-2 (Refuge Recreation Act [16 U.S.C. 460k-460k-4], as amended); and

“...Provide environment and economic benefits to the State of Arkansas...and to the Nation.” (Arkansas-Idaho Exchange Act of 1992).

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

No.

What is the use?

The U.S. Fish and Wildlife Service (Service) is proposing to grant to the U.S. Army Corps of Engineers (USACE) a right-of way (ROW) and rights to access on DB White River NWR for them to: (1) replace damaged culverts on Benzal Road at La Grues Lake (Figure 1), (2) remove dredge material from an abandoned spoil pile in the vicinity of the work area (Figure 2), (3) construct a new containment structure (hereafter referred to as C157) on portions of refuge land near Owens Lake (Figure 3), and (4) establish a ROW along an existing refuge road adjacent to the abandoned spoil pile from which they would be taking material (Figure 2; U.S. Army Corps of Engineers [USACE] 2018).

The refuge has issued a Special Use Permit (#43670-2022-028) to the USACE for the period between May 31, 2022, and May 30, 2024, to allow the USACE to complete mapping and land surveys to determine the footprint of the currently designed containment structure and to survey the portion of the roadway adjacent to the dredge spoil area in which the USACE is seeking a ROW.

The Service was a cooperating agency on the USACE’s Three Rivers Southeast Arkansas Integrated Feasibility Report (Three Rivers Study), Environmental Assessment (EA), and Finding of No Significant Impact (FONSI, USACE 2018) on the McClellan-Kerr Arkansas River Navigation System (MKARNS). The MKARNS was developed in the 1970s; approximately 64 square miles occurs on the DB White River NWR in rural southeast Arkansas and includes the confluence of the Arkansas, White, and Mississippi Rivers and Montgomery Point Lock and Dam, which is the final MKARNS lock and dam where barges enter the Mississippi River. Parts of a

containment structure (levees) and dredge material were placed on the refuge between 1964 and the early 2000s. Further dredge spoil disposal was a use evaluated and analyzed in the DB White River NWR Comprehensive Conservation Plan (CCP), EA, and FONSI in 2012 and was found not appropriate (USFWS 2012a and 2012b). Since development and analysis of the Three Rivers Study, the Service concurs with the USACE FONSI and Preferred Alternative, which incorporates existing and natural high ground as part of its design and minimizes disturbance to terrain and to the natural hydrology of the land. The right-of-way and rights to access will occur on the isthmus between the Arkansas and White Rivers, which is part of DB White River NWR (Figure 4 and 5).

Is the use a priority public use?

No

Where would the use be conducted?

The ROW and rights to access would occur on the isthmus between the Arkansas and White Rivers, which is a part of DB White River NWR managed by the Arkansas Game and Fish Commission (AGFC) as part of Trusten Holder Wildlife Management Area (Figures 4 and 5). The affected areas are located south of the ship canal that was constructed as part of the MKARNS. A more detailed description of the proposed work area is described below:

- 1) Replacement of culverts at La Grues Lake – This work would occur on Benzal Road adjacent to La Grues Lake (northern end = 34.00182, -91.16228 and southern end = 33.99878, -91.16109; Figure 1 and 5).
- 2) Removal of dredge spoil material – This work would occur at an existing dredge spoil disposal site adjacent to Benzal Road (34.0119, -91.172208). This site is locally referred to as Dredge Disposal Site 2. Specific areas within the disposal site for dredge removal have not been identified at this time (Figure 2 and 5).
- 3) Construction of the C157 containment structure – This structure would be approximately 2.5 miles long and would begin on the natural higher elevation ground south and west of the Melinda Structure located on the south side of Owens Lake. As designed, it continues east and crosses the Melinda Structure, and then heads northeast and connects to the existing soil-cement structure north of Jim Smith Lake. It would run adjacent to, and partially incorporate, the existing soil-cement structure and terminate at the Historic Closure Structure. The portion of the structure where it crosses the Melinda Structure is located at 33.96746, -91.167781 (Figure 3 and 5).

A significant portion of the C157 structure would occur on refuge lands. The C157 structure would essentially run along the isthmus of land located

between the Arkansas and White Rivers at an elevation of 157 feet. The existing elevations along the future footprint of C157, range from 136 feet to 157 feet, with most of it being at an elevation greater than 140 feet. This structure is being placed as close to the natural watershed divide between the Arkansas and the White Rivers as feasibly possible while maintaining a healthy distance from the Arkansas River. This structure would stop the headcut erosions occurring around the Owens Lake corridor by creating a backwater, or ponding, area north of the structure where overland velocities would cease to cause damage, even during events in which the White River overtops C157 and flows into the Arkansas River. When the White River is at elevation 157 feet, the Mississippi River would have time to back up the Arkansas River such that the head differentials, or the water surface differences, across C157 would be about 4 feet. Head differentials across C157 would continue to decrease as water surface elevation increased above 157 feet.

- 4) Establishment of ROW – A ROW would be established along approximately 0.84 miles of Benzal Road adjacent to an abandoned dredge disposal site (northern end = 34.014531, -91.177009 and southern end = 34.008037, -91.167472), locally referred to as Dredge Disposal Site 2 (Figure 2).
- 5) Owens Lake Bridge installation – The Owens Bridge work would not occur on refuge lands, but it is necessary because it would impact refuge lands if the existing weir is not modified. Bridge installation would occur on the north end of Owens Lake (Figure 5). The bridge would be installed at the current location of the Owens Weir (33.979787, -91.161625).
- 6) Modification of the Historic Cutoff Structure (HC145) – The HC145 work would not occur on refuge lands but is necessary to reduce negative impacts to refuge lands if the historic cutoff is not modified in conjunction with the construction of C157. This work would occur at the location of the historic cutoff structure (33.957225, -91.140750, Figure 5).

When would the use be conducted?

Construction work would occur during daylight hours and likely be limited to late summer and early fall when river elevations allow for work to occur. At this time it is unknown when construction may begin but it is estimated to begin sometime between 2024 and 2026 and could take up to four years for completion.

- 1) When the La Grues culverts replacement work begins, Benzal road would have to be closed while work is occurring. To limit the impact to the public during peak use, the contractor would not be allowed to close the road during the period from September 15 to February 28 nor April 1 to May 15 in

any calendar year. Road closures would be coordinated with AGFC, who typically handles the road openings and closures.

How would the use be conducted?

