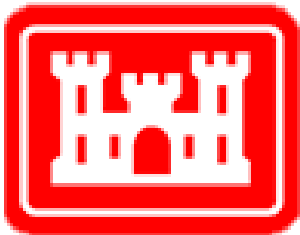


Draft Biological Assessment

McClellan-Kerr Arkansas River Navigation System
(MKARNS) 12-Foot Channel Deepening Project

Oklahoma and Arkansas

January 2024



Regional Planning and Environmental Center
NEPA and Natural Resources Section
U.S. Army Corps of Engineers

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1.0 INTRODUCTION

The purpose of this Biological Assessment (BA) is to address the effects of the McClellan-Kerr Arkansas River Navigation System (MKARNS) 12ft Channel Deepening Project on Endangered Species Act (ESA) species listed as endangered or threatened and their designated critical habitats. Implementation of the proposed action will ensure safe, reliable, and economically efficient navigation on the MKARNS channel through Oklahoma and Arkansas.

This BA has been prepared in compliance with requirements outlined under Section 7(c) of the ESA. Section 7(a)(2) of the Act, as amended, requires federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and its critical habitat. The United States Army Corps of Engineers (USACE) is the lead federal agency for the proposed project, and will oversee compliance with applicable federal laws, ordinances, and regulations required for the project, including protective measures for sensitive biological resources.

The purpose of the proposed action is to implement a long-term environmentally sustainable navigation solution on the MKARNS, which includes the Verdigris River, Arkansas River, and the lower 10 miles of the White River.

USACE utilized the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPAC) tool to request an official list of federally listed species for all designated project area. The report, dated January 25, 2024, identified 22 species as either endangered, threatened, proposed for listing, or a candidate species. Those species include the Alligator Snapping Turtle, American Burying Beetle, Eastern Black Rail, Fat Pocketbook, Gray Bat, Harperella, Indiana Bat, Ivory-billed Woodpecker, Missouri Bladderpod, Monarch Butterfly, Neosho Mucket, Northern Long-eared Bat, Ozark Big-eared Bat, Pallid Sturgeon, Pink Mucket, Piping Plover, Pondberry, Rabbitsfoot, Red Knot, Red-cockaded Woodpecker, Tricolored Bat, and the Whooping Crane.

This BA will address the 22 noted species with respect to the action areas associated with the proposed dredging operations, dredged material disposal sites, and construction of river structures along the MKARNS.

1.1 Purpose and Need

The MKARNS 12-foot Channel Deepening Project has been authorized under Section 136 of the Energy and Water Development Appropriations Act of 2004, with the purpose of improving commercial navigation operation by deepening the current 9-foot navigation channel to a 12-foot minimum operational depth, and widen the Verdigris River portion of the system to allow tows to pass at almost any location on the Verdigris River. Currently, tows passing on the Verdigris River are restricted to only certain wider locations. Deepening the channel would make shipping more compatible with other deeper draft navigation systems such as the Lower Mississippi River, and allow tow boats and barges

to employ their full capacity to carry and move cargo at lower costs, which translates into cost savings for consumers. The MKARNS feeds directly into the lower Mississippi River that has a 12-foot channel that is available approximately 90 percent of the time in any given year.

An increase in shipping tonnage and transportation of more goods via the MKARNS may result in decreased shipping congestion on roads and railways. The MKARNS is responsible for approximately \$1-2 billion in trade transportation in Arkansas and \$100 million to \$1 billion in trade transportation in Oklahoma.

1.2 Scope of the Study

The MKARNS system (Figure 1) is approximately 445 miles in length, running from the Port of Catoosa near Tulsa, Oklahoma, downstream to confluence with the Mississippi River, and consists of a series of 18 locks and dams. Currently, the USACE, Tulsa District (SWT) and Little Rock District (SWL) cooperatively control flows in the Arkansas River system in Kansas, Oklahoma, and Arkansas. However, SWL's operational flexibility in controlling flows is very limited.

The project area includes the MKARNS from the Port of Catoosa near Tulsa, Oklahoma, downstream to the confluence of the Mississippi River in southeastern Arkansas. Channel widths vary throughout, including 250 feet along the Arkansas River, 150 feet along the Verdigris and Poteau rivers, and 225 feet along the Sans Bois Creek. The depth of the navigation channel varies but is currently maintained to a minimum of 9 feet. However, a majority of the system is already naturally at depths of 12 feet or greater.

The proposed project is divided into three separate components. The first will include the construction or modification of approximately 112 of training structures (AR – 5 new, 85 mod; OK – 5 new, 5 mod). Future survey, monitoring, and modeling efforts may result in changes to these numbers. These rock training structures will allow the river to continue to self-scour naturally overtime, minimizing the total amount of mechanical dredging that is required.

The second component of the proposed project will include the mechanical dredging of approximately 3700 acres in areas unable to self-scour via the rock training structures. Clamshell barge style and hydraulic cutter head style dredging equipment will be utilized to mechanically dredge any area that is unable to self-scour.

Detailed analyses of recent bathymetric and lidar survey data conducted by the SWT and SWL Hydraulic and Hydrology Divisions determined an approximate 46.6 percent (%) reduction in total proposed dredge quantity (5,791,099 M cubic yards [cy]) from the 2005 Arkansas River Navigation Study Final Report and Environmental Impact Statement (2005 FR/EIS) estimated quantity of 10,840,245 M cy. Details on the locations and quantities by state can be found in the 2024 Supplemental Environmental Assessment (SEA).

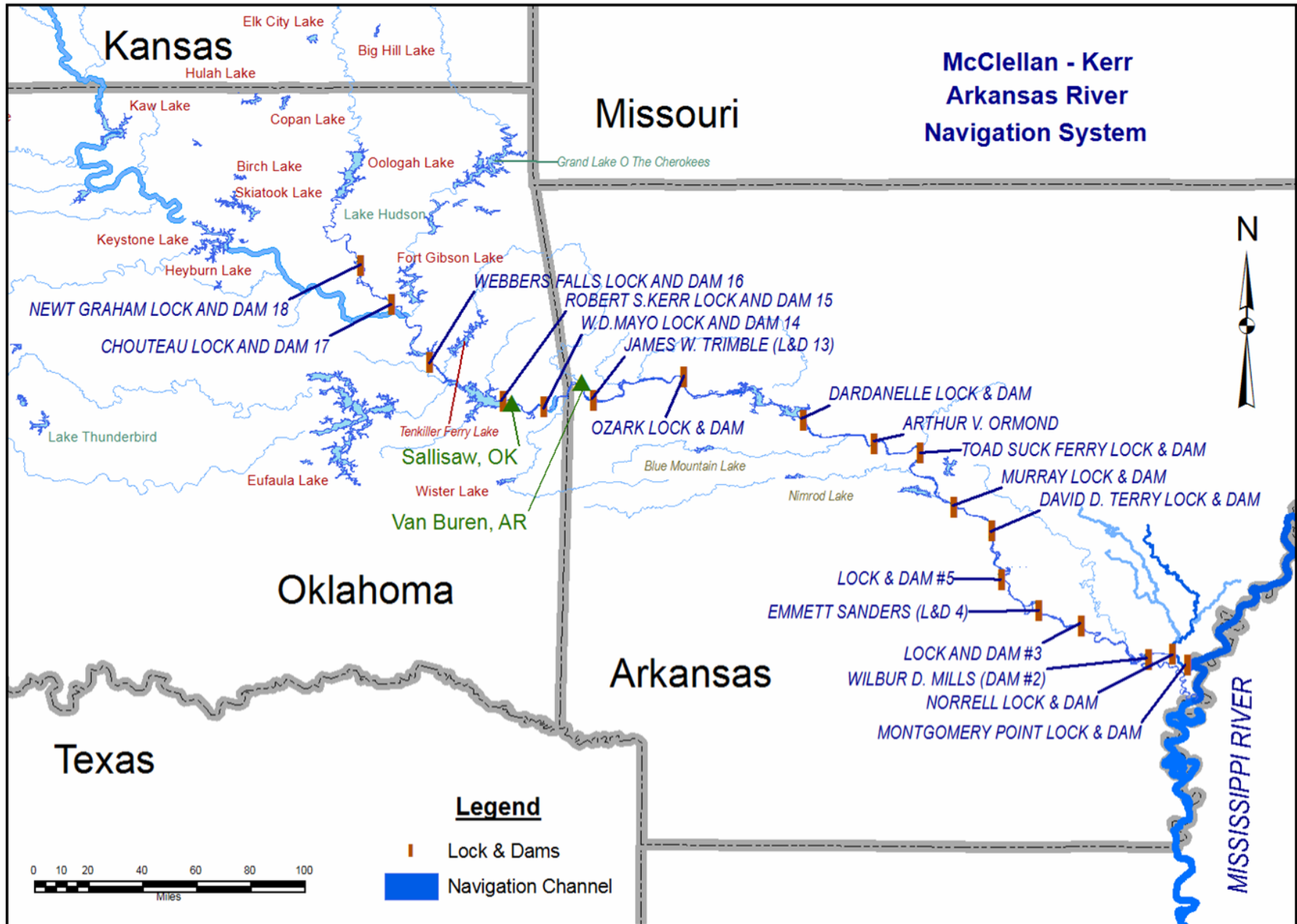
The final component addresses the disposal locations for the dredged material. This

project will include the use of new and existing upland and in-water disposal locations that will be used for the disposal of dredge materials. It is anticipated that up to 37 new upland sites will be needed throughout the Oklahoma section of the project and 2 new sites within Arkansas. These new upland sites have been selected to avoid productive habitat to the greatest extent practicable; however, for those locations in which permanent adverse impacts cannot be avoided, habitat mitigation will be implemented to offset impacts to forested and emergent wetland habitats.

Additionally, this project is anticipated to use up to 170 in-water sites (129 existing; 41 proposed new), all of which are within in the Arkansas section of the river. These sites have been identified for use and are assumed to be the worst-case scenario, but as surveys continue and the final quantities of dredged materials are known, only those needed will be constructed.

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Figure 1: Overview of McClellan-Kerr Arkansas River Navigation System (MKARNS)



1.3 Study and Consultation History

1946: Rivers and Harbors Act of 1946 authorized the development of the Arkansas River and its tributaries for navigation.

1952: Construction on the MKARNS began.

1970: MKARNS opened for commercial navigation.

1999: Arkansas River Navigation Study (ARNS) was initiated.

2003: Initial Biological Assessment (BA) for MKARNS was drafted based on expected impacts of the different alternatives outlined in the Feasibility Study.

2004: Energy and Water Development Act of 2004 authorized project depth of 12 feet.

2005: USACE received USFWS's Biological Opinion (BO) that was drafted in response to the 2003 BA and 2005 EIS.

2005: ARNS Feasibility Study and EIS were completed, and Record of Decision was signed for the proposed 12-foot channel.

2020: WRDA 2020 provided funding to update models and designs and begin construction of the 12-foot channel.

February 2, 2023: USACE staff met with USFWS to provide an introductory discussion of the proposed project, anticipated impacts, and changes to the project from the 2005 effort.

March 14, 2023: USACE staff had a follow-up meeting with USFWS to discuss specifics of the updated listed species report and anticipate effects determinations to help in the preparation of this BA and upcoming BO.

2.0 DESCRIPTION OF EXISTING CONDITIONS/CURRENT OPERATIONS

2.1 Arkansas River Basin

The Arkansas River is one of the two major river basins in Oklahoma. The river is the fourth longest river in the United States and the sixteenth longest in the world. Many major tributaries flow into the Arkansas River, including the Cimarron, Canadian, Neosho, Grand (formed by the confluence of the Neosho and Spring rivers), Verdigris, and White rivers. Minor tributaries include the Currant and Big Sandy rivers in Colorado; the Pawnee, Walnut, Rattlesnake, and Little Arkansas Rivers in Kansas; the Salt Fork, Illinois, and Poteau rivers in Oklahoma.

From its source in the Rocky Mountains near Leadville, Colorado, it flows in a

southeasterly direction through the State of Kansas and enters Kay County, Oklahoma, just south of Arkansas City, Kansas, at the upper limits of Kaw Lake. It continues in a southeasterly direction through Oklahoma. In Muskogee County, OK, it converges with the Verdigris and Grand rivers at the upper limits of Webbers Falls Lock and Dam. At this point near Muskogee, Oklahoma, it becomes part of the MKARNS. It leaves the state of Oklahoma at navigation mile 361 below W.D. Mayo Lock and Dam where it flows into the State of Arkansas. From this point, it flows southeasterly through the State of Arkansas and a series of 10 locks and dams to its confluence with the White River near navigation mile 10. After its confluence with the White River, it continues flowing southeasterly through three remaining lock and dams systems until its confluence with the Mississippi River in Desha County, Arkansas, at navigation mile 0.

2.1.1 Topography

The difference in elevation from the beginning of the MKARNS at the Port of Catoosa to the confluence with the Mississippi River is 420 feet. Because the elevation of the Arkansas River through Tulsa is 100 feet higher than the Verdigris at Catoosa, the USACE channeled up the Verdigris River from Muskogee to Catoosa, rather than the Arkansas River. The MKARNS traverses many physiographic regions in Arkansas and Oklahoma. The major physiographic provinces include the Ouachita Province, the Ozark Plateau Province and the Mississippi Alluvial Plain.

The Ouachita Province is divided into two different sections. The first section is the Ouachita Mountain section and is located in the southern portion of the province. The second section is located in the Arkansas Valley within the northern portion of the province. The Ouachita Mountains Section is distinguished by ridge and valley topography rising in some areas to more than 2,000 feet above sea level. The Arkansas Valley Section includes lower elevation plains (300-600 feet above sea level) with smaller east-west ridges generally no more than 1,000 feet above sea level. Normal MKARNS navigation pool elevation in the Arkansas Valley Section varies from over 500 feet above sea level in eastern Oklahoma to approximately 250 feet above sea level near Little Rock, Arkansas.

The Ozark Plateau Province is north of the Ouachita Province and is separated into the Boston Mountains Section to the south of the Province and the Salem and Springfield Plateaus to the north. The Boston Mountains Section occurs along the northern portion of the Arkansas River Valley in northwestern Arkansas and northeastern Oklahoma. This 35-milewide section is a deeply dissected plateau region characterized by flat-crested ridges that generally range from 1,900 to 2,500 feet above sea level. The valleys are generally v-shaped and are cut 300 to 1,000 feet below the ridges.

Downstream of Little Rock, Arkansas, the topography transitions to the Mississippi Alluvial Plain that generally consists of low floodplains and floodplain terraces. Crowley's Ridge in Arkansas is the most prominent topographic feature of the Mississippi Alluvial Plain. It is thought that this ridge is part of a north-south outlier of older, underlying Coastal Plain rocks.

2.1.2 Geology

The rocks that underlie the Ouachita and Ozark Provinces are Paleozoic (Cambrian to Pennsylvanian) in age. The Ouachita Province bedrock is fractured, faulted, and folded shale, sandstone, limestone and cherty-novaculite rocks, whereas the Ozark Province consists of well-consolidated, flat lying to south dipping, fractured carbonate and clastic rocks. The Mississippi Alluvial Plain consists of alluvial deposition with underlying material similar to the Coastal Plain - Mesozoic to Cenozoic (Jurassic to Quaternary) in age.

The Ouachita Province rock is mostly a thick sequence of shale and sandstone deposited during the Cambrian to early Pennsylvanian time within an elongating subsiding Ouachita trough. Rifting along a late Precambrian-early Paleozoic continental margin formed the trough. The Ouachita trough contains deep-water sediments. The trough was closed during the late Pennsylvanian time by compressional tectonic forces. These forces created an intensely folded structure with north and south directed thrust faults. The thrust faults occur in folded structures and result in the rocks above the fracture depositing over the rocks below. Normal faults are common in the areas north of the Arkansas River, and thrust faults are present south of the river in the Ouachita Mountains.

The Ozark Plateau Province consists of rocks of Ordovician to Pennsylvanian age underlain by dolomite and sandstone beds of Cambrian Age that formed at the basal part of the Paleozoic sequence. The Ozark uplift, centered in southern Missouri, affects the structural attitude of Paleozoic rocks in northern Arkansas. In general, outcrop rocks in northern Arkansas result from annular bands around the Ozark uplift. Rocks of Ordovician to Mississippian age in the Ozark Plateau Province dip gently southward from northern Arkansas and are dominated by shallow-water carbonate-shale sequences with some deltaic sandstones. These were deposited on a cratonic shelf in the Precambrian. The Boston Mountains Section of this province consists mostly of Pennsylvanian sedimentary rocks of sandstone and shale deposited in deltaic, open marine, coastal, and swamp environments.