The proposed work would be conducted by contractors identified by the USACE, working within guidelines established by the USACE, the refuge, and AGFC (USACE 2018). The work includes:

- 1) Replacement of culverts at La Grues Lake – Contract labor would carry out construction activities, including the removal of existing pipes by excavation equipment, installation of new concrete box culverts, and restoration of the excavated area. Improvements would include replacing three 36-inch corrugated metal pipes and two 60-inch corrugated metal pipes with a triple 36-inch reinforced concrete box culvert and a double 60-inch reinforced concrete box culvert. The lowest elevation of the roadway would be armored to protect it from erosion and to also serve as a weir when the roadway is overtopped. USACE fiber optics on the west side of the roadway that have been exposed due to frequent overtopping flows would be reburied.
- 2) Removal of dredge spoil material – Contract labor would use excavation machinery to remove the dredge material, process it in an on-site batch plant to create soil-cement and then transport it to the construction site for placement and compaction to construct the new containment structure. Material would be taken off uniformly so that no large depressions or gully's would be created and so that the natural ground elevation underneath the dredge would not be disturbed. Additionally, the contractor would replace culverts, clear the roadway ditch, and restore drainage in the ditch located between the spoil area and Benzal Road.
- 3) Construction of the C157 containment structure – Contract labor would clear and grub the area needed for the footprint of the structure. Upon clearing and grubbing, the existing ground would be proof rolled and compacted. Undesirable material would be over excavated and removed from the project site. A Keyway would be excavated to control seepage under the proposed soil-cement containment structure. A 25-foot wide, 5-foot-thick apron would be constructed of B-stone rock on the Arkansas River side of the proposed containment structure. Soil-cement would be placed in compacted lifts to the desired elevation and a concrete-surfaced inspection/access road with turnouts would be constructed on top. Access drives to the existing access points would be constructed to maintain access to/from those properties.

- 4) Establishment of a ROW along approximately 0.84 miles of Benzal Road adjacent to the abandoned dredge disposal site – Contract labor would survey the area desired for the ROW according to Service specifications. Once the area is identified, stipulations for this ROW would apply, including but not limited to having the contractor restore the drainage ditch between the roadbed and spoil area.
- 5) Owens Lake Bridge Installation - Contract labor would carry out construction activities, including the modification of the existing weir and installation of the bridge. The bridge would be constructed with an elevation invert of 132.4 feet. The 132.4 feet elevation was selected by USACE and the Service based on existing woody vegetation elevation and natural benching within Owens Lake.
- 6) Modification of the Historic Cutoff Structure (HC145) - The existing cutoff structure is currently at an elevation of 170 feet. A portion of the existing structure would be removed and an overflow hydraulic weir/relief opening, called HC145, would be constructed at a crest elevation of 145 feet and 1000 feet wide to allow relief flows to pass between the White and Arkansas Rivers.

Why is this use being proposed or reevaluated?

The construction of the containment structure is needed in order to protect the integrity of a multi-million-dollar investment in the MKARNS that was constructed in the mid-1960's for barge navigation. Without this structure, the Arkansas and White Rivers will eventually reconnect and make barge navigation into the Mississippi River nearly impossible during low Mississippi River elevations without heavily dredging the navigation pass.

Prior to 1964, a natural cutoff (or interconnecting, uncontrolled channel between two water courses) historically existed between the lower White River and the Arkansas River. The natural cutoff resulted from hydrologic interactions near the confluence of three river systems: the Arkansas, Mississippi, and White Rivers, and today it is referred to as the Historic Cutoff. Over time this interaction promoted overland erosion, creating a free-flowing channel connecting the Arkansas and White Rivers. During the development of the MKARNS in the mid-1960s, the cutoff was identified as an impediment to the reliability of navigation and was closed by constructing a non-overtopping dike named the Historic Closure Structure.

The Historic Closure Structure is currently designed at an elevation of 170 feet. This structure has ultimately increased the head differential between the White River and the Arkansas River during overtopping events across the isthmus, the narrow

strip of land that separates the Arkansas River from the White River, resulting in higher energy differences and increased erosion. Subsequently, additional cutoffs have been developing through the isthmus. This geomorphic process continues to threaten the MKARNS with increasing and more frequent maintenance costs due to headcutting (abrupt degradation of the channel bed) and erosion. The uninhibited development of these cutoffs has the potential to create navigation hazards, increase the need for dredging, and adversely impact an estimated 200 acres of bottomland hardwood forest in the isthmus between the Arkansas and White Rivers.

Since the closure of the natural cutoff, the Arkansas and White Rivers have continued to find a way to reconnect. An effort was made in 1990 to prevent formation of a new cutoff between the Arkansas and White Rivers. Upon completion of the structures in 1990, the new containment system consisted of a multi-component, soil-cement system with three primary structures: (1) The Historic Closure Structure that closed the path where water crossed the isthmus; (2) the Melinda Structure that contained headcutting from the Arkansas River into Owens Lake; and (3) a linear, soil-cement dike, including Owens Lake Structure, running east-west across the isthmus along the south side of the White River. Since 1989, USACE has spent about \$23 million maintaining and repairing these structures in the project area. In the absence of the proposed federal action, costs for existing containment structures will be significant and continue through the foreseeable future, and USACE would have to build similar small scale, ad hoc structures in other areas where headcuts are migrating. With the proposed federal action, the risks and consequences of cutoffs forming are drastically reduced, operation and maintenance costs should decline, and the new containment system would provide ancillary environmental benefits (USACE 2018).

The refuge contains approximately 160,000 acres of bottomland hardwood habitat in the floodplain of the lower White River and is adjacent to the navigation channel. Bottomland hardwood forests flood frequently and are highly sensitive to variations in land and water elevation. An uncontrolled breach through the isthmus could create a headcut that could proceed up the White River. This would cause bank caving along the main channel and subsequent headcutting up tributaries and cause oxbow lakes to lose both form and function. If continued unchecked, water tables could decline, which would threaten bottomland hardwoods by disconnecting them from the groundwater table.

Even though the Three Rivers Project does not occur entirely on refuge lands, the proposed ROW and rights to access would allow the USACE to accomplish the addition of one structure (C157) and the modification of three existing structures (HC145, Owens Bridge, and La Grues Culvert Replacements (USACE 2018). These structures would modify the current hydraulic connections between the Arkansas

and the White Rivers to a more historic connectivity that would help ensure for the future a dependable navigation system (i.e., MKARNS) while also providing environmental benefits to the surrounding bottomland hardwoods and open water ecosystems.

Availability of Resources

Preparation of this Compatibility Determination (CD) and coordination with other offices, public involvement, and assembly of the ROW permit package requires substantial refuge staff time. Document preparation for the ROW package to be submitted to the Division of Realty and the coordination, review and monitoring by various Service divisions would likely require 50-70 hours of Service staff time. Consultation with the Division of Realty was conducted for determining ROW ownership and tract number identification. Arkansas Ecological Services Field Office was consulted for Section 7, following the recommendation of the Information, Planning, and Consultation system. The Service’s regional archaeologist was consulted regarding cultural and archaeological resources. Staff time for monitoring during construction would be minimal. No special equipment, facilities, or improvements would be necessary to support the use. There would be no offsetting revenues. The refuge can cover the costs of the proposed use with existing operating budgets and staff.

Table 1. Approximate costs for managing and monitoring the proposed construction and right-of-way on portions of Dale Bumpers White River National Wildlife Refuge.

Category and Itemization	One-time Cost	Recurring Annual Expenses
Preparation of Compatibility Determination	\$4,380.00	
Review of Section 7 and archaeological documents	\$760.00	
Monitoring	\$900.00	
Total one-time expenses	\$6,040.00	
Total expenses	\$6,040.00	

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose and the Refuge System mission

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” The Service’s 2017 Biological Assessment/Evaluation for the Three River’s Feasibility Study determined that T&E species known to inhabit this area (Pallid Sturgeon, Fat Pocketbook Mussel, Rabbitsfoot Mussel, Pink Mucket Pearly Mussel, Scaleshell Mussel, Ivory-billed Woodpecker, Interior Least Tern, Piping Plover, and Rufa Red Knot) would not be more than negligibly impacted by the action and have been dismissed from further analysis (USFWS 2017).

The Three Rivers Feasibility Study (USFWS 2017) report determined that the proposed construction described in this CD (Alternative 1) would have the fewest impacts when compared to the other two alternatives (no-action alternative and Alternative 2). By incorporating water exchange through the historical cutoff, minimal large-scale hydrologic change should occur on Refuge lands; thereby, greatly reducing the amount of terrestrial habitat that would otherwise be lost in the Owens Lake corridor.

Short-term impacts

Some of the ecological short-term impacts from the proposed activities would include soil disturbance, damage to vegetation, and disturbance to wildlife.

Best management practices (BMP) would be applied during construction activities to mitigate for the ecological impacts. These BMPs are identified in Appendix L of the Three Rivers Southeast Arkansas Integrated Feasibility Study and Environmental Assessment (USACE 2018). Some examples of BMPs to be applied include but are not limited to: use of silt fencing to limit soil migration and water quality degradation and refueling and maintenance of vehicles and equipment in designated areas to prevent accidental spills and potential contamination of water sources and the surrounding soils. Upon completion of construction activities, disturbed areas of bare soil would either be planted with an annual grass such as millet or winter wheat or trees would be replanted where appropriate. Due to the fact that most of the construction activities would occur on an existing roadbed or area of minimal ecological diversity (i.e., dredge disposal site), disturbance to wildlife should be minimal.

Some of the sociological short-term impacts to visitors would include the increase

in noise, the presence of equipment and workers, and the temporary closure of Benzal Road for construction activities.

Other than the increased road traffic of construction vehicles and the temporary closure of Benzal Road, these impacts should be of short duration and would be confined to the areas along an existing roadway. During the La Grues Lake culvert replacement work, Benzal Road would be temporarily closed until the culvert replacement work is complete. In an attempt to minimize the road closure impacts on public use of this area, the contractor would not be allowed to close the road from September 15 to February 28 or April 1 to May 15.

Long-term impacts

After completion of the proposed work, the hydrological connectivity of this area would be more similar to historic high water flows and should provide several long-term benefits to wildlife and habitats in the area. Some of those benefits include;

1. Preservation of existing bottomland forested systems located between the White and Arkansas Rivers – It is estimated that over 40 acres of USFWS bottomland hardwoods have been converted to open water due to active head cutting. Upon completion of this project, head cutting should be contained and the risk of a cutoff forming in the area should be reduced. Because soil types in this area are highly susceptible to erosion, lessening the velocity of overland flows and confining those high velocity flows to the historic cutoff channel between the river systems should decrease the likelihood of losing more bottomland hardwood acreage to erosion.
2. Hydrologic restoration of an impaired oxbow lake (i.e., Owens Lake) – Water levels in Owens Lake are currently being held static by the Melinda Structure on the southern end of the lake that is built to an elevation of 140 feet and on the northern end of the lake by the Owens Weir that is built to an elevation of 145 feet. After the addition of C157 across the south end of Owens Lake at an elevation of 157 feet, an opening would need to be constructed on the north end of the lake to prevent increasing the maximum ponding elevation of the lake (from 140 feet to 145 feet). This would be accomplished through the construction of a bridge through the existing Owens Weir. Without the installation of this bridge, the ponding elevation increase of 5 feet would inundate an additional 100 acres immediately around Owens Lake and then could back water up into another 100 acres around La Grues Lake, causing mortality to bottomland hardwoods in the flooded area.

Establishing the Owens bridge invert at 132.4 feet would help prevent future bottomland hardwood damages that could occur because of an increased normal pool elevation. It would also facilitate Owens Lake filling sooner and therefore reduce head differentials and scouring energy prior to overtopping Owens Weir.

Environmental benefits include partially restoring the historic connection between Owens Lake and the White River, which would allow for increased opportunities for fish passage between the lake and river. Aquatic passage duration-exceedance would increase from approximately 15% to 45%. Woody vegetation is well established and flourishing below elevation 128 ft on the White River side of Owens Weir. It is believed that even though Owens pool would fluctuate more than it has historically, between 132.4 feet and 145 feet, the increase in fluctuations and inundation depths should not negatively affect the current vegetation growing around 132.4 ft.

3. Improved drainage of La Grues Lake under existing roadway – Upon completion of this pipe replacement, the concrete box culverts and armored roadway surface would increase effectiveness of drainage and hydraulic connections between the White River and La Grues Lake. This would decrease the risk of tree mortality due to longer inundation resulting from continued degradation or culvert failure.

One of the more detrimental, long-term impacts of the proposed work is the work associated with the creation of the westernmost portion of the C157 structure that would result in the conversion (i.e. loss) of approximately 8-10 acres of bottomland hardwood forest habitat. Currently, at least 40 acres has eroded away in this area. Without this conversion, however, if the existing structure were to fail, the immediate loss of land would be several acres during the breaching event. Subsequent events would easily exceed 8-10 acres of habitat lost due to erosion from the overland flows between the Arkansas and White River. This habitat loss, and its impact to wildlife and public recreation, would be mitigated by the USACE purchasing approximately 20 acres within one mile of an existing refuge boundary and restoring it to native bottomland hardwoods (USACE 2018).

Public Review and Comment

Public involvement, Tribal engagement, and interagency coordination related to the Proposed Action were conducted during the planning process for the Three Rivers

Study, EA, and FONSI (USFWS 2018) and the CCP and EA/FONSI (USFWS 2012a and 2012b). This Draft CD and the Service's FONSI associated with the Three Rivers Study EA (USACE 2018) will be distributed for public review and comment for a period of 15 days from April 9, 2024 to April 23, 2024. A notice of availability of this Draft CD and FONSI was distributed through local media, the refuge website, and at refuge headquarters/visitor center. A hard copy of this document will be posted at the Refuge Headquarters or Visitor Center (57 South CC Camp Road, St. Charles, Arkansas, 72140). It will be made available electronically on the refuge website (<https://www.fws.gov/refuge/dale-bumpers-white-river>). Please let us know if you need the documents in an alternative format. Concerns expressed during the public comment period will be addressed in the final CD.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

- 1) Mitigation land must be purchased to compensate for the conversion of bottomland hardwoods to accommodate the containment structure. Land would be re-planted to bottomland hardwood species native to the area and would be within one mile of an existing refuge boundary.
- 2) If forested areas not within the footprint of the containment structure are affected during construction, those areas would be re-planted with tree species that are the same as those removed.
- 3) Removal of sand from Dredge Disposal Area 2 must be done without removing material below its original elevation (i.e., elevation that existed prior to the disposal of dredge material). Removal should first occur on areas with minimal vegetation present.
- 4) Maintenance of any ditches created to facilitate drainage around the C157 structure on refuge property would be the responsibility of the USACE. Maintenance includes removal of blockages (beaver dams, debris piles, etc.) that cause prolonged inundation to adjacent forested habitats.
- 5) During the La Grues Lake culvert replacement project on Benzal Road, the contractor cannot close the road from September 15 to February 28 or April 1 to May 15.
- 6) Future maintenance of the roadside ditch between Benzal Road and Dredge Disposal Area 2 would be the responsibility of the USACE. Maintenance

includes removal of blockages (beaver dams, debris piles, blocked culverts, etc.) that caused prolonged inundation to adjacent roadbed.