The Mississippi Alluvial Plain contains alluvial deposition over the Coastal Plain sedimentary rock, which is of Cretaceous to early Tertiary in age, except where covered by Holocene deposition from the ancestral Mississippi River. About 12,000 years ago, a braided ancestral Mississippi River resulted from glacial melt waters carrying large volumes of coarsegrained sand and gravel detritus. As the sediment load lessened, the Mississippi River became a meandering river system, depositing sand, silt, and clay.

2.1.3 Soils

Within the MKARNS, deposition and down cutting by major rivers and streams were extensive from the end of the Tertiary period to the Quaternary Period. This ongoing pattern of erosion and deposition left a series of alluvial deposits as the streams progressively lowered their beds. The more recent alluvial terraces may only be a few feet above the current floodplain. The alluvium is the most recently deposited material within the confines of the current floodplain.

In Oklahoma, the alluvium and alluvial terraces of the main stem of the Arkansas River average more than 5 miles in width and 45 feet in depth between the confluences with

the Cimarron River and where the Arkansas passes through Tulsa. The deposits are predominantly sand and gravel, and the water table is generally less than 20 feet below the soils.

In the northwestern portion of Arkansas where the Arkansas River enters the state through Sebastian County, the Arkansas River valley is characterized by rolling flat-topped hills, long narrow ridges, and broad valleys. The hilltops and ridges are mostly underlain by shale. The USDA (1975) as reported by USACE (2003) has indicated the following soil associations for the area:

- The mountaintops and hilltops are generally Mountainburg-Linker soils, which are well drained, steep to gently sloping, deep, loamy soils.
- Enders-Mountainburg soils are well drained, steep to gently sloping, deep and shallow, loamy soils on narrow ridges.
- The fertile bottomlands of the valleys are generally Leadvale-Taft, which are moderately well drained to somewhat poorly drained, level to sloping, deep, loamy soils with a fragipan. The Wrightsville association is similar but predominantly level on old stream terraces.
- The Arkansas River floodplain soils include the Crevasse association, which is excessively drained, level and nearly level, deep soils that are sandy throughout, and the Severn-Iberia-Norwood association, which is well drained to poorly drained, dominantly level, deep, loamy and clayey soils. These two associations frequently run parallel and adjoining each other, with the Crevasse association typically found to the north of the other.

The southeastern portion of the project area within the State of Arkansas is represented by Desha County (USDA, 1972a as reported by USACE, 2003), and limited southern portions of Arkansas County (USDA, 1972b as reported by USACE, 2003), which includes the area of the confluence of both the Arkansas and White rivers with the Mississippi River. Soils types range from loamy soils along bayou ridge tops to predominantly clay in lower elevations. The primary soil associations of the project area through this portion of the state include:

- The Herbert-Rilla-McGee association is level and nearly level, somewhat poorly drained to well-drained, loamy soils found along ridge tops of the bayous.
- The Sharkey-Commerce-Coushatta and the Perry-Rilla-Portland associations are generally level bottomlands along the Arkansas River, which are poorly drained to well-drained, clayey and loamy soils.
- The Sharkey-Desha association is level and gently undulating, poorly drained to somewhat poorly drained, predominantly clayey soils on lower broad floodplain terraces.

The transition from the mountainous physiographic of northwestern Arkansas to the deltaic characteristics of the southeastern portion of the MKARNS occurs gradually along its southeasterly progress through the State of Arkansas, but it is most pronounced through the Little Rock area.

2.1.4 Floodplains

The Arkansas River was once a meandering and unpredictable river, which left a wide floodplain in many areas. The accumulation of alluvial deposits in the floodplain and floodplain terraces has created fertile soils for cultivation. Lands once cultivated by both Native Americans and settlers have now been inundated by pool and reservoir waters.

The MKARNS has been channelized and stabilized with dikes and revetments to improve navigation on the system. This channelization has also reduced the historic breadth of the floodplain in these areas. The placement of levees along the system to retain floodwaters and control normal flood events has also impacted the system's historic floodplain.

2.1.5 Land Use/Land Cover

Along the course of the Arkansas River that comprises the MKARNS, the land looks much as it did in pre-settlement days with rich floodplain soils well suited for cultivation. The wide bottomlands with fertile soil support many crops as well as pine and hardwood forests.

The land coverage of the majority of the project area consists of water bodies including the MKARNS and its associated reservoirs. Adjoining land coverage varies depending on the land use. The land cover for recreational lands that adjoin USACE projects include forests, wetlands, rangelands, and agricultural lands, depending on the location of each individual project.

The land coverage in the western portion of the MKARNS through the northern Oklahoma plains includes primarily rangelands and agricultural areas. The study lands in northeastern Oklahoma and northwestern Arkansas, which are located in mountainous areas, include higher percentages of forested land cover. The lower MKARNS through central Arkansas contains primarily agricultural lands. However, lowland forests associated with the White River National Wildlife Refuge and surrounding areas dominate the land coverage in the extreme lower portion of the MKARNS. Adjoining lands to non-USACE reservoirs include more residential and commercial development.

2.1.6 Vegetation

The Arkansas River valley from Kaw Lake to the mouth of the Mississippi River encompasses a diversity of ecosystems. The entire basin lies within the 2000 Humid Temperate Domain, as described by (Bailey, 1980). The Arkansas River Basin from Kaw Lake to the State line falls within the 2500 Prairie Division. As it flows through Arkansas it passes through Bailey's 2215 Hot Continental and the 2300 Subtropical Divisions. Near Kaw Lake the river is within the 2530 Tall Grass Prairie province and shortly thereafter

enters the 2512 Oak Hickory Bluestem Parkland Province and Oak–Bluestem Parkland Provinces which ends at approximately the Oklahoma–Arkansas State line. At this point, the river transitions into the 2215 Oak-Hickory Forest Province. At the center of Arkansas, the river transitions into the 2320 Southeastern Mixed Forest Province and finally enters the 2312 Southern Floodplain Forest as it nears the White and Mississippi rivers.

In the Prairie Parkland Provinces, the topography is gently rolling plains, with steep bluffs bordering the valleys. Average annual precipitation ranges from 23 to 40 inches. Grasses are the dominant plants on the prairies. Woody vegetation is rare except along the floodplains, which are dominated by cottonwoods. Dominant plants include big and little bluestem, Indian grass, switch grass, side-oats gramma, western wheatgrass, plains muhly, panic grass, and sedges. Various species of oaks and hickories including post oak, blackjack oak, red oak, and white oak dominate upland forests. Along the floodplains and moist hillsides, there is a richer forest of deciduous trees that include elm, sycamore, bur oak, eastern cottonwood, hackberry, redbud, and buckeye.

As the river enters the state of Arkansas, the shift in vegetation occurs to a winter deciduous forest. Tall, broadleaved trees that provide a dense canopy in summer and are bare in winter dominate this forest. These temperate deciduous forests are composed of various species of oaks, beech, birch, hickory, walnut, maple, basswood, elm, ash, chestnut, and hornbeam. The poorly drained areas may include forest containing alder, willow, ash, elm, and hydrophytic shrubs.

The lower section of the river travels through the 2320 Southeast Mixed Forest and 2312 Oak-Hickory–Pine Forest provinces. The average annual temperature increases to 60-70° F, and the rainfall increases from 40-60 inches per year. The climax vegetation within the Southeastern Mixed Forest Province consists of broadleaf deciduous and needle leaf evergreen trees, which may contain stands of loblolly pine, short leaf pine, or southern yellow pines. Other species present include oak, hickory, sweetgum, blackgum, red maple, and winged elm.

2.2 *McClellan-Kerr Arkansas River Navigation System*

Congress authorized the MKARNS project in the River and Harbor Act of July 24, 1946. Construction of the 9-foot navigation channel occurred during the 1960's, with the system being declared open to commercial traffic on December 2, 1970. Public Law 91-649, passed by Congress in 1971, designated it as the McClellan–Kerr Arkansas River Navigation System.

While the Arkansas river runs in a general northwest to southeasterly direction, the MKARNS is measured in the opposite direction. The beginning of the MKARNS (Navigation Mile 0) is located at the confluence of the White River and the Mississippi River. The Arkansas River comprises most of the MKARNS and is entered via the White River to the Arkansas Post Canal, then up the Arkansas River to Muskogee, and to the Port of Catoosa via the Verdigris near Tulsa. The total length of the MKARNS is 445 miles, of which 375 miles is the lower Arkansas River (navigation miles 394 to 19). The other MKARNS components include approximately 50 miles of the Verdigris River (navigation miles 445 to 394); the Arkansas Post Canal, a 9-mile canal connecting the

Arkansas River to the lower portion of the White River (navigation miles 19 to 10); and the lower 10 miles of the White River (navigation miles 10 to 0).

Navigation on the lower Arkansas and the other components of the MKARNS is controlled by a series of 18 locks and dams. The USACE maintains a minimum 9-foot channel depth along the system. Passage through MKARNS lock chambers was configured for 8 barges, but can accommodate 15 barge tows using double lockage. Each lock chamber is 100 feet wide and 600 feet long. There are 18 locks and dams along MKARNS. Five of the lock and dams are located in Oklahoma beginning on the Verdigris River. The remaining locks and dams are located on the Arkansas portion of the MKARNS.

The lock and dam structures are constructed along the waterway in a stair step pattern that gradually follows the natural elevation changes of the topography while still maintaining a navigation pool.

2.2.1 Locks and Dams

Development of the waterways of the MKARNS involved many in-stream modifications that produce stability and consistency to a naturally erratic system. Dams were created along the length of the system in order to maintain a navigation pool, typically along the old river channel, that provided a constant minimum navigation depth to the channel. This series of navigation pools from dam to dam creates a stair-step profile to the waterway from pool-to-pool (Figure 2). This allows the system traffic to "climb" or "ascend" the system's 420-foot elevation change with a consistent navigable channel.

Passage through a dam is achieved through a "lock" chamber system that lowers downstream traffic by reducing the water level in the chamber to that of the downstream navigation pool and raising the chamber elevation for upstream traffic.

The lock and dam structures along the MKARNS vary in design and include 14 "low-head" and 4 "high-head" locks and dams. The four high-head USACE-operated locks and dams are used for hydroelectric power production as well as navigation control. Hydroelectric power production also occurs at additional locks and dams along the MKARNS, however the additional facilities are not operated by USACE.

Figure 2. McClellan-Kerr Arkansas River Navigation System Lock Lift.

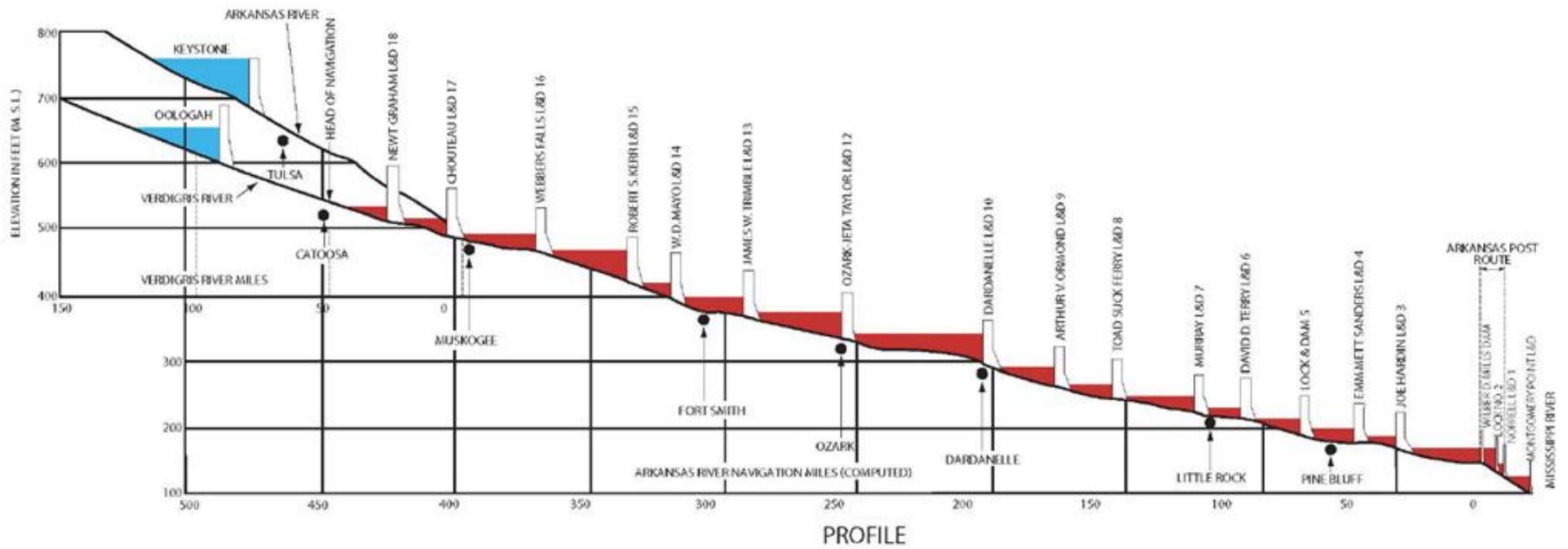


TABLE 1. LOCK AND DAM STRUCTURES OF THE MKARNS

Lock and Dam (L & D)		Construction Dates	Navigation Mile ¹	Elevation ²
Oklahoma Lock & Dams				
Newt Graham L & D (No. 18)*		1966 to 1970	421.6	532 to 511
Chouteau L & D (No. 17)*		1966 to 1970	401.4	511 to 490
Webbers Falls L & D (No. 16)		1965 to 1970	368.9	490 to 460
Robert S. Kerr L & D (No. 15)		1964 to 1970	336.2	460 to 412
W. D. Mayo L & D (No. 14)		1966 to 1970	319.6	412 to 392
Arkansas Lock & Dams				
J. W. Trimble L & D (No. 13)		1966 to 1969	292.8	392 to 372
Ozark-Jeta Taylor L & D (No. 12)		1964 to 1969	256.8	372 to 338
Dardanelle L & D (No. 10)		1957 to 1969	205.5	338 to 284
Arthur V. Ormond L & D (No. 9)		1966 to 1969	176.9	284 to 265
Toad Suck Ferry L & D (No. 8)		1965 to 1969	155.9	265 to 249
Murray L & D (No. 7)		1965 to 1969	125.4	249 to 231
David D. Terry L & D (No. 6)		1965 to 1968	108.1	231 to 213
L & D No. 5		1965 to 1968	86.3	213 to 196
Emmett Sanders L & D (No. 4)		1964 to 1968	66.0	196 to 182
Joe Hardin L & D (No. 3)		1964 to 1967	50.2	182 to 162
L & D No. 2	Wilbur D. Mills Dam ⁵	1963 to 1968	40.5 ³	162 to AR
	Lock No. 2**	1963 to 1967	13.3	162 to 142
Norrell L & D (No. 1)**		1963 to 1967	10.2	142 to ~115
Montgomery Point L & D		1998 to 2004	0.6 ⁴	~115
<p>1 Navigation miles upstream from the mouth of the White River (WR). 2 Elevation in feet above mean sea level (msl) from upper pool to lower pool. 3 Miles upstream from the mouth of the Arkansas River (AR) at the Mississippi River (MR). 4 Navigation miles 0.6 of the White River Entrance Channel. Hydroelectric power 5 Not part of the lock and dam system; diverts Arkansas River into the AR Post Canal; * Verdigris River ** Arkansas Post Canal.</p> <p>Source: USACE and MKARNS, 2003.</p>				

2.2.2 Reservoirs

The reservoir system of the MKARNS is part of a larger navigation and flood control plan for the Arkansas River in Oklahoma and Arkansas. Authorization for construction of the reservoirs on the MKARNS came principally from the passing of the various Flood Control Acts (1936, 1938, 1944, and 1962) and subsequent amendments to the original legislation. Additionally, the Rivers and Harbor Act incorporates upstream reservoirs in Oklahoma that have the capacity to control flows on the MKARNS into the multipurpose plan for the system.