- 7) Maintenance, and removal of any blockages that may occur, under the Owens Lake Bridge Span being installed along Benzal Road would be the responsibility of the USACE. With the southern end of Owen's Lake being built up from an elevation of 140 feet to an elevation of 157 feet, the new bridge would serve as a 'relief valve' to prevent holding water on adjacent refuge lands. If this 'relief valve' becomes blocked, it may cause prolonged flooding on adjacent refuge lands.
- 8) The 2020 amended Programmatic Agreement (USACE 2022) concerning compliance with Section 106 of the National Historic Preservation Act negotiated with the USACE, Little Rock District, the Arkansas Historic Preservation Program, the Osage Nation, the Quapaw Nation, the Service, and other relevant parties would be in effect, specifically those measures dealing with post-review changes and unanticipated discoveries. These measures are outlined in Part II, Sections A-C of the programmatic agreement (USACE 2018).

Justification

The stipulations outlined above would help ensure that the use is compatible at DB White River NWR. The Three Rivers ROW and rights to access, as outlined in this CD, would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. This action would provide an opportunity to restore form and function to oxbow lakes in the isthmus and provide a long-term solution for reducing the risk of a cutoff by reducing the frequency, duration, location, and damaging head differentials of overtopping events. If the proposed use is not allowed to occur, the risk of losing additional refuge bottomland hardwood habitat to headcutting is high. Based on available science and best professional judgement, the Service has determined that the Three Rivers ROW at DB White River NWR, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the Refuge System mission or the purpose of the refuge.

Literature Cited/References

U.S. Army Corps of Engineers. 2018. Three Rivers Southeast Arkansas Integrated Feasibility Study and Environmental Assessment. Little Rock District, AR. 177 pp.

- U.S. Army Corps of Engineers. 2022. Memorandum for Record, Three Rivers Area of Potential Effect (APE) Additions for the Three Rivers USACE Undertaking. Little Rock District, AR. 1 p.
- U.S. Fish and Wildlife Service. 2012a. White River National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment. Atlanta, GA. 379 pp.
- U.S. Fish and Wildlife Service. 2012b. White River National Wildlife Refuge Comprehensive Conservation Plan. U.S. Department of the Interior Fish and Wildlife Service, Southeast Region. Atlanta, GA. 382 pp.
- U.S. Fish and Wildlife Service. 2017. A Final Fish and Wildlife Coordination Act Report on the Three Rivers Feasibility Study. U.S. Department of the Interior Fish and Wildlife Service, Southeast Region. Atlanta, GA. 75 pp.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2033

Figures

Figure 1. La Grues Lake Culvert Replacement on Dale Bumpers White River National Wildlife Refuge as part of the Three River Study.

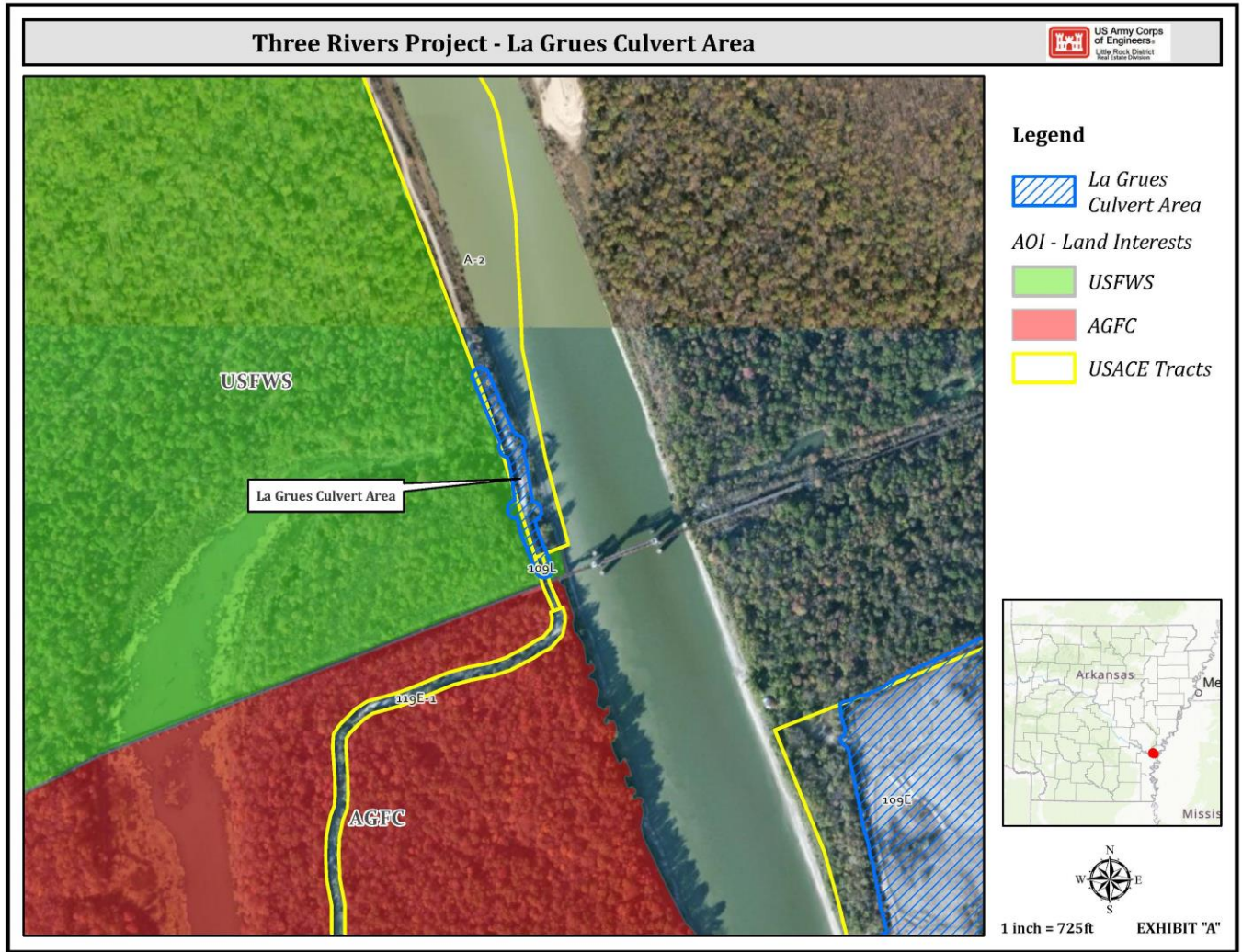


Figure 2. Dredge spoil removal area and portion of road in which U.S. Army Corps of Engineers (USACE) is seeking a right-of-way.