River flow and water storage of the MKARNS are primarily influenced and controlled by the following 11 reservoirs in Oklahoma as well as the upper Arkansas River, prior to its confluence with the Verdigris River (river mile 394). The 11 Oklahoma reservoirs include:

- Keystone Lake
- Lake Hudson
- Kaw Lake
- Oologah Lake
- Fort Gibson Lake
- Hulah Lake
- Grand (Pensacola) Lake
- Tenkiller Ferry Lake
- Copan Lake
- Eufaula Lake
- Wister Lake

The 11 reservoirs include 9 USACE-SWT reservoirs as well as 2 electric utility (Grand River Dam Authority [GRDA]) reservoirs. The reservoirs provide flood control, water supply, power generation, recreation, and water quality maintenance. Information concerning various elements of the surface water features for each reservoir is detailed below. Information regarding water supply, hydroelectric power, and recreation resources for each reservoir are presented in subsequent sections. The reservoirs also aid the MKARNS by assisting in the control of water releases through spillways and power generating units. The rate of release for water from each reservoir depends on many factors, including available water storage, power requirements, navigation water requirements, inflow rates, river flow rates downstream, and weather conditions.

A summary of the characteristics of each reservoir is presented in Table 2, including watershed drainage area, habitat and geology, surface area, shoreline mileage, and surrounding land usage. There are three zones of water storage, the flood control pool, the conservation pool, and the inactive pool, that assist with the previously mentioned functions. The flood control pool zone is reserved for retaining floodwaters and is only utilized during flood control periods. The conservation pool is the middle zone that provides water for power generation, MKARNS flow regulation, and water supply. The inactive pool, located in the bottom zone, provides water pressure for water releases and power generation as well as sediment trapping. Water storage is measured in acre-feet, which is the amount of water available to cover one acre to a depth of one foot.

TABLE 2. CHARACTERISTICS OF FLOOD CONTROL RESERVOIRS IN THE UPPER MKARNS

Reservoir	Operated By	Drainage In Square Miles	Habitat and Geology	Max Surface Area (Flood Control Pool) in Acres	Shoreline Length and Surrounding Land Usage
Keystone Lake	USACE	74,506	The terrain of the lake includes sandy beaches as well as wooded shorelines and high bluffs. Project lands surrounding the lake vary from rugged rocky terrain and forests near the dam, to gently rolling hills and grasslands in the upper reaches.	54,678	330 miles total. 251 miles of which is classified as protected lakeshore, 55 miles designated for public recreation. The remaining shoreline includes 21 miles allocated for limited development and 3 miles allocated as prohibited access.
Oologah Lake	USACE	4,339	Forested hills and limestone bluffs that transition into rolling grass covered plains in the upper reaches.	67,120	209 miles with very little public development.
Pensacola (Grand) Lake	GRDA, USACE	10,298	The area is characterized by rolling valleys on the west and ravines, bluffs, and hillsides on the east	46,500	1,300 miles. The full shoreline is available for private development.
Lake Hudson	GRDA, USACE	11,553	The area is characterized by rolling valleys on the west and ravines, bluffs, and hillsides on the east.	12,000	200 miles. The full shoreline is available for private development.
Fort Gibson Lake	USACE	12,494	The area is characterized by rolling valleys on the west and ravines and hillsides on the east.	51,000	225 miles total. Approximately 142 miles of the shoreline is classified as protected lakeshore and 57 miles is designated for public recreation. The remaining shoreline includes 23 miles allocated for limited development and 3 miles allocated as prohibited access.
Tenkiller Ferry Lake	USACE	1,610	The area is characterized by ravines and hilly terrain on the both the east and west sides.	20,800	130 miles of predominantly rocky, rugged shoreline.
Eufaula Lake	USACE	47,522	The northern shoreline exhibits rugged, steep rocky hillsides and sharp bluffs that rise from the water on either side. The terrain of the southern portion of the lake graduates into more moderate to gently sloping shorelines with sandy beaches.	143,700	600 miles total. Approximately 56% of the shoreline is classified as protected lakeshore and 21% is designated for public recreation. The remaining shoreline includes 22% allocated for limited development and 1% allocated as prohibited access. Over 250 housing developments are in proximity to the shoreline. Mowing and boat dock permits allow property owners to maintain shoreline areas in front of their properties.
Kaw Lake	USACE	7,250	The region surrounding Kaw Lake is characterized by flat terrain with some rolling hills and moderate to gently sloping shorelines with sandy beaches.	38,000	168 miles. Predominantly undeveloped or agricultural properties with mixed light residential properties.
Hulah Lake	USACE	732	The region surrounding Hulah Lake is typified by long, rolling, partially wooded ridges separated by broad, flat valleys.	13,000	62 miles total. Approximately 49 acres are classified as protected lakeshore and 10 miles for public recreation. The remaining shoreline includes 2 miles for limited development and 1 mile allocated as prohibited access.
Copan Lake	USACE	505	The project area shoreline is generally flat and gently sloping in the northern portion of the reservoir to rolling and steep in the areas above the dam.	17,850	30 miles total. Largely undeveloped wooded shoreline with predominately agricultural adjacent land use.
Wister Lake	USACE	993	Mountainous with steep and rocky valley slopes in an east west trend of long parallel ridges formed by severely faulted hard sandstones of the Ouachita Mountains.	23,366	76 miles total. Predominantly undeveloped.

3.0 PROPOSED ACTION

3.1 *Project area*

The project area for the Arkansas River Navigation study includes the MKARNS from the Port of Catoosa near Tulsa, Oklahoma, downstream to the confluence of the Mississippi River in southeastern Arkansas. The MKARNS project area is approximately 445 miles in length and consists of a series of 18 locks and dams. The project area reaches to be considered and evaluated in this BA are defined as follows:

- A 50-mile reach of the Verdigris River from the Port of Catoosa to Muskogee (navigation miles 445-394).
- Lower Arkansas River, which comprises 375 miles of the MKARNS (navigation miles 394 to 19).
- The Arkansas Post canal, a 9-mile canal connecting the Arkansas River to the lower portion of the White River (navigation miles 19 to 10).
- The lower 10 miles of the White River (navigation miles 10 to 0).

The project area also includes upland areas on each side of the channel, primarily within the Oklahoma segment of the project, with the exception of two areas in Arkansas. Further detailed descriptions of the individual project components included in the project area is provided in the sections below.

Maps of the entire project area including locations of all individual project components are included as Appendix B of the SEA for the MKARNS 12-Foot Deepening Project.

3.2 *Installation of River Training Structures*

As part of this supplemental action, new training structures would need to be constructed in a similar manner as those constructed in the past throughout the MKARNS. Additionally, some of the existing training structures may require modification (e.g. reconstructed or lengthened) to perform as intended with a deeper channel. The river training structures and dikes use the river's energy to naturally self-scour areas of built-up sediments over time to deepen, as well as support, maintenance operations to keep the river at a navigable depth. These structures would primarily consist of rock and stone fill, run perpendicular to the river extending from the shoreline. The height, length, and width of structures vary depending on location and design needs. A typical design plan for these structures is attached as Appendix J of the SEA for the MKARNS 12-Foot Channel Deepening Project.

The structures would be constructed entirely from the river, which limits the need for access roads along the river. The rock would be placed via hopper barges and then construction equipment, such as excavators, stationed on a separate flat-top barge would

be used to place the rock more precisely creating the intended slope and dimensions of the structure.

For new structures, a section of the bank would need to be excavated to key the structures into the shoreline to prevent erosion and the river flanking the structure. Additionally, the bank line is paved with stone for a few hundred feet upstream and downstream of the key to also protect from flanking.

3.3 Dredging Operations

This phase of the proposed project will include the deepening of the navigation channel with the intent of allowing the MKARNS to accommodate vessels with a draft of 12 feet. This will require the system to maintain depths of approximately 13-15 feet to accommodate 12-foot draft vessels through the entire MKARNS system. Template widths were set to the currently authorized navigation widths of 250 feet on the Arkansas, 300 feet on the White, 150 feet on the Verdigris, and 225 feet on the Sans Bois. These widths were tapered appropriately for the lock approaches.

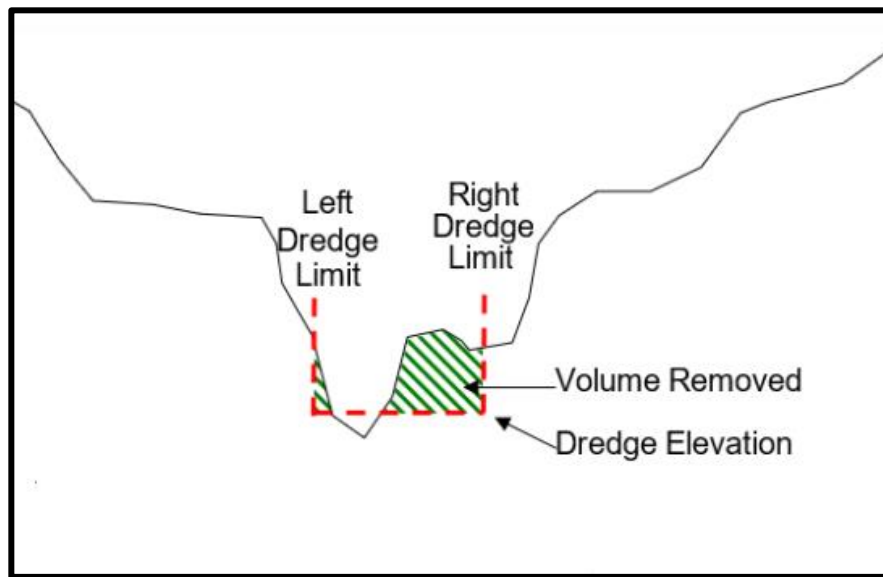


Figure 3: Typical Dredge Cross-section

Mechanical dredging operations would take place in all areas where river training structures were unsuccessful or unable to facilitate reaching the required depth.

Dredging will be accomplished by two different mechanisms:

- Hydraulic dredging--Removal of loosely compacted materials by cutterheads, dustpans, hoppers, hydraulic pipeline plain suction, and sidecasters, usually for maintenance dredging projects.
- Mechanical dredging--Removal of loose or hard, compacted materials by clamshell, dipper, or ladder dredges, either for maintenance or new-work projects.

Hydraulic dredges remove and transport sediment in liquid slurry form. They are usually barge mounted and carry diesel or electric-powered centrifugal pumps with discharge pipes ranging from 6 to 48 in. in diameter. The pump produces a vacuum on its intake side, and atmospheric pressure forces water and sediments through the suction pipe. The slurry is transported by pipeline to a disposal area. Hopper dredges are included in the category of hydraulic dredges for this report even though the dredged material is simply pumped into the self-contained hopper on the dredge rather than through a pipeline. It is often advantageous to overflow hopper dredges to increase the load. However, this may not always be acceptable due to water quality concerns near the dredging site.

Mechanical dredges remove bottom sediment through the direct application of mechanical force to dislodge and excavate the material. Backhoe, bucket (such as clamshell, orange-peel, and dragline), bucket ladder, bucket wheel, and dipper dredges are types of mechanical dredges. Sediments excavated with a mechanical dredge are generally placed into a barge or scow for transportation to the disposal site.

Additional details of the expected dredge quantities and size of individual project components is included as Appendix A of the 2024 SEA.

3.4 Dredged Material Disposal

The removal or excavation, transport, and placement of dredged sediments are the primary components of the “dredging process”. After the sediment has been excavated, it is transported from the dredging site to the designated disposal area. This transport operation is accomplished by the dredge itself or by using additional equipment such as barges or pipelines with booster pumps. The collected and transported dredged material is placed in either openwater, permitted in-water disposal sites, or in upland locations. This project is anticipated to use up to 170 in-water sites, all of which are within in the Arkansas section of the river. Additionally, it is anticipated that up to 37 new upland sites will be utilized throughout the Oklahoma section of the project and 2 new sites in Arkansas. These sites have been identified for use, but will only be constructed and used as needed, depending on the final quantities and locations of material to dredge.

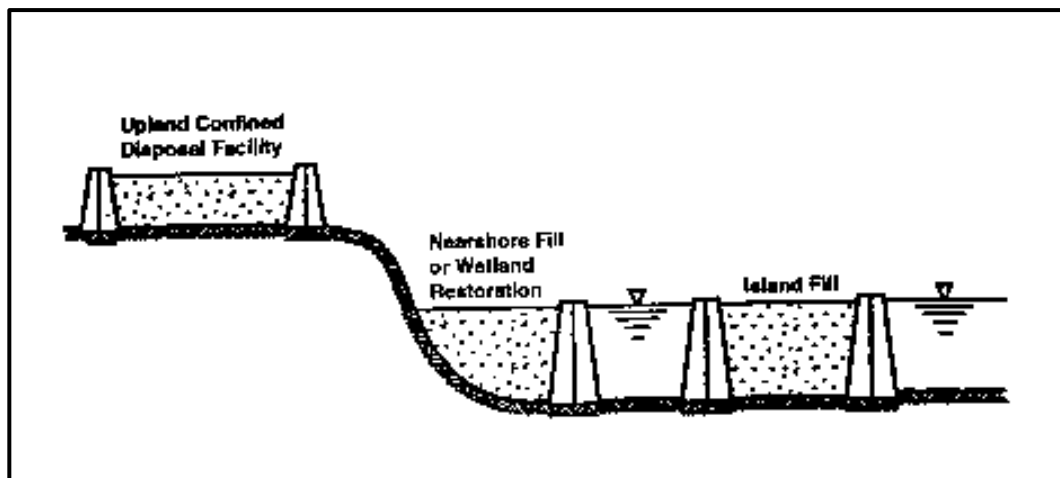


Figure 4: Types of Disposal Facilities

3.4.1 Upland Placement

Upland dredge disposal sites will be specifically located as close as possible to areas along the navigation channel that are expected dredging locations. This will allow the dredged materials to effectively be piped over in a slurry to the sites directly from the barges.

To prepare these sites for use, a survey for natural and cultural resources must be conducted. Following the surveys, authorized disposal sites can be cleared and prepared for use with the construction of appropriate containment structures, dewatering ponds, and access roads to allow access for construction vehicles from land.

After placement, the dredged materials are stabilized using heavy equipment to create appropriate slopes and compaction to avoid erosion or the need for long term maintenance.

3.4.2 In-water Placement

Open water disposal is the placement of dredged material at designated sites into the rivers channel via pipeline or release from hopper dredges or barges. Dredged material can be placed in open-water sites using direct pipeline discharge, direct mechanical placement, or release from hopper dredges or scows. The most common operation of hopper dredges results in a mixture of water and solids stored in the hopper for transport to the disposal site. At the disposal site, hopper doors in the bottom of the ship's hull are opened, and the entire hopper contents are emptied in a matter of minutes. The dredge then returns to the dredging site to reload.

The disposal locations are typically located along the edges of the river in areas where it is unlikely the sediments will end up back in the navigation channel. Additionally, most are placed behind hardened structures, such as dikes, training structures, or containment structures built to further prevent materials from re-entering the channel. The areas used for in water disposal sites are first surveyed and containment structures are constructed prior to filling.

In an effort to beneficially use dredged material, 30 sites have been selected for development into sandbar islands. These locations are depicted in the maps in Appendix B of the SEA, and did not change from those planned in the 2005 FR/EIS. In these locations, dredged materials will be placed within the river system and shaped to model natural islands typically found within the river system. These will provide important habitat for migratory and nesting shorebirds such as the federally listed piping plover and red knot, as well as interior least terns.

4.0 LISTED SPECIES & CRITICAL HABITAT IN THE PROJECT AREA

The Section 7 consultation included a review of the U.S. Fish and Wildlife Service (FWS) Information for Planning and Conservation website (USFWS 2024). The report and website listed several federally listed species that may be present in the vicinity of the

project area. The following list contains those species.