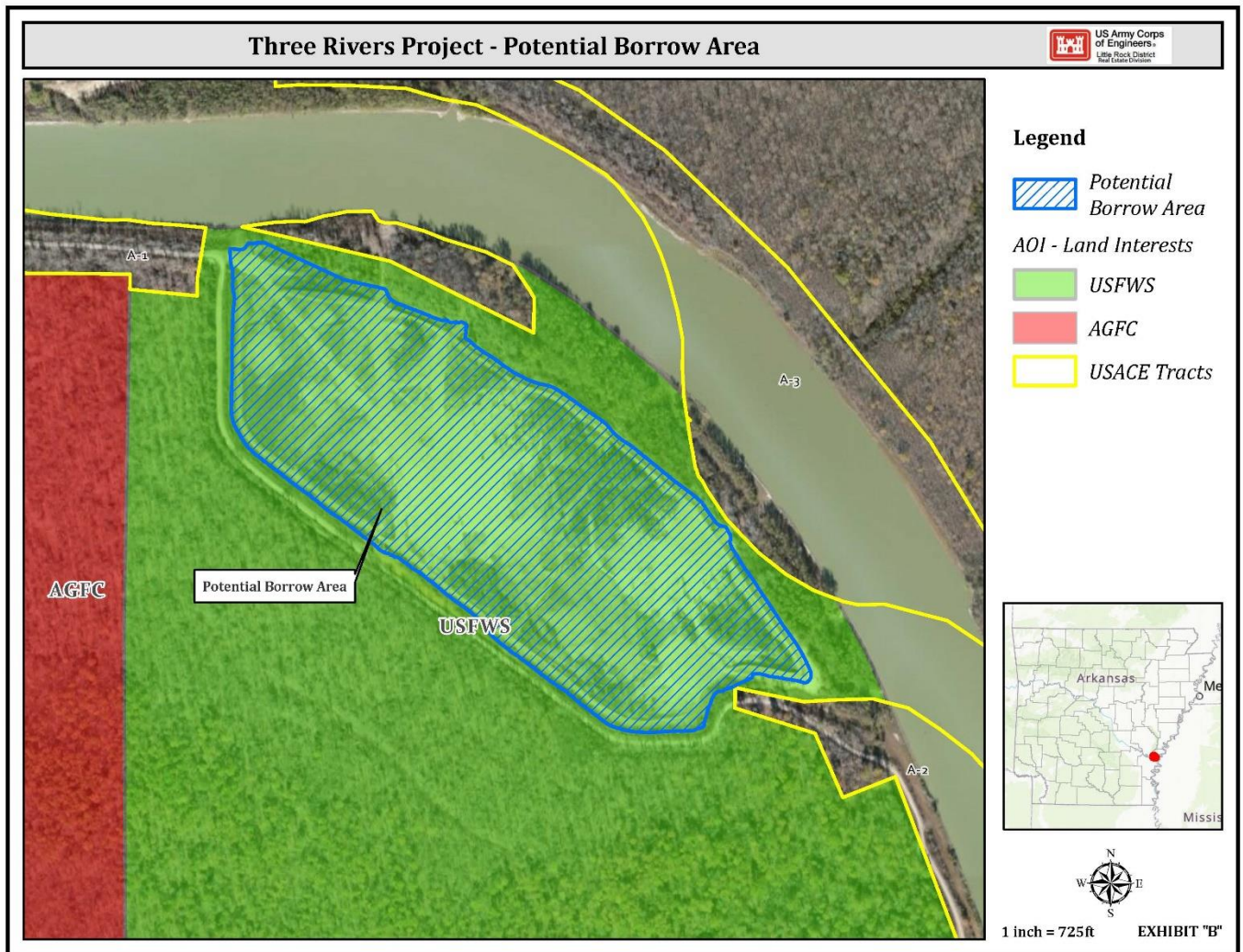


Figure 3. Westernmost portion of the C157 Structure that is being constructed on Dale Bumpers White River National Wildlife Refuge as part of the Three River Study.

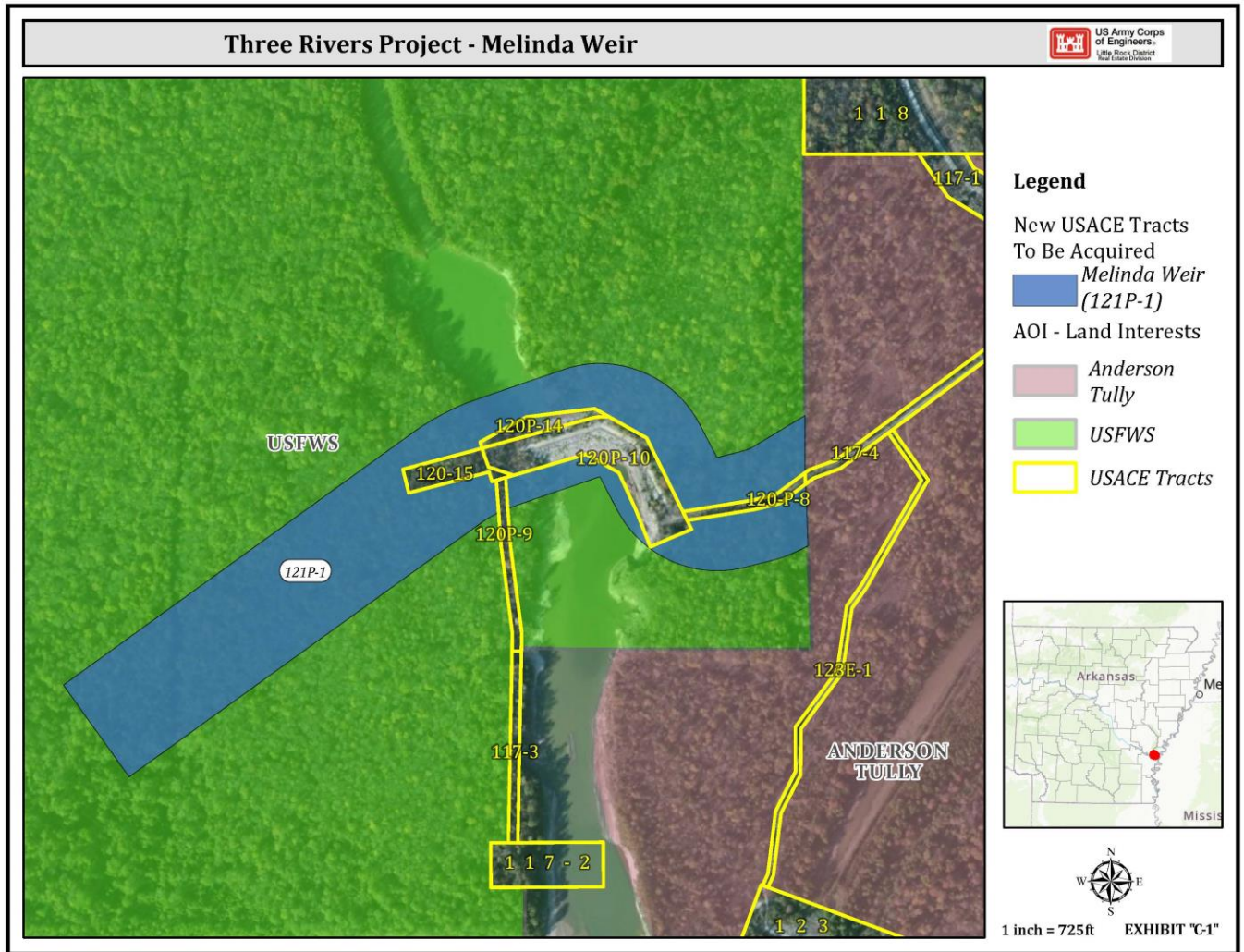


Figure 4. Three Rivers Project Overview map with property ownership.