Table 3: Endangered, Threatened, Proposed, and Candidate Species Possibly Occurring in the MKARNS Project Area

Common Name	Scientific Name	Federal Status
Alligator Snapping Turtle	<i>Macrochelys temminckii</i>	Proposed Threatened
American Burying Beetle	<i>Nicrophorus americanus</i>	Threatened
Eastern Black Rail	<i>Laterallus jamaicensis ssp. jamaicensis</i>	Threatened
Fat Pocketbook	<i>Potamilus capax</i>	Endangered
Gray Bat	<i>Myotis grisescens</i>	Endangered
Harperella	<i>Ptilimnium nodosum</i>	Endangered
Indiana Bat	<i>Myotis sodalist</i>	Endangered
Ivory-billed Woodpecker	<i>Campephilus principalis</i>	Endangered
Missouri Bladderpod	<i>Physaria filiformis</i>	Threatened
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate
Neosho Mucket	<i>Lampsilis rafinesqueana</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Ozark Big-eared Bat	(=Plecotus) <i>townsendii ingens</i>	Endangered
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered
Pink Mucket (pearly mussel)	<i>Lampsilis abrupta</i>	Endangered
Piping Plover	<i>Charadrius melodus</i>	Threatened
Pondberry	<i>Lindera melissifolia</i>	Endangered
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened
Red-cockaded Woodpecker	<i>Picoides borealis</i>	Endangered
Red Knot	<i>Calidris canutus rufa</i>	Threatened
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Whooping Crane	<i>Grus americana</i>	Endangered

Source: USFWS IPaC Website – September 27, 2023

4.1 Species with Potential Occurrence in the Project area

4.1.1 Alligator Snapping Turtle

The alligator snapping turtle (AST) is the largest freshwater turtle in North America. Adult males can reach up to 29 inches long and can weigh up to 249 pounds. The AST is identifiable by its gray/brown inner mouth with black splotches; it's tremendously long tail; large, curved beak; triangle-shaped head; and a rough brown shell with three spine rows. ASTs are known to eat a wide range of plants and animals. However, their primary prey is fish which they hunt for by sitting on the bottom and using a worm like appendage to lure prey (USFWS 2023).

The AST can be found throughout freshwater systems. It generally prefers deeper beds of rivers and lakes where it can stay submerged for up to 50 minutes while it hunts for prey (Smithsonian 2023). During breeding, females will travel to sandy shores to lay their clutches of eggs.

The AST was federally listed as proposed threatened on November 15, 1994. Currently, this species is known to or is believed to occur in Alabama, Arkansas, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and Texas. The main causes for the decline in population of this species is a result of historic overharvesting, water pollution, bycatch from fishing gear, and extensive habitat alteration.

4.1.2 American Burying Beetle

The American burying beetle (ABB) is the largest species of its genus in North America, measuring 25-35 millimeters (mm) in length (Peck and Anderson, 1985). It has a shiny black body with smooth and shiny black elytra with bright orange-red markings. The antennae are large, abruptly clubbed, and orange at the tip. It is a member of the Family Silphidae, which are known as the carrion or burying beetles, due to their behavior of burying vertebrate carcasses which are used for brood chambers for their young.

Currently, its distribution encompasses seven states including Nebraska, Kansas, Arkansas, Rhode Island, Massachusetts, South Dakota, and Oklahoma. In Oklahoma, this species has been discovered in 17 counties Oklahoma including Bryan, Choctaw, Atoka, Coal, Johnston, Pontotoc, Cherokee, Haskell, Latimer, LeFlore, McCurtain, Muskogee, Okfuskee, Pittsburg, Pushmataha, Sequoyah, and Tulsa (USFWS, 2022).

Existing populations in Arkansas are limited to five counties in the western part of the state. Most of these occurrences are from federal lands, such as Fort Chaffee and the Ouachita National Forest. Within the project area they occur in Sebastian, Logan, and Franklin counties (Arkansas National Historic Commission, 2023).

In Oklahoma, the habitat types where populations have been documented vary from deciduous and coniferous forests to open pasture. The topography includes slopes, ridge tops, and flat grasslands. In Arkansas where they are found, it is primarily open grasslands and is very similar to habitats in Oklahoma.

With the wide distributional pattern of the species with respect to habitat types, it does not appear likely that vegetation and soil type are limiting factors. The species has been collected from mature virgin forests, open pastureland, and grasslands. While certain types of soil conditions are not suitable for carcass burial (such as very xeric, saturated, or loose sandy soils), the availability of appropriate carrion appears to be more of a limiting factor (Raithel, 1991).

The ABB was federally listed as endangered on July 13, 1989, but was downlisted to threatened on November 16, 2020. No critical habitat was designated for this species.

American Burying Beetle Current Distribution

Based on 15 Years of Survey Data (2001-2015*)

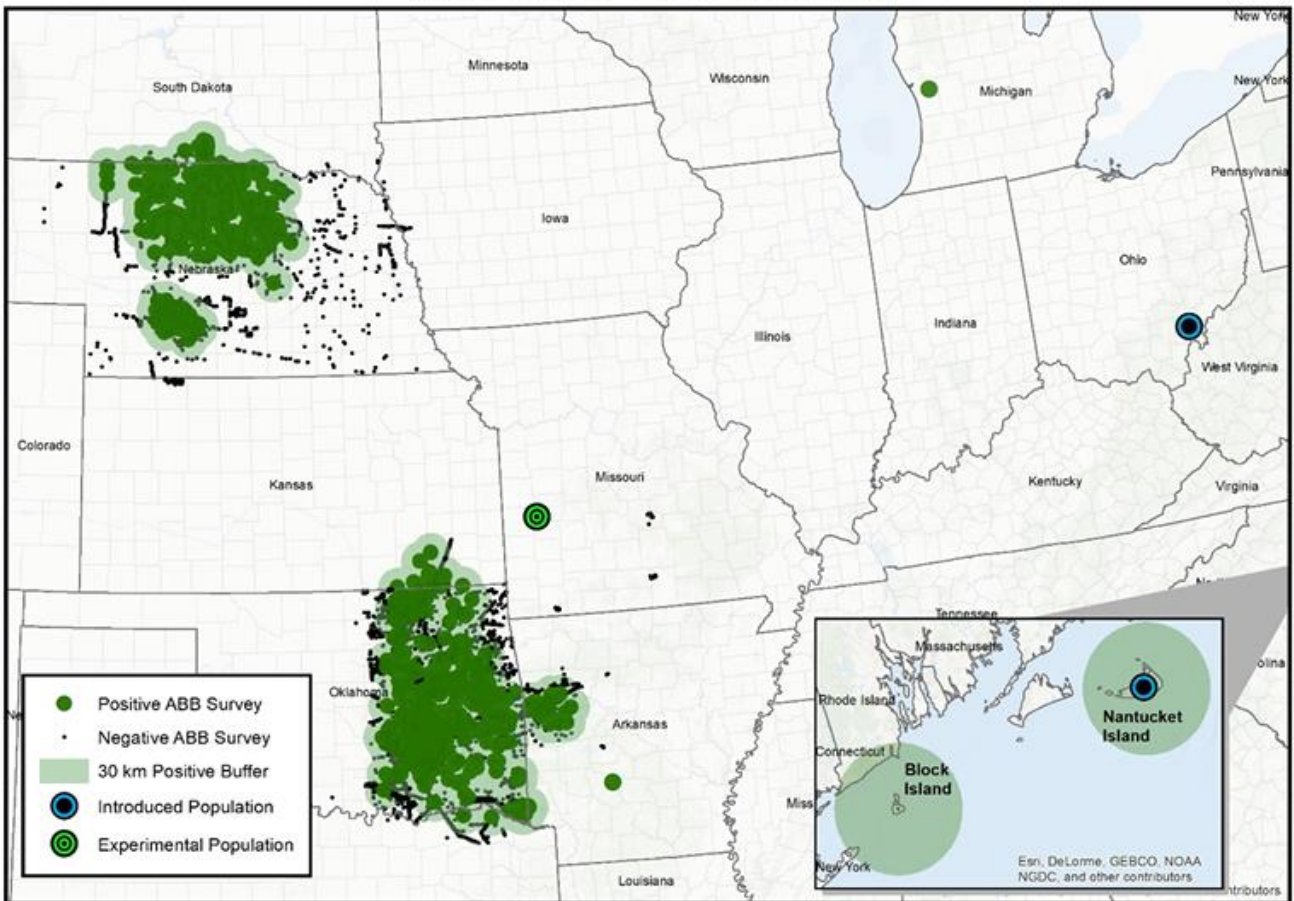


Figure 5. Distribution of American Burying Beetle

Source: USFWS 2019, Species Status Assessment Report for the American Burying Beetle

4.1.3 Eastern Black Rail

Eastern black rail (BLRA) is a small (reaching approximately 10-15 cm in length) marsh bird with a black beak, bright red eyes, and black to blackish-gray body.

The species primarily feeds on small aquatic and terrestrial invertebrates, as well as small seeds along the edges of marshes and open water where it will probe along the bottom with its beak and pick at the surface of plants.

The species is partially migratory, some populations are non-migratory and are yearlong residents, while others will only migrate short distances, and then some will fly long distances in their migrations. The populations that migrate long distances spend their winters within the southern extent of its breeding range, which can begin as early as late September but no later than late November. These populations will then start to migrate to their breeding grounds as early as April, but no later than late May (NatureServe, 2021).

The species prefers dense marshes, these can be in areas that are impounded or are

tidally influenced. Salinity does not influence its preference. It tolerates some shrubs, but prefers grasses. For nesting, it prefers dense vegetation along the edge of dry to shallow flooded marshes. The species doesn't appear to have any difference in breeding and non-breeding habitats (NatureServe, 2021).

The species is known to or is believed to occur mostly in Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Virgin Islands, West Virginia, and Wisconsin. It is known or believed to occur in Arkansas, Crittenden, Desha, and Lonoke counties AR, and in Cimarron County, OK.

The BLRA is listed as threatened and doesn't have any designated critical habitat. The species was proposed for listing on October 9, 2018, and then officially listed on October 08, 2020. The recovery plan currently in the outline stage. The cause of species decline can be attributed to introduction of invasive species, climate change, release of environmental contaminants, habitat fragmentation, and improper use of fire for land management (USFWS, 2022).

4.1.4 Fat Pocketbook

On June 14, 1976, the fat pocketbook was designated as endangered throughout its entire range in Arkansas, Illinois, Indiana, Kentucky, Missouri, and Mississippi. A recovery plan was approved October 4, 1985, and subsequently revised November 14, 1989. The most recent 5-year review for this species was approved in 2019, which indicated the status is improving with population expansions in the St. Francis River and Ohio River drainages. Additionally, a new population has been discovered in the Lower Mississippi River (USFWS 2019).

The fat pocketbook is a large (reaching approximately 130 mm in length) freshwater mussel with a shiny, tan or light brown shell without rays. Similar to other freshwater mussels, the fat pocketbook feeds by filtering food particles from the water column. The specific food habits of the species are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton.

The fat pocketbook was once widely distributed in the Mississippi River drainage from the confluence of the Minnesota and St. Croix rivers downstream to the White River system and was known in Minnesota, Wisconsin, Iowa, Illinois, Indiana, Missouri, Kentucky, and Arkansas.

Reports of the fat pocketbook in the White River have been sporadic with no reports of live specimens since the 1960's, until Harris and Christian (2003) found a single live specimen in the main channel White River at Gunbarrel Reach (river mile 11 – 12.4).

The fat pocketbook is a large river species, which requires flowing water and stable substrate. There is conflicting information in the literature regarding the fat pocketbook's

habitat preference, but the most likely habitat is a mixture of sand, silt, and clay. Surveys have reported the fat pocketbook in areas from sand and mud bottoms to flowing water a few inches to more than eight feet in depth.

4.1.5 Gray Bat

The gray bat is a medium-sized bat with a 10-11 inch wingspan. It has grayish-brown fur and is the only bat in its range with unicolored dorsal hairs. The fur is usually gray in color, but may be chestnut brown or russet.

The distribution of this species is limited to areas of the Southeastern United States containing limestone caves. Major populations are located in Alabama, Arkansas, Kentucky, Missouri, and Tennessee. In Oklahoma, this species occurs in four counties, Adair, Cherokee, Delaware, and Ottawa, of which Cherokee County being the only one in the project area. In Arkansas, it occurs in at least 16 counties, but only Pope County is within the project area. A 2022 study reported the highest concentrations of species movement to the north and east outside of the MKARNS corridor primarily along the border of Missouri and Arkansas, and through Alabama and Tennessee (Holliday, C., 2022).

This species roosts almost exclusively in caves year-round and has very specific requirements. However, there are some reports of colonies using storm sewers and mines as roosts. Winter caves must be cold, deep, and have vertical walls. This species is very temperature sensitive, and winter roosts must range in temperature between 42 °F and 52 °F. Summer caves must be warm (57 °F-77 °F) or contain tightly restricted rooms that can trap the body heat of roosting bats. Summer caves are usually located close to rivers and lake shorelines 1-2 miles from feeding areas. Bats are known to travel up to 12 miles from their colonies to feed.

The primary reasons for decline of this species are considered to be human disturbances of hibernacula and maternity caves, poisoning from pesticides, loss of habitat due to construction of impoundments, and commercialization of caves. As a result, the gray bat was listed as Endangered by the USFWS on April 28, 1976 (41 FR 17740). No critical habitat is listed for this species.

4.1.6 Harperella

Harperella is an erect flowering annual freshwater herb. It is a part of the carrot family that blooms in the late spring/early summer. The flowers are white with five petals, the stems are relatively thin, and ranges from 1-3 feet in height.

Harperella is a wetland obligate species, which can only be found in streams, granite outcrop seeps, cracks in bedrock, pineland ponds, and in coastal plain wet savannah meadows (NatureServe 2021). In all these habitats it prefers waters that are clear, and to be in areas that aren't too deep, nor too shallow, but it does tolerate frequent moderate flooding. In streams, it prefers reasonably fast waters. Harperella is known to occur in Scott and Yell Counties in Arkansas, and Le Flore and McCurtain counties in Oklahoma.

Harperella is listed as endangered (USFWS 2022), it doesn't have any designated critical

habitats. The species was proposed for listing on February 25, 1988, and then officially listed on October 28, 1988. The most recent recovery plan was implemented on March 5, 1991, and the last five-year review occurred on June 23, 2008.

4.1.7 Indiana Bat

The Indiana bat is a medium-sized bat with a dull gray to chestnut colored fur dorsally, and pinkish white underparts. The basal portion of the hairs of the back is a dull gray color.

The Indiana bat is found primarily in the midwestern and eastern United States, and has been known to be present in 23 states. eastern Oklahoma represents the western limit of its range. Its present range in Oklahoma includes Adair, Delaware, LeFlore, and Pushmataha counties. LeFlore County is the only county that falls within the project area. In Arkansas it is listed to occur in nine counties, but none are within the project area.

This species is migratory with approximately 87% of the entire known population hibernating in just seven caves. If the Indiana bat utilizes any caves within the project area, it would probably be during the summer months. After the winter hibernation period, the colonies would disperse to summer areas, which are usually located along streams where the bats forage for flying insects.

Habitat requirements are similar to the gray bat in that they need limestone caves for hibernation, and caves with pools are preferred. They require stable temperatures from 39 °F to 46 °F and 66 to 95% humidity, consequently only a small percentage of caves meet the specific conditions required by species. Maternity sites are in trees. During the summer months, they can be found under bridges, in old buildings, under tree bark, or in hollow trees generally associated with streams.

The primary reasons for decline of this species are considered to be commercialization of roosting caves, disturbances of hibernacula caves from spelunkers or vandals, poisoning from pesticides, and loss of habitat due to channelization of streams.

The Indiana bat was listed as endangered by the USFWS on March 11, 1967 (32 FR 4001). Critical habitats are designated for this species and consists of a few caves located in Tennessee and Kentucky.

4.1.8 Ivory-billed Woodpecker

The ivory-billed woodpecker was listed as endangered March 11, 1967. In April 2010, the final recovery plan was approved.

The ivory-billed woodpecker is the largest woodpecker in the United States. This species ranged from east Texas to North Carolina and from southern Illinois to Florida and Cuba.

The ivory-billed woodpecker historically preferred expansive patches of mature forestland, often with embedded patches of recently disturbed forest from hurricanes, tornadoes, fire, insect outbreaks, and to some degree logging as long as some damaged

trees were left standing. Its diet is known to be largely dependent on wood boring beetle larvae found in recently dead and dying trees. During some times of the year, the species feeds on fruit and other vegetable matter.

Like all woodpeckers, the ivory-billed is a cavity-nester. In the Mississippi Delta, it was known to nest in a variety of hardwood and cypress trees while in other areas throughout its' historic range, including Cuba, it also nested in mature pines.