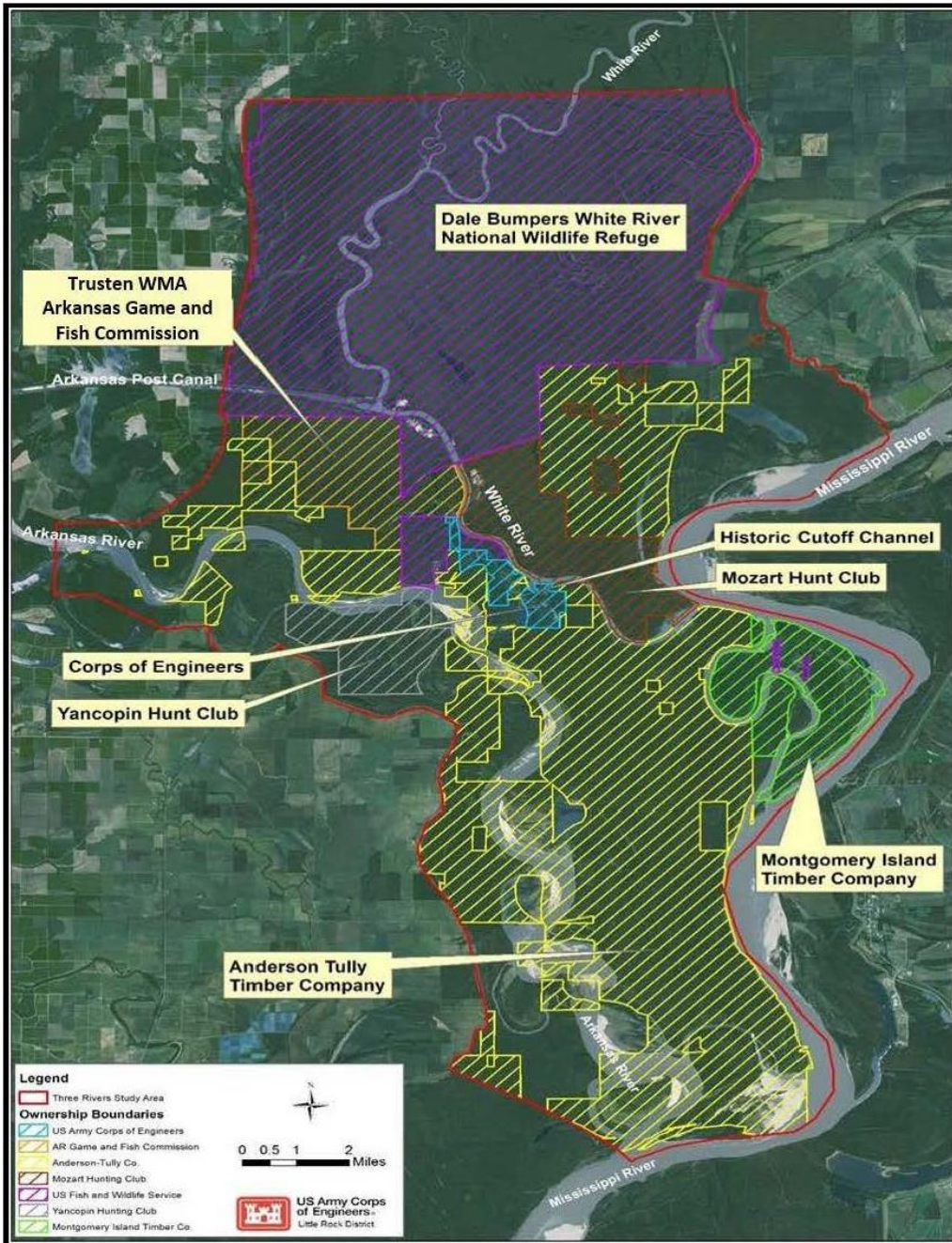
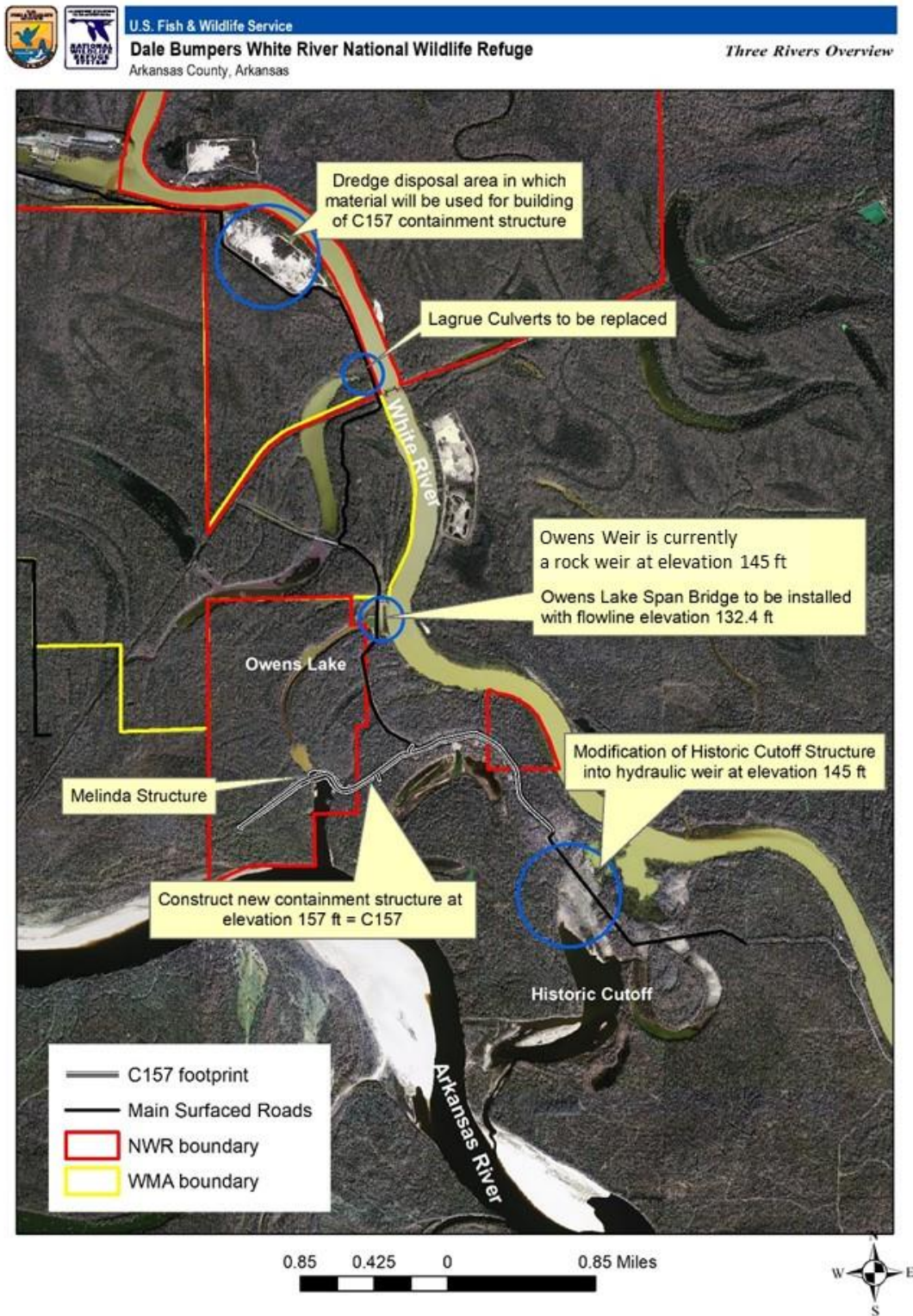


Figure 5. Three River Study overview of rights-of-way and rights-of-access projects on Dale Bumpers White River National Wildlife Refuge.