Numerous reports in recent decades have left the species status questionable. In 2005, a possible sighting of an ivory-billed woodpecker occurred on the Cache River National Wildlife Refuge and the Arkansas Game and Fish Commission Dagmar Wildlife Management Area. Additionally, the existence of potential habitat and numerous reports from credible sources provided motivation to carry out surveys for the species throughout its range. Searches have taken place in Texas, Arkansas, Louisiana, western Tennessee, Mississippi, southern Illinois, Georgia, South Carolina, North Carolina, and Florida. While suggestive evidence has been found in several states, no clear, conclusive photograph or video has been made as of the publication of the final recovery plan (USFWS 2022).

According to the USFWS, the Ivory-billed woodpecker's potential range comprises that portion of Arkansas and Mississippi in and around the bottomland hardwood forest of the lower White River basin where the 2005 sighting occurred; the lower Arkansas River basin, and the batture (floodplain) of the Mississippi River in the vicinity of the confluence of the White, Arkansas, and Mississippi Rivers ("Big Woods" area).

The Ivory-billed woodpecker was proposed for delisting on September 30, 2021 as part of filing 86 FR 54298 54338. This was based on the USFWS conclusion that the last confirmed and irrefutable sighting of the species occurred in 1944 and that the species is most likely extinct.

4.1.9 Missouri Bladderpod

Missouri bladderpod is an erect non-woody flowering annual. It is a plant that is a part of the mustard family. The flowers are yellow with four petals, the 1 inch tapered shaped leaves emerge from the base of the plant. It produces a bladder shaped fruit which lends to how the species got its name. The plant ranges in height from 4-8 inches in height.

Missouri bladderpod preferred habitat consists of glades and open areas, this includes grazed pastures, and rock outcrops (NatureServe 2021). In all these habitats it prefers treeless shallow areas where the soil is predominately limestone or dolemite, and the grasses and shrubs are relatively short. The species is known to occur in Arkansas and Missouri. Within Arkansas it is found in Garland and Hot Spring counties.

The cause of Missouri bladderpod decline can be attributed to the loss of habitat by development for agriculture, residential, and commercial property; encroachment of taller plants; as well as introduction and spread of invasive species (NatureServe 2021).

Missouri bladderpod is listed as threatened (USFWS 2021), it doesn't have any designated critical habitat. The species was proposed for listing on April 07, 1986, and

then officially listed on January 7, 1987. The most recent recovery plan was implemented on April 7, 1988, and the last five-year review was conducted on April 26, 2019.

4.1.10 Monarch Butterfly

Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins and white spots.

During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.). There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately two to five weeks. During the winter, adults enter into reproductive diapause (suspended reproduction) and live six to nine months (USFWS, 2023).

Monarchs in North America undergo long-distance migration. In the fall, monarchs begin migrating to their overwintering sites, which can be over 3,000 km away and take over two months to reach. In early spring, the monarchs will mate at the winter sites before dispersing and returning north (USFWS, 2023).

Monarch individuals within the project area are likely to be found in the summer months or during migration periods.

The Monarch is listed as a candidate species as of December 17, 2020.

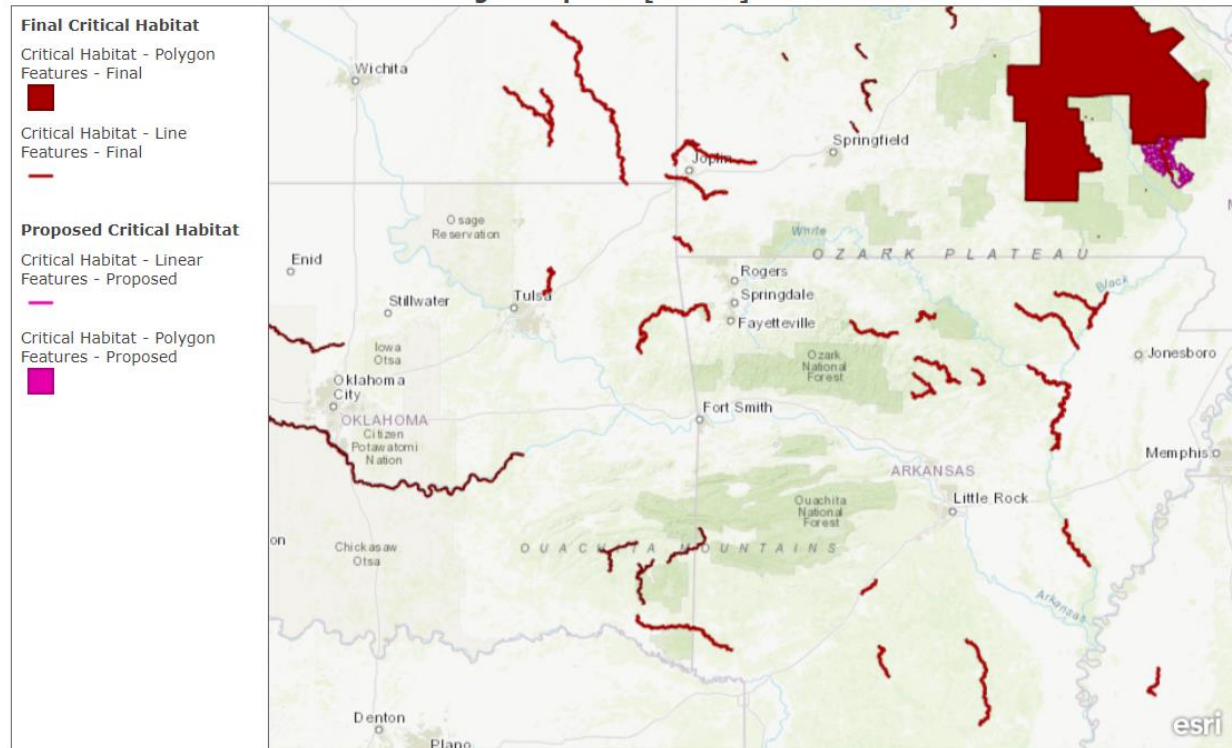
4.1.11 Neosho Mucket

The Neosho mucket is a medium sized freshwater mussel, and reaches approximately four inches in length. This species is associated with streams that have shallow riffles and runs, and are comprised of gravel substrate with moderate to swift currents. It has historically been found in 16 streams in the Illinois, Neosho, and Verdigris River basins in Arkansas, Kansas, Oklahoma, and Missouri. It is endemic to the Arkansas River system, and of the nine extant streams only one population is viable.

The Neosho mucket was listed as endangered on September 17, 2013 (USFWS, 2014). The decline of Neosho mucket is primarily the result of habitat loss and degradation. The mussel requires flowing water with geomorphically stable river channels and banks with suitable substrate. It requires adequate food, presence and abundance of fish hosts, high quality water and sediment, and little to no competitors or invasive species (USFWS, 2014).

Proposed critical habitats occur in Benton and Washington counties, Arkansas; Allen, Chase, Cherokee, Coffee, Elk, Greenwood, Labetter, Montgomery, Neosho, Wilson, and Woodson Counties, Kansas; Jasper, Lawrence, McDonald, and Newton counties, Missouri; and Adair, Cherokee, and Delaware counties, Oklahoma. The critical habitat located in Cherokee County Oklahoma is not located within the project area.

Critical Habitat for Threatened & Endangered Species [USFWS]



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS | The data found in this file were developed by the U.S. Fish & Wildlife Service field offices. For more information please refer to the species level metadata found with the individual shapefiles. The ECOS Joint Development Team is responsible for creating and serving this conglomerate file. No data alterations are made by ECOS. | U.S. Fish and Wildlife Service

Figure 6. Neosho Mucket Critical Habitat in Western Oklahoma (USFWS, 2019a)

4.1.12 Northern Long-eared Bat

The northern long-eared bat (NLEB) is a temperate, insectivorous, migratory bat that hibernates in mines and caves in the winter and spends summers in wooded areas (USFWS, 2016). The key stages in its annual cycle are hibernation, spring staging and migration, pregnancy, lactation, volancy (independent flight)/weaning, fall migration, and swarming. The bats generally hibernate between mid-fall through mid-spring each year. Spring migration period likely runs from mid-March to mid-May each year, as females depart shortly after emerging from hibernation and are pregnant when they reach their summer area. Young are born between mid-June and early July, with nursing continuing until weaning, which is shortly after young become volant in mid- to late-July. Fall migration likely occurs between mid-August and mid-October.

Suitable summer habitat for NLEB consists of a wide variety of forested/wooded habitats where they roost, forage, and travel, and may also include some adjacent and interspersed non-forested habitats, such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures (USFWS, 2016). This includes forests and woodlots containing potential roosts, as well as linear features, such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure.

Suitable winter habitats (hibernacula) include underground caves and cave-like structures (e.g. abandoned or active mines, railroad tunnels) (USFWS, 2016). There may be other landscape features being used by NLEB during the winter that have yet to be documented. Generally, NLEB hibernate from October to April depending on local climate (November-December to March in southern areas and as late as mid-May in some northern areas).

The primary reasons for decline of this species are considered to be spread of white-nose syndrome. It was listed as endangered because of its small population size, reduced distribution, and vulnerability to human disturbance.

The NLEB was listed as endangered under the Endangered Species Act on March 31, 2023 (76 FR 38095). No critical habitats have been designated for this species.

4.1.13 Ozark Big-eared Bat

The Ozark big-eared bat is a medium-sized bat with forearms measuring 39-48mm long and weighing 7 to 12 grams. It has very large ears (over 1 inch) that connect at the base across the forehead. The snout has prominent lumps with fur that ranges in color from light to dark brown.

Historically, this species has been found in Oklahoma, Arkansas, and Missouri. It is believed to have been extirpated from Missouri. In Arkansas, it is known primarily from Marion and Washington counties, but sightings have also occurred in Franklin and Crawford counties, which are within the project area. The recovery plan for the species lists it as possibly present in Pope and Johnson counties as well. In Arkansas, only four caves are presently known to be regularly used by this species. None are within the project area, although one possible cave was listed for Crawford County. In Oklahoma, Cherokee County is the only county where this species has been recorded that is within the project area. All the known caves currently used by this species in Oklahoma are located in either Adair or Delaware counties, which are not in the project area.

The Ozark big-eared bat is found in caves, cliffs, and rock ledges associated with oak-hickory forests of the Ozarks. They forage along the edges of upland forests for insects (primarily moths). Edge habitats between forested and open areas is the preferred foraging area. This species does not migrate and probably has a range of less than 20 miles. They have an affinity to return year after year to the same maternity sites and hibernacula.

The primary reasons for decline of this species are considered to be disturbance and vandalism of caves and roost sites, and predation at cave entrances. It was listed as endangered because of its small population size, reduced distribution, and vulnerability to human disturbance (USFWS 2023).

The Ozark big-eared bat was listed as endangered under the Endangered Species Act on November 30, 1979 (44 FR 69206). No critical habitats are designated for this species.

4.1.14 Pallid Sturgeon

The pallid sturgeon is a long-lived, riverine sturgeon species native to the Missouri River, lower Yellowstone River, lower and middle Mississippi River (downstream of its confluence with the Missouri River), and the Atchafalaya River (Kallameyn, 1983). They are also found in the lower reaches of some of the larger tributaries to these rivers. It is one of the largest fish species found in the Missouri/Mississippi River drainage. Adult pallid sturgeon collected from the upper Missouri River are generally larger, with a maximum recorded weight of 86 pounds. The maximum recorded weight in the lower Missouri River (South Dakota and Nebraska), and Mississippi River, is approximately 46 and 26 pounds, respectively.

Habitat alteration, particularly construction of large impoundments in the Missouri River, as well as river channelization, bank stabilization, and altered flow regimes throughout its' range led to the pallid sturgeon being listed as a federally endangered species in 1990 (USFWS 2022).

The historic floodplain habitat of the Missouri and Mississippi Rivers provided important functions for the native large river fish. Floodplains were the major source of organic matter, sediments, and woody debris for the main stem rivers when flood flows crested the rivers' banks. The transition zone between the vegetated floodplain and the main channel included habitats with varied depths described as chutes, sloughs, or side channels. The chutes or sloughs between the islands and shore were shallower and had less current than the main channel. These areas provided valuable diversity to the fish habitat and probably served as nursery and feeding areas for many aquatic species. The still waters in this transition zone allow organic matter accumulations, important to macroinvertebrate production (USFWS 1993).

Pallid sturgeon primarily utilize main channel, secondary channel, and channel border habitats throughout their range. Juvenile and adult pallid sturgeon are rarely observed in habitats lacking flowing water which are removed from the main channel (i.e., backwaters and sloughs). Specific patterns of habitat use, and the range of habitat parameters used may vary with availability and by life stage, size, age, and geographic location (USFWS 2014). Recent telemetry research on pallid sturgeon in the lower Mississippi River revealed a strong affiliation for island tip and natural bank habitats, and, to a lesser degree, revetted bank habitat. Although frequently used, pallid sturgeon exhibited negative selection for the expansive main channel habitat. Secondary channel habitat was frequently used in the spring, when available. Fifty percent of pallid sturgeon detections were in relatively narrow ranges of depths (6.2-13.6 m / 20.3-44.6 ft), and surface current velocities of 0.64-1.05 m/s (2.1-3.4 ft/s). Use of different habitats was related to river stage and water temperature, suggesting use of some habitats are seasonal (Herrala, et.al. 2014).

Habitat requirements of larval and young-of-year pallid sturgeon remain largely undescribed across the species' range, primarily as a result of low populations of spawning adults and poor recruitment.

Spawning appears to occur between March and July, and can involve long migrations to

suitable habitat. Spawning appears to occur adjacent to or over coarse substrate (boulder, cobble, gravel) or bedrock, in deeper water, with relatively fast, converging flows, and is driven by several environmental stimuli, including day length, water temperature, and flow (USFWS 2014).

Numerous research articles reveal that juvenile and adult pallid sturgeon diets are generally composed of fish and aquatic insect larvae with a trend toward piscivory as they increase in size. This research, coupled with habitat utilization by prey items, indicates that pallid sturgeon will feed over a variety of substrates (USFWS 2014).

The Mississippi River at its confluence with the Arkansas and White Rivers is considered by the USFWS to be a high priority recovery (management) area for this species. During 2011- 2012, three radio-tagged pallid sturgeon were documented using the lower 40 river miles of the Arkansas River from the confluence with the Mississippi River upstream to the Wilbur D. Mills Dam (Dam 2). These individuals were recorded during late winter through spring (Kuntz 2012, and Kuntz and Schramm 2012).

There is no documentation of the pallid sturgeon using the White River, although individuals have been captured near its confluence with the Mississippi River. No critical habitats are designated for this species.

4.1.15 Pink Mucket (pearly mussel)

The pink mucket is a freshwater mussel that was proposed for listing on September 26, 1975, and then listed as endangered on June 14, 1976. It doesn't have any designated critical habitat. The most recent recovery plan was implemented on January 24, 1985, and the last 5 year review was completed on July 23, 2019.

The USFWS recovery plan for the pink mucket indicates its range is primarily in the Ohio, Tennessee, and Cumberland River drainages, with occasional records from the Mississippi River drainage. A status review of mussels in Arkansas by Harris, et.al. (2009) reveals most pink mucket pearly mussel populations occur in the Ouachita Mountain ecoregion of west Arkansas. The species prefers medium to large rivers in gravel with sand substrate.

Dams, reservoirs, and impoundments have flooded much of this mussel's habitat, and contributed directly to the extirpation of pink mucket populations in some streams and resulted in the highly fragmented habitat and isolated populations currently seen in the species. Large dams also affect the flow and water quality downstream (reduced temperature, oxygen, and flow, and bank and substrate instability and erosion), which continues to negatively affect pink mucket populations. As with other mussels, pink mucket are also sensitive to water quality and sediment.

The pink mucket's reproductive cycle is similar to other species of freshwater mussels. The female uses a spotted mantle flap to lure in specific host fish including, the largemouth bass and walleye. When a host fish draws near, the female pink mucket releases tiny parasitic larvae that latch onto its gills and then drop off juvenile mussels. The pink mucket spawns August to September, and releases larvae the following June.

4.1.16 Piping Plover

The piping plover is a small shorebird approximately 7 inches in length with a wingspan of approximately 15 inches and weighs from 1.5 to 2 ounces (USACE, 2012 and USFWS 2011c). It has a sand-colored back and white undersides. It is distinguished from similar species by its bright orange legs. During the breeding season, the piping plover has a single black band across its breast and forehead, which are absent during the winter.

Piping plover breeding habitats are comprised of open, sparsely vegetated areas with alkali or unconsolidated substrate (USACE, 2012 and USFWS, 2000). On rivers, such as the Arkansas River, they nest in association with sandbars and bare islands (USACE, 2012 and USFWS, 2011c). During migration periods, they use beaches and alkali flats. They feed mainly on freshwater, marine, and terrestrial invertebrates. Stopover habitats are not well documented, but migrating piping plovers have been observed in Arkansas near the MKARNS and may appear within the project area.

The piping plover was federally listed as endangered on December 11, 1985 (50 FR 50726). Habitat loss is one of the main reasons for the decline of the piping plover. Starting in the 1930's, dam construction, water diversion, and water withdrawals changed river flow regimes and drastically reduced the amount of available nesting habitat. Too much water can flood the piping plovers' nests, while too little water can cause vegetation to grow on what was nesting habitat and make it unsuitable for the plovers. Many of the coastal beaches used as nesting habitat have been developed for commercial, recreational, and residential use. This has also led to an increase in nest disturbance and predation, as piping plovers will abandon their nests when disturbed by humans or other predators. Unwary people can crush the well-camouflaged eggs and young birds, and dogs, cats and other wildlife often harass or eat young piping plovers and eggs.

Critical habitat for wintering piping plovers was designated on July 10, 2001, including for the Great Lakes and Northern Great Plains breeding populations, as well as birds that nest along the Atlantic Coast (66 FR 36038). On October 21, 2008, critical habitat units were revised within Cape Hatteras National Seashore, in North Carolina (73 FR 62816-62841). Additionally, a revised designation for 18 critical habitat units in Texas was published on May 19, 2009 (74 FR 23476-23600). None of these are within the project area.

4.1.17 Pondberry

Pondberry is a short deciduous shrub, characterized by its sparse branches and bright red fruits when ripe. Pondberry typically grows less than 1 foot tall. However, in rare occasions it has been known to grow up to 6 feet tall. The species are rhizomatous and commonly form clonal colonies, and can be propagated by vegetative sprouts. The fruits produced on the female plants also serve as a reproductive tool. However, these are only known to be spread by one species of bird, the hermit thrush (*Catharus guttatus*).

Pondberry current known range is limited to wetlands habitats, such as bottomland and hardwood forests, in small pockets of Arkansas, Mississippi, Georgia, and the Carolinas.

The species was federally listed as Endangered on July 31, 1986.

The most common cause for species decline has been habitat loss. Pondberry preferred habitat is forested, poorly drained, swampy depressions with small sand dune complexes. Historically, during the 1930's and 40's, a lot of this habitat type was converted to agricultural land. No critical habitats are designated for this species.

4.1.18 Rabbitsfoot

The rabbitsfoot mussel was federally listed as Threatened under the Endangered Species Act on September 17, 2013. A draft recovery plan was released in October 2022.

It is found in rivers and streams in Alabama, Arkansas, Georgia, Kansas, Kentucky, Illinois, Indiana, Louisiana, Mississippi, Missouri, Ohio, Oklahoma, Pennsylvania, Tennessee, and West Virginia. The majority of stable and reproducing populations left within its historical range occur in Arkansas. The USFWS has designated 1,437 river miles in 12 states, including Arkansas, as critical habitat for the rabbitsfoot. The White and Arkansas Rivers are not included in this designation.

According to Harris, et.al. (2009) rabbitsfoot mussels in Arkansas are relatively widespread, but never exceptionally abundant. The Arkansas Natural Heritage Commission database has records of rabbitsfoot collections from 48 sites across the state from 1997 – 2008. While rabbitsfoot mussels have been collected in the White River upstream of the project area, none are known to occur in the project area. Populations in the White River are concentrated in the sections from Batesville to the mouth of the Little Red River, and from Clarendon to St. Charles, Arkansas. This species is not known to be present in the lower Arkansas River.

Dams, reservoirs, and impoundments have flooded much of this mussel's habitat, and contributed directly to the extirpation of rabbitsfoot populations in some streams and resulted in the highly fragmented habitat and isolated populations currently seen in the species. Large dams also affect the flow and water quality downstream (reduced temperature, oxygen, and flow, and bank and substrate instability and erosion) which continues to negatively affect rabbitsfoot populations. Rabbitsfoot, like most mussels, are sensitive to poor water quality and sediment deposition.

The rabbitsfoot has a reproductive strategy similar to that of other mussels. Females release parasitic larvae (glochidia) that attach to the gills of specific host fish species and later drop off as juvenile mussels. Rabbitsfoot mussels use multiple species of minnows as host fish.

Rabbitsfoot generally inhabit small- to medium-sized streams and some larger rivers. It occurs in shallow water areas along the bank and in shoals with reduced water velocity. Individuals have also been found in deep water runs (9-12 ft.). Primary substrate includes gravel and sand.

4.1.19 Red-cockaded Woodpecker

The red-cockaded woodpecker is a small black and white bird with black beak and legs. The back of the bird is characterized by alternating rows of black and white feathers. It can reach a height of 9 inches and has a wingspan of up to 14 inches. The species gets its name from the faint red cockade of feathers behind the eye that the males typically possess.

It is currently known to, or is believed to be, present in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Texas, and Virginia (USFWS, 2021). In Arkansas the species is believed to be present in Columbia, Drew, Lafayette, Monroe, Scott, and Union counties, as well as in the Felsenthal National Wildlife Refuge. In Oklahoma, this species can be found in McCurtain and Pushmataha Counties.

The preferred habitat of the red-cockaded woodpecker is a broad savanna that consists of mature to old growth pines that are frequently burned. Suitable pine species longleaf (*Pinus palustris*), slash (*Pinus elliottii*), loblolly (*Pinus taeda*), however the forests cannot contain a mix of non-pine species of trees, as they need to be frequently burned so that the understory is kept clear of younger trees and to allow for a mix of shrubs, grasses, and forbs to take over the area.

The red-cockaded woodpecker is an omnivore that primarily feeds on insects, but will feed on wild berries and pine seeds. It feeds by sight instead of sound which is characteristic of other species of woodpeckers. It feeds via foraging along tree trunks and branches.

Families consists of a breeding pair with 0-4 helpers (typically male), and the mating is monogamous. Nesting occurs in cavities of trees. These cavities are typically 30-40 ft above the ground, and the holes surrounded by sap, which helps to reduce the number of climbing insects that may get into the nest. Mating typically occurs in November-December and March-May, with egg laying occurring in April-May (NatureServe 2021).

The cause of the red-cockaded woodpecker decline can be attributed to the loss of preferred habitat by various means, including the clearing of trees for various purposes, encroachment of non-pine species of trees, loss of mature to old growth pine trees, habitat fragmentation, catastrophic events, and competition for existing cavities in areas that don't have enough for all the other wildlife that use them.

The red-cockaded woodpecker is listed as endangered (USFWS 2021). It does not have any designated critical habitats. The species was proposed for listing on August 25, 1970, and then officially listed on October 13, 1970. The most recent five year review plan proposed that the species be down listed to threatened on October 8, 2020.

4.1.20 Red Knot

The red knot is a medium to large shorebird with a weight of five ounces, a body length of nine to 10 inches, and a wingspan of 20 to 22 inches. During the breeding season, it has a rust-colored face, chest, and undersides, and dark brown wings. In winter, it has a gray head, chest, and upperparts and a white belly. It has long greenish legs and a

pointed black bill. Males and females look similar, and juveniles resemble nonbreeding adults.

The red knot breed in tundra habitat of the central Canadian arctic between May and mid-July, and winters along the United States. coastline from North Carolina to Texas and south to Tierra del Fuego in South America between July and May. Red knots forage for various mollusk species along sandy beaches and mud flats. The sandbars and bare gravel islands along the Arkansas River within the project area could provide suitable stopover and foraging habitat during the red knot's spring and fall migrations.

The red knot was listed as threatened on December 11, 2014 (79 FR 73706). The greatest threat to red knot populations is habitat loss in the United States, followed by a reduction of preferred prey items in nesting areas and along migration routes (USFWS, 2014).

4.1.21 Tricolored Bat

The tricolored bat is a small insectivorous bat that is distinguished by its unique tricolored fur and often appears yellowish to nearly orange.

This species is known to occur across the eastern and central United States. During the winter, tricolored bats are often found in caves and abandoned mines, but have been known to roost in culvert pipes associated with roads, especially in the southern United States or in areas where caves are less common. During the rest of the year, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures.

The decline in the tricolored bat population is a result of impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. It is estimated that white-nose syndrome has caused a 90 percent decline in affected tricolored bat colonies across the species range. The tricolored bat was proposed for listing as endangered on September 13, 2022 (87 FR 56381).



Figure 7: Known Range of the Tricolored Bat

4.1.22 Whooping Crane

The whooping crane is a tall snowy white bird with a long neck and legs. It has red facial skin, a black wedge shaped patch on the neck, and black primaries, which are visible during flight. It is the tallest bird in North America. It can reach a height of 45 inches and has a wingspan of up to 90 inches. The whooping crane is known to forage on large nymphal or larval forms of insects, frogs, rodents, small birds, minnows, and berries during the summer, and forage primarily for blue crabs, clams, and Carolina wolfberry in the winter (USFWS 2023).

Currently, only four wild populations of this species remain. The only self-sustaining population nests in Alberta, Canada, primarily in the Woods Buffalo National Park and winters along the Gulf of Mexico on the Aransas National Wildlife Refuge (NWR). This population migrates through Oklahoma during the spring and fall. Three smaller populations have been reintroduced to the wild, and are located in Florida, Louisiana, and southeastern Idaho.

Within the project area, the whooping crane would be considered a possible migrant. Most sightings in Oklahoma have been from the north-central to southwestern part of the state, well west of the project area. Most sightings are associated with the Great Salt Plains NWR in Alfalfa and Grant counties, Oklahoma, and the upper Red River in southwestern Oklahoma and Texas. The historical populations occurring in Arkansas are assumed to have been extirpated (USFWS, 2003).

The nesting grounds for whooping cranes are located in poorly drained prairie areas interspersed with numerous potholes and wetlands of the Northwest Territories in Canada. The nest sites are located in emergent vegetation along the edges of marshes, potholes, or lakes. During migration, whooping cranes use a variety of habitats, including

croplands for feeding and isolated riverine wetlands for roosting. The wintering grounds include areas of salt flats, tidal marshes and flats, and shallow bays along the Texas Gulf Coast and the Aransas NWR.

The whooping crane was listed as endangered on March 11, 1967 (32 FR 4001). Critical habitats were designated for this species on May 15, 1978 (43 FR 20938). The only critical habitat listed for this species close to the project area is an area of land, water, and air space in the Salt Plains NWR in Alfalfa County, Oklahoma. Additional critical habitats were proposed for this species, but were withdrawn on March 16, 1979 (FR Vol. 44, No. 45, 4310).

5.0 EFFECTS ON FEDERALLY LISTED SPECIES WITHIN THE PROJECT AREA

The ESA prohibits “take” of any federally listed species [16 United States Code (USC) §1538(a)], where take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 USC §1532(19)).

The ESA requires that federal agencies ensure that any activity that an agency funds, authorizes, or carries out does not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat (16 USC §1536). The USFWS and NMFS have legislative authority under the ESA to list and monitor the status of wildlife species whose populations are considered to be imperiled (16 USC §1533). Species listed as “endangered” or “threatened” by the USFWS and NMFS are provided full protection. This protection not only prohibits the direct take of a protected species, but also includes a prohibition of indirect take, such as destruction of designated critical habitat.

Federal listings for protected animals and plants are provided in separate chapters of the CFR: 50 CFR 17.11 for animals and 50 CFR 17.12 for plants. The federal process also includes identifying “candidates” for listing under the ESA. While on the candidate list, species are not provided any federal protection, but may be protected by state law. ESA implementing regulations (50 CFR Part 402) require federal agencies to complete a BA to determine whether a proposed project may affect a listed species.

For listed species, one of three possible determinations of effect is made (USFWS and NMFS 1998):

- *No effect*: The proposed action will have no adverse or beneficial effects on the species or critical habitat.
- *May affect, but is not likely to adversely affect (NLAA)*: The proposed action may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or beneficial.
- *May affect, is likely to adversely affect (LAA)*: Adverse effects to listed species

may occur as a direct or indirect result of the proposed action or its interrelated or interdependent activities, and the effect is not discountable or insignificant.

The proposed project was evaluated, and the anticipated effects of the action determined in accordance with the ESA. The following sections discuss the anticipated direct and indirect effects of the proposed project on each species that has the potential to occur in the project area.

5.1 Alligator Snapping Turtle

Due to the ASTs preference for deep floors of freshwater rivers and lakes, there is a strong possibility that AST can be found within the project area. Given the indiscriminate nature of the clamshell style dredge proposed to be used, there is a potential that turtles can be entrapped, harmed, or killed by equipment.

Additionally, temporary poor water quality and additional noise caused by the dredge process, and the dewatering and placement of dredged material, can affect the species ability to feed, breathe, and move. Finally, the in-water disposal of dredge materials, the installation of river training structures, and the transportation of dredged materials to upland sites via pipelines all have the potential to effect nesting sites along the bank or foraging habitats in the shallow areas of the river. As a result, it is assumed that the proposed action May Affect, is Likely to Adversely Affect AST.

However, considering the AST is currently only a Proposed species, Part 402 of the ESA, Section 402.10 – Conference on Proposed Species or Proposed Critical Habitat requires each federal agency to confer with the USFWS on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. The proposed project is unlikely to jeopardize the continued existence of the AST because direct and indirect effects are localized to the immediate project area and not expected to affect upstream or downstream, thereby having no effect on AST outside of the immediate area.

5.2 American Burying Beetle

The ABB is considered a generalist when it comes to habitat preference. It utilizes a wide range of different habitats including grasslands, forests, riparian zones, and even pastures. Many of these habitat types are expected within the project area, primarily associated with the upland disposal site locations. Given the mobility of this species, it is highly probable that it does, at times, occur on periphery areas of the MKARNS if suitable habitat and carrion are present. Because dredged disposal sites will be placed in upland areas that may include agricultural sites, there is potential for loss of habitat for this species, and heavy equipment operation could injure or kill individuals of this species. Therefore, activities associated with the proposed project May Affect, is Likely to Adversely Affect the ABB.

5.3 Eastern Black Rail

The BLRA is only known to have a limited and sporadic range within the Oklahoma and

Arkansas. Most potential for species sightings would be during migratory events. Suitable habitat for the BLRA is very limited within the MKARNS area. Shallow water areas adjacent to the White and lower Arkansas rivers have rapid fluctuations in water levels that inundate sites with more water than BLRA can tolerate. Additionally, adjacent higher ground is composed mostly of woody vegetation which BLRA avoid. However, given the large extent of the project corridor impacts to BLRA, such as noise and loss of habitat, while likely limited and temporary impacts cannot be ruled out. As a result, the proposed action May Affect, but is Not Likely to Adversely Affect the BLRA.

5.4 Fat Pocketbook

Channel dredging may physically remove fat pocketbook mussels from its habitat, initiate accelerated channel erosion, decrease habitat diversity, increase bedload, and/or increase habitat instability. The effects of channel dredging also may alter the behavior of host fish due to changes in flow patterns, decreased biomass, and/or altered species composition and abundance. However, since most of the known occurrences of the fat pocketbook are downstream in the Mississippi or other Mississippi tributaries, and because most dredging will occur in areas already maintained for navigation, potential adverse impacts to the species are unlikely. Based on this, it can be assumed that the proposed action May Affect, but is not Likely to Adversely Affect the Fat Pocketbook.

5.5 Gray Bat

Gray bats require cave habitats year-round. The closest known roosting caves for the gray bat are located in northern Arkansas outside of the MKARNS corridor. Additionally, dredging operations and disposal of sediment into wetlands and open water habitats would have no effect on the gray bat or their roosting sites and would have negligible effects on their feeding patterns with the use of best management practices (BMPs) to limit nighttime operations. Based on this information, it is assumed there would be No Effect to gray bats as a result of the proposed project.

5.6 Harperella

The primary habitat for harperella in Arkansas is shallow, rocky, and mountainous riverbeds. Given the MKARNS is a deep channel confined in a relatively broad, flat floodplain, it is expected that no suitable habitat exists within the project area. As a result, the proposed project will have No Effect on Harperella.