The U.S. Fish and Wildlife Service’s Finding of No Significant Impact for the U.S. Army Corps of Engineers, Little Rock District, Three Rivers Southeast Arkansas Feasibility Report and Environmental Assessment Dale Bumpers White River National Wildlife Refuge

Introduction

The U.S. Fish and Wildlife Service (Service) was a cooperating agency on the U.S. Army Corps of Engineers’ (USACE) Three Rivers Southeast Arkansas Integrated Feasibility Report (Three Rivers Study), Environmental Assessment (EA), and Finding of No Significant Impact (FONSI, U.S. Army Corps of Engineers [USACE] 2018) on the McClellan-Kerr Arkansas River Navigation System (MKARNS). The USACE is pursuing a right-of-way (ROW) for an existing roadway and seeking to modify existing containment structures, create a new containment structure, replace culverts, and use existing dredge material for construction on the MKARNS in an area commonly referred to as the Three Rivers Area of Dale Bumpers White River National Wildlife Refuge (DB White River NWR or refuge).

The MKARNS was developed in the 1970s, and approximately 64 square miles occurs on the DB White River NWR in rural southeast Arkansas and includes the confluence of the Arkansas, White, and Mississippi Rivers and Montgomery Point Lock and Dam, which is the final MKARNS lock and dam where barges enter the Mississippi River. Parts of a containment structure (levees) and dredge material were placed on the refuge between 1964 and the early 2000’s. Further dredge spoil disposal was a use evaluated and analyzed in the DB White River NWR Comprehensive Conservation Plan, EA, and FONSI in 2012 and was found not appropriate (U.S. Fish and Wildlife Service [USFWS] 2012a and 2012b). The USACE Three Rivers Study evaluated the Preferred Alternative that incorporates existing, natural high ground as part of its design, thereby minimizing disturbance to the terrain and natural hydrology of the land by using existing dredge material from the refuge. It also would provide an opportunity to restore form and function to oxbow lakes in the isthmus and provide a long-term solution for reducing the risk of a cutoff by reducing the frequency, duration, location, and damaging head differentials of overtopping events. The ROW and rights to access will occur on the isthmus between the Arkansas and White Rivers, which is part of DB White River NWR.

Selected Action

Alternative 1 – Preferred Alternative

The proposed work will occur on portions of DB White River NWR that are managed as part of Trusten Holder Wildlife Management Area by the Arkansas Game and Fish Commission (USFWS 2024, Figures 1-5). These areas are located south of the ship canal that was constructed as part of the MKARNS. The refuge has issued a Special Use Permit (#43670-2022-028) to the USACE for the period between May 31, 2022, and May 30, 2024, to allow them to complete mapping and land surveys to determine the footprint of the currently designed containment structure and to survey the portion of the roadway adjacent to the dredge spoil area in which the USACE is seeking a ROW.

The proposed work will be conducted by USACE-appointed contractors who will work within guidelines established by the USACE, the refuge, and the Arkansas Game and Fish Commission (USACE 2018). The work includes:

- 1) Replacement of culverts at La Grues Lake (Figure 1 & 5) – Contract labor will carry out construction activities, including the removal of existing pipes by excavation equipment, installation of new concrete box culverts, and restoration of the excavated area.
- 2) Removal of dredge spoil material (Figure 2 & 5) – Contract labor will use excavation machinery to remove the dredge material, process it in an on-site batch plant to create soil cement, and then transport it to the construction site for placement and compaction to construct the new containment structure. Additionally, the contractor will replace culverts, clear the roadway ditch, and restore drainage in the ditch between the spoil area and Benzal Road.
- 3) Construction of the C157 containment structure (Figures 3 & 5) – Contract labor will clear and grub the area needed for the footprint of the structure and then proof roll and compact the existing ground. Undesirable material will be over excavated and removed from the project site. A Keyway will be excavated to control seepage under the proposed soil-cement containment structure. A 25-foot-wide, 5-foot-thick apron will be constructed of B-stone rock on the Arkansas River side of the proposed containment structure. Soil-cement will be placed in compacted lifts to the desired elevation and a concrete surfaced inspection/access road with turnouts will be constructed on top. Access drives to the existing access points will be constructed to maintain access to and from those properties.
- 4) Establishment of a ROW along approximately 0.84 miles of Benzal Road adjacent to the abandoned dredge disposal site (Figure 2) – Contract labor will survey the area desired for the ROW according to Service specifications. Once the area is identified, stipulations for this ROW will apply, including but

not limited to having the contractor restore the drainage ditch between the roadbed and spoil area.

Other Alternatives Considered and Analyzed

The **No Action Alternative** consists of a continued reliance on repairing and modifying existing containment structures and constructing new, small structures similar to the Melinda Structure to contain other headcuts in the project area when they reach critical levels.

Alternative 2 consists of lowering portions of several existing structures and adding two new ones, at an optimized elevation between 115 and 135 feet, to allow multiple flow paths across the isthmus and would add a relief opening at the Historic Cutoff that is wider than that proposed in Alternative 1. The alignment of the existing Soil Cement Structure would not change under Alternative 2.

Based on the Three Rivers Study analysis, the Service concurs that the combination of direct and indirect impacts associated with Alternative 1 (125 acres) are less environmentally damaging than those of Alternative 2 (4,887 acres) or the No Action Alternative (356 acres). Combined with the ancillary environmental benefits in Alternative 1 and the full support of the resource agencies, Alternative 1 is the selected Alternative.

Summary of Effects of the Selected Action

As stated previously, the Service was a cooperating agency on the USACE Three Rivers Study, EA, and FONSI on the MKARNS (USACE 2018). The Three Rivers Study appropriately modified and analyzed the effects of the proposed action which are herein incorporated by reference (USACE 2018). If the proposed use is not allowed to occur, the risk of losing refuge bottomland hardwood habitat to headcutting is high. The proposed work will result in unavoidable impacts to approximately 25 acres of bottomland hardwood forest habitat; this loss will be mitigated, as discussed on pages 5-6 (USACE 2018). If other forested areas are impacted during construction that are not to be within the footprint of the containment structure, those areas will be re-planted with trees (USACE 2018).

Short-term impacts

- Culvert replacement project at La Grues Lake:
 - A temporary road closure will occur during construction. Since the road is used for logging operations and for hunting access during specified periods of the year, the contractor cannot close the road from September 15 to February 28 or April 1 to May 15.

- Soil disturbance will occur during construction. The USACE contractor will maintain runoff and restore vegetation.
- Removal of dredge material from abandoned dredge disposal site:
 - Temporary vegetation disturbance to the area will occur; however, most of the disposal site consists of sand with minimal vegetation present.
 - Disturbance to the area from heavy machinery and contractors will occur during construction. The USACE contractor will maintain runoff and restore vegetation.
- Construction of C157 containment structure:
 - Disturbance of soil and wildlife will occur during the time of construction. The USACE contractor will maintain runoff and restore vegetation.