5.7 Indiana Bat

While the in-water work will have no effect on the species, the resulting impacts from land clearing efforts associated with the upland disposal sites has the potential to disturb roosting and foraging habitats. However, the use of BMPs including the use of species surveys before land disturbance, limiting upland work during roosting season, and limiting nighttime operations will minimize any potential major impacts of the listed bat species. Because of this, the proposed action May Affect, but is Not Likely to Adversely Affect the Indiana Bat.

5.8 Ivory-billed Woodpecker

The ivory-billed woodpecker's last reported sighting was located in the Big Woods area of eastern Arkansas near the confluence of the Arkansas, White and Mississippi rivers. However, the last confirmed sighting of this species was in 1944 and the species has been proposed for delisting in 2022 due to extinction. Additionally, the Ivory-billed woodpecker's known preferred habitat, large tracts of dense trees and underbrush covering, is limited within the project area. Most of the project area consists of open water, and agricultural tracts with sparse tree coverage. Based on this information, the proposed action will have No Effect on the Ivory-billed Woodpecker.

5.9 Missouri Bladderpod

The primary habitat for Missouri bladderpod in Arkansas is open limestone or dolomite glades. Because the project area is confined to the MKARNS, a deep channel, and uplands along the shore of MKARNS do not contain any limestone glades, it is expected that no suitable habitat exists within the project area. As a result, the proposed project will have No Effect on Missouri bladderpod.

5.10 Monarch Butterfly

The known range of the monarch butterfly includes all of the continental United States. The species is a generalist in its habitat choice as long as there is easy access to flowering plants and its host plant, milkweed. Because habitat does exist in the project area, the possibility exists for potential impacts resulting from land clearing efforts associated with the construction of new upland disposal sites. Based on this information the proposed project May Affect, but is Not Likely to Adversely Affect the Monarch Butterfly.

However, the monarch butterfly is currently listed as a candidate species, and the project was reviewed to determine if the action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. It was determined that the proposed project is unlikely to jeopardize the continued existence of the monarch given the widespread range of the species and the availability of suitable habitat outside of the project footprint. Direct and indirect effects of the proposed project are localized to the immediate project area.

As the listing status of the monarch changes, the USACE will review the project and reinitiate consultation with USFWS as required.

5.11 Neosho Mucket

Most of the known occurrences of the Neosho mucket are limited to the upper reaches of the Illinois, Verdigris, and Neosho river basins, well above the confluence with the MKARNS navigation channel. The presence of suitable habitat for the Neosho mucket is limited within the project area, given the depth and flow of the MKARNS system. Consequently, implementation of the proposed action should have No Effect on this species since it is unlikely to occur there.

5.12 Northern Long-eared Bat

While the in-water work will have limited effect on the species, the resulting impacts from land clearing efforts associated with construction of new upland disposal sites has the potential to disturb roosting and foraging habitats. The use of BMPs, including the use of species surveys, limiting upland work, and limiting nighttime operations during summer roost seasons, will minimize any potential impacts of the listed bat species. Because of this, the proposed action May Affect, but is Not Likely to Adversely Affect the NLEB.

5.13 Ozark Big-eared Bat

Because there are no caves associated with any of the work proposed, and any vegetation that will be removed will not be associated with nesting, brooding, or hibernacula for Ozark big-eared bat, it can be assumed, given the mobility of the species, it will have left the area upon implementation of the tree removal phase of the project. Additionally, dredging operations and disposal of sediment into wetlands and open water habitats would have no effect on the Ozark big-eared bat or their roosting sites and would have negligible effects on their feeding patterns. Based on this information, it is assumed there would be No Effect to Ozark big-eared bats as a result of the proposed project.

5.14 Pallid Sturgeon

The pallid sturgeon is extremely rare in the Arkansas River and the MKARNS system. Most are known to inhabit the Mississippi and Missouri rivers. However, given the connectivity from the Mississippi river to the MKARNS, and the pallid sturgeon's preference for deep and murky rivers, its possible occurrence, at least at times, cannot be discounted. If the species is present, increased turbidity and noise created by the proposed project has the potential to affect their ability to move and feed, however these impacts are likely to be localized and temporary in nature. Additionally, the potential for impacts to adult pallid sturgeon due to dredging and towboat propellers and related mortality would be extremely low and improbable and, thus judged to be minor and discountable. As a result, the proposed project May Affect, but is Not Likely to Adversely Affect the pallid sturgeon.

5.15 Pink Mucket (pearly mussel)

Most of the known occurrences of the pink mucket occur in the White River well above the confluence with the MKARNS navigation channel. Suitable habitat for the pink mucket, which is usually smaller streams with silt-free substrates of sand, gravel, and cobble, is limited within the project area. Consequently, implementation of the proposed action should have No Effect on this species since it is unlikely to occur there.

5.16 Piping Plover

The piping plover would be considered a migrant within the western portion of the project area. It is known to utilize mudflats near the Winganon Bridge at Oologah Lake during migration periods. If it were to utilize any of the MKARNS, it would be only briefly during

fall and spring migration. During this time, impacts are likely to be limited to temporary disturbances and poor water quality as a result of in-water material placement which, may affect their ability to feed and roost within the immediate project area.

However, given their mobility, the species is likely to avoid any habitats where work is ongoing and there is a disturbance caused by noise or water quality affects their ability to forage. Additionally, the in-water disposal sites and the proposed installation of sandbar islands would provide an additional long-term benefit to the species by providing an increase of preferred roosting and stopover habitat in the area. As a result, the proposed action May Affect, but is Not Likely to Adversely Affect the piping plover.

5.17 Pondberry

Pondberry is not known to occur within the MKARNS corridor. Most concentrations are known to occur east of the Mississippi River, where its primarily found in marshes or swamps with saturated soils or are covered intermittently with shallow water. Because the project area is confined to the MKARNS, a deep channel, and uplands along the shore of MKARNS, it is expected that no suitable habitat exists within the project area. As a result, the proposed project will have No Effect on pondberry.

5.18 Rabbitsfoot

Most of the known occurrences of the rabbitsfoot mussels are in the White River, well above the confluence with the MKARNS navigation channel. The presence of suitable habitat for the rabbitsfoot, which is usually geomorphically stable river channels, sandy side-channels with slower flow, and shallow areas with suitable substrate near the shore, is limited within the project area given the depth and flow of the MKARNS system. Consequently, implementation of the proposed channel modifications should have No Effect on this species since it is unlikely to occur there.

5.19 Red-cockaded Woodpecker

While tree removal associated with the creation of upland disposal areas and access roads is expected, most of the project area contains agricultural fields with fringe forested areas with mixed tree species. The preferred habitat of the red-cockaded woodpecker is generally broad savanna of mature to old growth pines (longleaf, slash or loblolly) that are frequently burned. Additionally, the forests cannot contain a mix of pine and non-pine species of trees. This habitat type required by the red-cockaded woodpecker is not present within the project area. As a result, the proposed action will have No Effect on the red-cockaded woodpecker.

5.20 Red Knot

The red knot would be considered a migrant within the western portion of the project area during migration periods in the fall and spring. The red knot utilizes sandbars and shallow areas along water bodies during its migration; as such, temporary use of the project area cannot be ruled out. Impacts would likely be limited to temporary disturbances of roosting

sites and poor water quality as a result of in-water material placement, which may affect their ability to feed and roost within the immediate project area.

However, given their mobility, the species is likely to avoid any habitats where work is ongoing and there is a disturbance caused by noise or water quality. Additionally, the in-water disposal sites and the proposed installation of sandbar islands would provide an additional long-term benefit to the species by providing an increase of preferred roosting and stopover habitat in the area. As a result, the proposed action May Affect, but is Not Likely to Adversely Affect the red knot.

5.21 Tricolored Bat

While the in-water work will have limited effect on the species, the resulting impacts from land clearing efforts associated with the upland disposal sites has the potential to disturb roosting and foraging habitats. However, the use of BMPs including the use of species surveys before land disturbance, limiting upland work during roosting season, and limiting nighttime operations will minimize any potential impacts of listed bat species. Because of this, the proposed action May Affect, but is Not Likely to Adversely Affect the Tri-colored Bat.

At the time of this report, the tricolored bat is currently a proposed species. Part 402 of the ESA, Section 402.10 – Conference on Proposed Species or Proposed Critical Habitat requires each federal agency to confer with the USFWS on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. It is assumed that the proposed project is unlikely to jeopardize the continued existence of the tricolored bat because direct and indirect effects are localized to the immediate project area and not expected to affect upstream or downstream, thereby having no effect on tricolored bat outside of the immediate area.

5.22 Whooping Crane

The whooping crane would be considered a rare migrant through the western portion of the project area and is found more in association with the Great Salt Plains NWR. If it occurs within the project area, it would likely be seen along fringe wetland areas and river shorelines. Additionally, impacts would likely to be limited to temporary disturbances of roosting sites and poor water quality as a result of in-water material placement which could affect their ability to feed and roost within the immediate project area.

However, given their mobility, the species is likely to avoid any habitats where work is ongoing. Additionally, the in-water disposal sites and the proposed installation of sandbar islands would provide an additional long-term benefit to the species by providing an increase of preferred roosting and foraging habitat in the area. As a result, the proposed action May Affect, but is Not Likely to Adversely Affect the whooping crane.

6.0 Conservation Measures

6.1 Best Management Practices

The work associated with the proposed project described above will be required to use BMPs to minimize adverse impacts to the environment. The BMPs will be added to the final construction contracts, examples of which are provided below.

- Any development near waters of the United States would require a site-specific Spill Prevention Plan during construction, which would include the use of BMPs such as proper storage, handling, and emergency preparedness, reducing the risk of contamination.
- The proposed project will utilize the smallest footprint practicable and will be constructed to avoid important resource impacts to the greatest extent practicable. Avoidance areas will be appropriately delineated and flagged to avoid any inadvertent incursions.
- Turbidity minimizing measures for in-water work will be utilized to the greatest extent possible to avoid additional disturbances to resources downstream. These measures will include the use of silt curtains or fences to slow or stop the movement of sediment offsite during in-water work, the construction of disposal sites, and during dewatering of dredged materials.
- The use of existing roadways and existing disturbed sites and disposal sites will be maximized to reduce the disturbance footprint of the project.

In an effort to reduce impacts to listed species, the USACE proposes the use of conservation measures during the construction process. The following list includes:

Bat Species:

1. Restrict tree removal to winter months (November 15 thru March 31). If work must commence outside that time period, appropriate survey methods will be utilized to identify roosts ahead of construction. Any identified roosts will be protected until vacated or relocated by certified professionals.
2. No additional, temporary nighttime lighting without limiting the light beam's focus to the work/staging area.
3. Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all environmental commitments, including all applicable BMPs.
4. Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.
5. Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure

contractors stay within clearing limits).

Alligator Snapping Turtle

1. Limit impacts such as dredge material placement or placement of disposal pipes, from preferred habitat areas, including backwater areas and shallow shorelines.
2. Limit removal of large woody debris from shoreline that could serve as habitat.

Monarch Butterfly

1. Conduct land clearing efforts outside of migratory and reproductive seasons whenever possible.
2. Avoid or minimize impacts to identified areas of suitable habitat containing milkweed host plants.
3. Replant host plants and flowering plants on disturbed areas following the completion of construction.

6.2 Habitat Mitigation

Mitigation measures would be implemented by the USACE to eliminate or reduce the effect of adverse impacts as defined in 40 CFR 1508.01(s). "Mitigation" includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree of magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or,
- Compensating for the impact by replacing or providing substitute resources or environments.

The impacts resulting from project implementation on terrestrial and aquatic habitat were evaluated using Habitat Evaluation Procedures (HEP) modeling developed by USFWS. HEP is based on suitability models that provide a quantitative description of the habitat requirements for a species or group of species.

Table 4 below provides a summary of impacted habitat types and mitigation required to off-set unavoidable adverse impacts by area and average annual habitat unit (AAHU), a numerical value representing quality and quantity of habitat. A full account of the ecological modeling, mitigation plan, and monitoring and adaptive management

measures can be found in Appendix F of the 2024 SEA.

Table 4. Summary of Mitigation Needed to Off-Set Unavoidable Adverse Impacts

Habitat	Existing/FWOP at Mitigation Sites		FWP (with Mitigation)		Net Change (AAHU)	Mitigation Need (AAHU)
	Acres	AAHU	Acres	AAHU		
Bottomland Hardwood Forest	135	3	135	48	+45	45
Wetland/Marsh	1,405	2,095	3,629	3,460	+1,365	1,365
Gravel Bars	165	0	165	165	+165	165
Total	1,705	2,098	3,921	3,673	+1,575	1,575

7.0 CONCLUSIONS

The proposed action is anticipated to have a determination of *May Affect, but not Likely to Adversely Affect* 9 of the 22 federally listed threatened or endangered species, or candidate species, and a *May Affect, Likely to Adversely Affect* determination for 2 out of the 22 listed species. The proposed project is anticipated to have *No Effect* on the remaining eleven species (Table 5). There are no critical habitats within the project area; therefore, none will be affected.

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TABLE 5. SUMMARY OF POTENTIAL IMPACTS AND EFFECTS DETERMINATIONS FOR FEDERALLY LISTED SPECIES OCCURRING IN THE PROJECT AREA

Species Name	Federal Status	Range		Effects Location		Effects Determination
		OK	AR	In Water	On Land	
Whooping Crane (<i>Grus americana</i>)	Endangered		X	X	X	NLAA
Eastern Black Rail (<i>Laterallus jamaicensis ssp. Jamaicensis</i>)	Threatened		X	X	X	NLAA
Piping Plover (<i>Charadrius melodus</i>)	Threatened	X		X	X	NLAA
Red Knot (<i>Calidris canutus rufa</i>)	Threatened	X	X	X	X	NLAA
Red-Cockaded Woodpecker (<i>Picoides borealis</i>)	Endangered	X	X		X	No Effect
Ivory Billed Woodpecker (<i>Campephilus principalis</i>)	Endangered		X		X	No Effect
Indiana Bat (<i>Myotis sodalist</i>)	Endangered	X	X		X	NLAA
Gray Bat (<i>Myotis grisescens</i>)	Endangered	X	X		X	No Effect
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	X	X		X	NLAA
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed Endangered	X	X		X	NLAA
Ozark Big-eared Bat (= <i>Plecotus townsendii ingens</i>)	Endangered	X	X		X	No Effect
Monarch Butterfly (<i>Danaus plexippus</i>)	Candidate	X	X		X	NLAA
American Burying Beetle (<i>Nicrophorus americanus</i>)	Threatened	X	X		X	LAA
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	Endangered		X	X		NLAA
Pink Mucket (pearly mussel) (<i>Lampsilis abrupta</i>)	Endangered		X	X		No Effect
Neosho Mucket (<i>Lampsilis rafinesqueana</i>)	Endangered	X	X	X		No Effect
Fat Pocketbook (<i>Potamilus capax</i>)	Endangered		X	X		No Effect
Rabbitsfoot (<i>Quadrula cylindrica cylindrica</i>)	Threatened	X	X	X		No Effect
Alligator Snapping Turtle (<i>Macrochelys temminckii</i>)	Proposed Threatened	X	X	X		LAA
Pondberry (<i>Lindera melissifolia</i>)	Endangered		X		X	No Effect
Missouri Bladderpod (<i>Physaria filiformis</i>)	Threatened		X		X	No Effect
Harperella (<i>Ptilimnium nodosum</i>)	Endangered		X		X	No Effect

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Attachment I



United States Department of the Interior



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In Reply Refer To:
Project Code: 2023-0004472
Project Name: MKARNS- Section 1

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office

9014 East 21st Street

Tulsa, OK 74129-1428

(918) 581-7458

PROJECT SUMMARY

Project Code: 2023-0004472

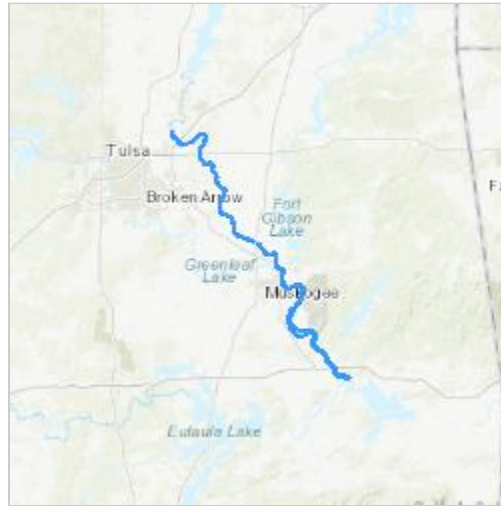
Project Name: MKARNS- Section 1

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.668002750000056,-95.26140931364736,14z>