Long-term impacts

- Culvert replacement project at La Grues Lake:
 - The concrete box culverts and armored roadway surface will increase effectiveness of drainage and hydraulic connections between the White River and La Grues Lake.
 - Replacement will decrease the risk of tree mortality due to longer inundation resulting from continued degradation or culvert failure.
- Removal of dredge material from abandoned dredge disposal site:
 - The borrowed material will be taken from the higher elevation sites, which will decrease elevations closer to natural ground. Although not all the material will be removed, the areas reduced in elevations may help the ecosystem shift back to a more natural condition.
- Construction of C157 containment structure:
 - A bridge opening will be installed through Owens Weir on the north end of Owens Lake. The bridge will be 30 feet wide with a minimum height of 6 feet. The opening would facilitate Owens Lake filling sooner, thereby reducing head differentials prior to overtopping Owens Weir. This should eliminate, or drastically reduce, the scouring flows that occur during an overtop event. This bridge will also serve to restore a more natural connection between Owens Lake and the White River, which would improve fish passage between the two water bodies.

- Approximately 8-10 acres of bottomland hardwood forested habitat will be converted to a soil-cement containment structure on the western edge of C157.
- This structure will stop the headcut erosions occurring around the Owens Lake corridor by creating a backwater, or ponding, area north of the structure where overland velocities will cease to cause damage even during events in which the White River overtops C157 and flows into the Arkansas River.
- Woody vegetation is well established and flourishing below elevation 128 ft on the White River side of Owens Weir. It is believed that even though Owens pool will fluctuate more than it has historically between 132.4 feet and 145 feet, the increase in fluctuations and inundation depths should not negatively affect the current vegetation growing around 132.4 ft.

Measures to Minimize Adverse Effects

Measures to minimize adverse effects have been incorporated into the selected action. These measures include:

- 1) 20 acres of mitigation land must be purchased to compensate for the conversion of bottomland hardwoods to accommodate the containment structure. Land will be re-planted to bottomland hardwood species native to the area and will be within one mile of an existing refuge boundary.
- 2) If forested areas not within the footprint of the containment structure are affected during construction, those areas will be re-planted with tree species that are the same as those removed.
- 3) Removal of sand from Dredge Disposal Area 2 must be done without removing material below its original elevation (i.e., elevation that existed prior to the disposal of dredge material). Removal should first occur on areas with minimal vegetation present.
- 4) Maintenance of any ditches created to facilitate drainage around the C157 structure on refuge property will be the responsibility of the USACE. Maintenance includes removal of blockages (beaver dams, debris piles, etc.) that cause prolonged inundation to adjacent forested habitats.
- 5) During culvert and bridge replacement projects on Benzal Road, the contractor cannot close the road from September 15 to February 28 or April 1 to May 15.
- 6) Maintenance of the roadside ditch between Benzal Road and Dredge Disposal Area 2 will be the responsibility of the USACE. Maintenance includes

removal of blockages (beaver dams, debris piles, blocked culverts, etc.) that cause prolonged inundation to the adjacent roadbed.

- 7) Maintenance and removal of any blockages that may occur under the Owens Lake Bridge Span being installed along Benzal Road are the responsibility of the USACE. With the southern end of Owen's Lake being built up from an elevation of 140 feet to an elevation of 157 feet, the new bridge will serve as a 'relief valve' to prevent holding water on adjacent refuge lands. If this 'relief valve' becomes blocked, it may cause prolonged flooding on adjacent refuge lands.
- 8) The 2020 amended Programmatic Agreement (USACE 2022) concerning compliance with Section 106 of the National Historic Preservation Act negotiated with the USACE, Little Rock District, the Arkansas Historic Preservation Program, the Osage Nation, the Quapaw Nation, the Service, and other relevant parties is in effect, specifically those measures dealing with post-review changes and unanticipated discoveries. These measures are outlined in Part II, Sections A-C of the programmatic agreement (USACE 2018).

Public Review

The proposal has been thoroughly coordinated with all interested and/or affected parties. Public involvement, Tribal engagement, and interagency coordination related to the Proposed Action were conducted during the planning process for the Three Rivers Study, EA, and FONSI (USACE 2018). This FONSI and associated Draft Compatibility Determination will be distributed for public review and comment for a period of 15 days from April 9, 2024 to April 23, 2024. A notice of availability of these documents was distributed through local media, the refuge website, and at refuge headquarters/visitor center. A hard copy of this document will be posted at the Refuge Headquarters and Visitor Center (57 South CC Camp Road, St. Charles, Arkansas, 72140). It will be made available electronically on the refuge website (<https://www.fws.gov/refuge/dale-bumpers-white-river>). Please let us know if you need the documents in an alternative format.

Finding of No Significant Impact

It is my determination that the management action does not constitute a major federal action significantly affecting the quality of the human environment under the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969 (as amended). As such, an environmental impact statement is not required. This determination is based on the following factors (40 C.F.R. §1508.27), as addressed in the Environmental Assessment of the Three Rivers Study (USACE 2018):

- Both beneficial and adverse effects have been considered, and this action will not have a significant effect on the human environment.
- The actions will not have a significant effect on public health and safety.
- The project will not significantly affect any unique characteristics of the geographic area, such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas.
- The effects on the quality of the human environment are not likely to be highly controversial.
- The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment.
- The actions will not establish a precedent for future actions with significant effects, nor do they represent a decision in principle about a future consideration.
- There will be no cumulatively significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past action, and in foreseeable future actions.
- The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources. The actions are not likely to adversely affect threatened or endangered species or their habitats.
- Consultation with the Service was completed in accordance with Section 7 of the Endangered Species Act, and concurrence was received on USACE determinations of “no effect” and “may affect, not likely to adversely affect.”
- The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment.

Literature Cited/References

U.S. Army Corps of Engineers. 2018. Three Rivers Southeast Arkansas Integrated Feasibility Study and Environmental Assessment. Little Rock District, AR. 177 pp.

U.S. Army Corps of Engineers. 2022. Memorandum for Record, Three Rivers Area of Potential Effect (APE) Additions for the Three Rivers USACE Undertaking. Little Rock District, AR. 1 p.

U.S. Fish and Wildlife Service. 2012a. White River National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment. Atlanta, GA. 379 pp.

U.S. Fish and Wildlife Service. 2012b. White River National Wildlife Refuge Comprehensive Conservation Plan. U.S. Department of the Interior Fish and Wildlife Service, Southeast Region. Atlanta, GA. 382 pp.

U.S. Fish and Wildlife Service. 2024. Draft Compatibility Determination for right-of-way for the Arkansas-White River Cutoff Project on Dale Bumpers White River National Wildlife Refuge. U.S. Department of the Interior Fish and Wildlife Service, Southeast Region. Atlanta, GA. 20 pp.

Decision

The Service has selected the Preferred Alternative 1 for implementation of the USACE Three Rivers Study on DB White River NWR ROW and rights-of-access.

This action is compatible with the purposes of the refuges and the mission of the National Wildlife Refuge System. See the attached Compatibility Determination for DB White River NWR (USFWS 2024).

The action is consistent with applicable laws and policies.

Signature, Title

Date