Counties: Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Ozark Big-eared Bat <i>Corynorhinus (=Plecotus) townsendii ingens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7245	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

CLAMS

NAME	STATUS
Rabbitsfoot <i>Quadrula cylindrica cylindrica</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5165	Threatened

INSECTS

NAME	STATUS
American Burying Beetle <i>Nicrophorus americanus</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
SEQUOYAH NATIONAL WILDLIFE REFUGE %5C%22SEQUOYAH+NATIONAL+WILDLIFE+REFUGE%5C%22">https://www.fws.gov/our-facilities?keywords="%5C%22SEQUOYAH+NATIONAL+WILDLIFE+REFUGE%5C%22"	20,917.446

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

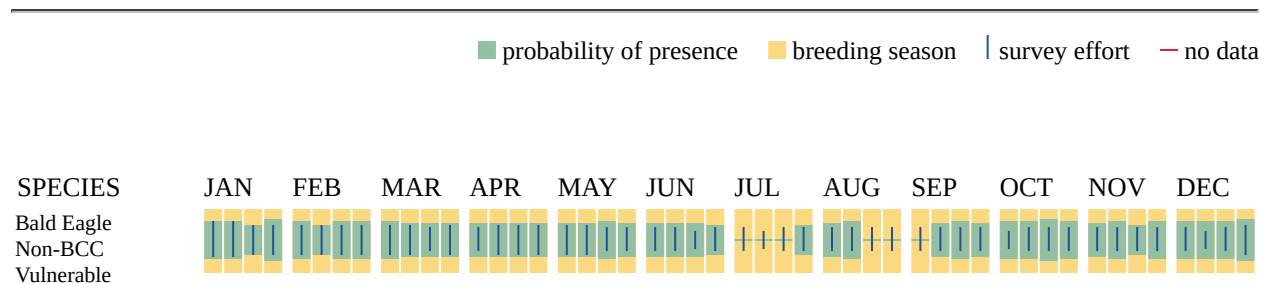
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31

NAME	BREEDING SEASON
<p>Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974</p>	Breeds Apr 21 to Jul 20
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406</p>	Breeds Mar 15 to Aug 25
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678</p>	Breeds May 1 to Aug 20
<p>Hudsonian Godwit <i>Limosa haemastica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482</p>	Breeds elsewhere
<p>Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443</p>	Breeds Apr 20 to Aug 20
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561</p>	Breeds elsewhere
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513</p>	Breeds May 1 to Jul 31
<p>Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439</p>	Breeds Apr 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398</p>	Breeds May 10 to Sep 10

NAME	BREEDING SEASON
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere
Upland Sandpiper <i>Bartramia longicauda</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9294	Breeds May 1 to Aug 31
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

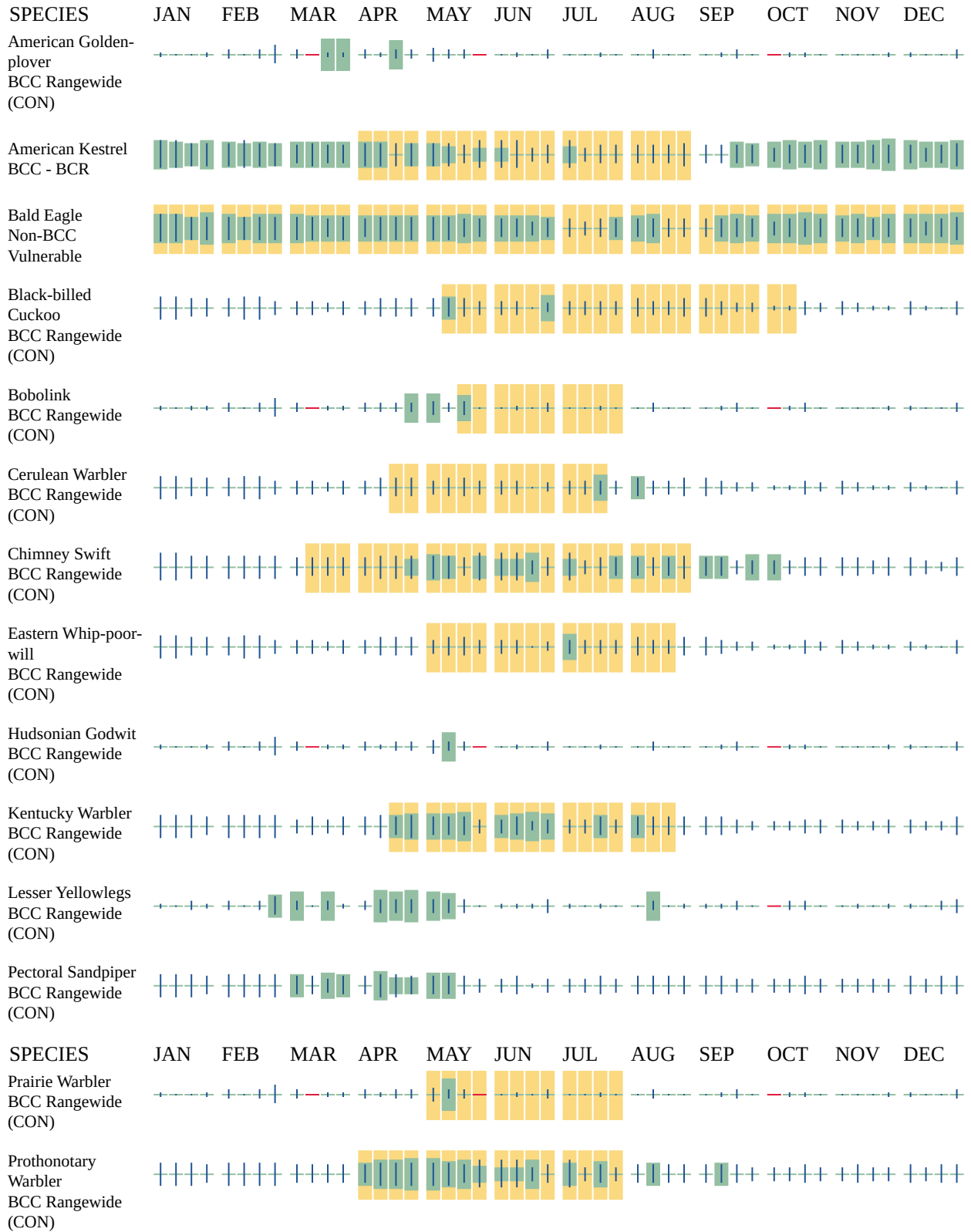
Survey Effort (|)

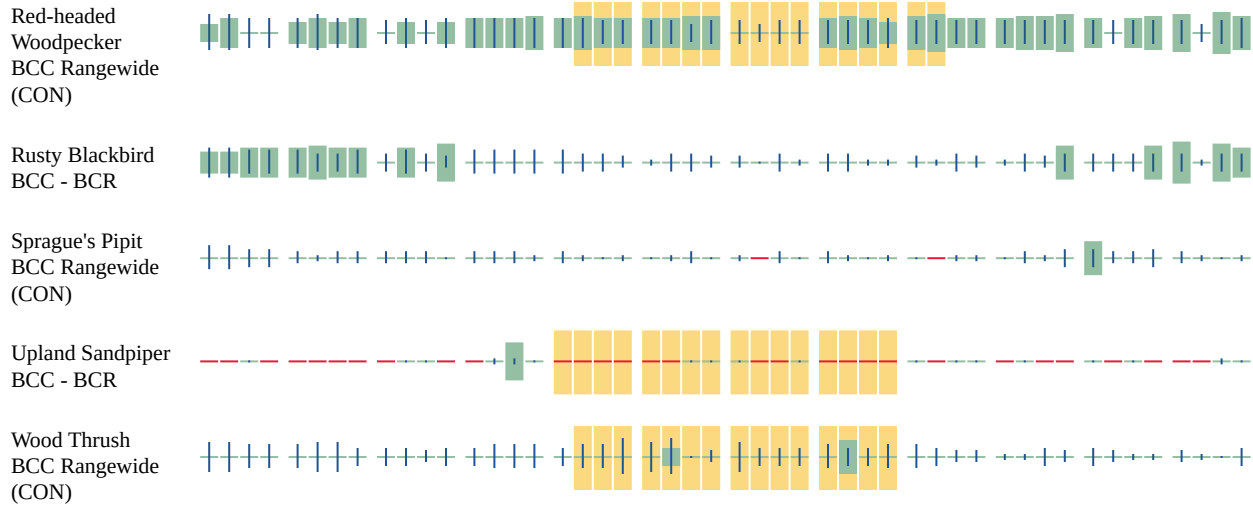
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
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- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC
- R2UBFx
- R5UBF
- R4SBCx
- R2UBH

FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1Ch
- PEM1Fh
- PEM1Ah
- PEM1/USCh

FRESHWATER POND

- PABHh
- PUBHh
- PUBH
- PUBHx

LAKE

- L1UBH
- L2USCh
- L1UBHh
- L1UBHx
- L2ABHh

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1Ah
- PFO1Ch
- PSS/EM1Ch
- PSS/EM1Ah
- PSS/EM1C
- PFO1Ah
- PFO/EM1Ah
- PFO1/EM1Ah
- PFO1A
- PSS1/EM1Ch
- PSS1Ch
- PFO1/SS1Ah
- PFO1C
- PSS/EM1Cx

IPAC USER CONTACT INFORMATION

Agency: Department of Defense
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Email: eric.p.larrat@usace.army.mil
Phone: 8173576165



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To:
Project Code: 2023-0004477
Project Name: MKARNS - Section 2

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office

9014 East 21st Street

Tulsa, OK 74129-1428

(918) 581-7458

PROJECT SUMMARY

Project Code: 2023-0004477

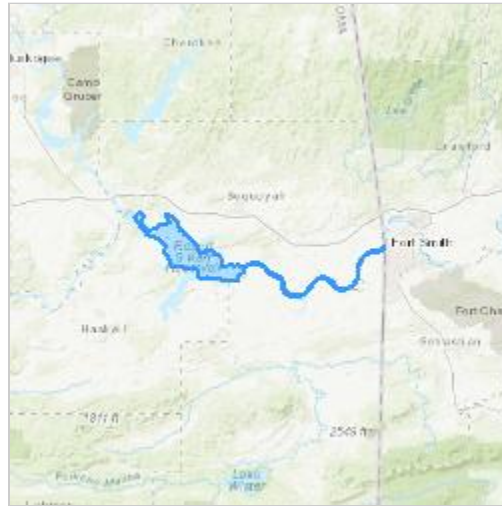
Project Name: MKARNS - Section 2

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.37481305,-94.90404863813805,14z>



Counties: Arkansas and Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Ozark Big-eared Bat <i>Corynorhinus (=Plecotus) townsendii ingens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7245	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
American Burying Beetle <i>Nicrophorus americanus</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
SEQUOYAH NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?keywords=%5C%22SEQUOYAH+NATIONAL+WILDLIFE+REFUGE%5C%22	20,917.446

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

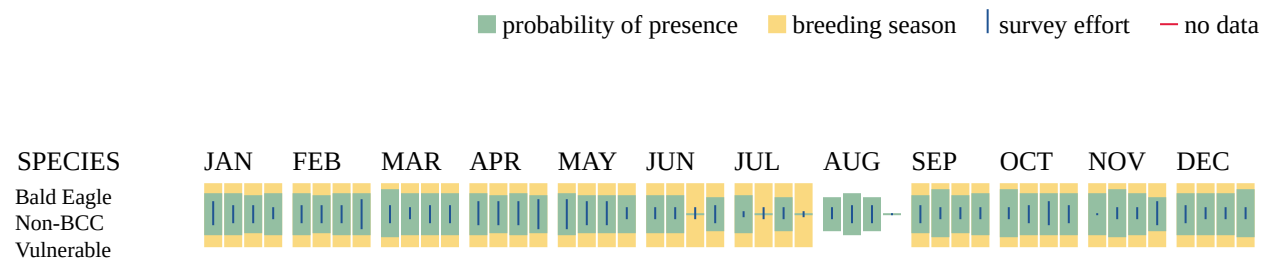
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561</p>	Breeds elsewhere
<p>American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587</p>	Breeds Apr 1 to Aug 31
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406</p>	Breeds Mar 15 to Aug 25
<p>Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443</p>	Breeds Apr 20 to Aug 20
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561</p>	Breeds elsewhere
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513</p>	Breeds May 1 to Jul 31
<p>Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439</p>	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Sprague's Pipit <i>Anthus spragueii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort - no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
American Golden-plover BCC Rangewide (CON)	++++	++++	■ ■ ■ ■	■ ■ ■ ■	■ ■ ■ ■	++++	++++	++++	++++	++++	++++	++++



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1/SS1Ch
- PEM1C
- PEM1Fh
- PEM1Ch
- PEM1Bh

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1Fh
- PFO1A
- PFO1Ch
- PSS/EM1Ch
- PSS1Ch
- PFO1/SS1C
- PSS1Ah
- PFO/SS1Ah
- PFO1C
- PFO/EM1Ah
- PSS1/EM1Ch
- PFO/EM1Ch
- PFO1Ah
- PSS/EM1Ah
- PFO1Bh
- PFO1/SS1Ch

RIVERINE

- R2UBH
- R4SBC
- R5UBF

LAKE

- L2UBFh
- L2USCh
- L1UBHh

FRESHWATER POND

- PUBHh
- PABHh
- PUBF

IPAC USER CONTACT INFORMATION

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2023-0004481
Project Name: MKARNS - Section 3

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0004481

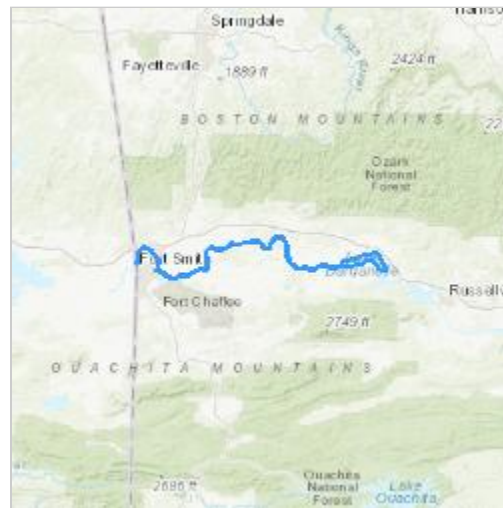
Project Name: MKARNS - Section 3

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.4140989,-93.46790008815893,14z>



Counties: Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Ozark Big-eared Bat <i>Corynorhinus (=Plecotus) townsendii ingens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7245	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
American Burying Beetle <i>Nicrophorus americanus</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Missouri Bladderpod <i>Physaria filiformis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5361	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2023-0004483
Project Name: MKARNS - Section 4

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0004483

Project Name: MKARNS - Section 4

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.31100895,-93.27055775355973,14z>



Counties: Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
American Burying Beetle <i>Nicrophorus americanus</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Missouri Bladderpod <i>Physaria filiformis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5361	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Defense
Name: Eric Larrat
Address: 819 Taylor St
City: Fort Worth
State: TX
Zip: 76102
Email: eric.p.larrat@usace.army.mil
Phone: 8173576165



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2023-0004484
Project Name: MKARNS - Section 5

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0004484

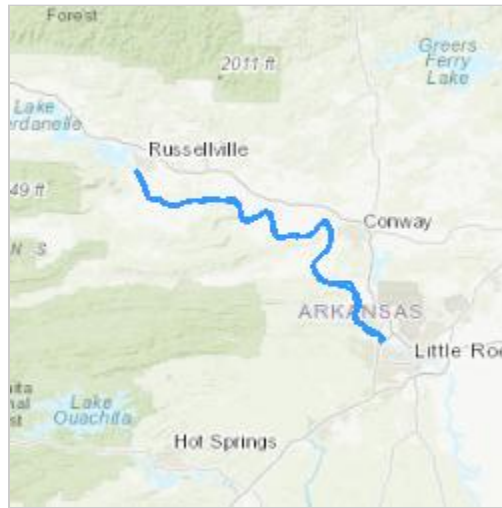
Project Name: MKARNS - Section 5

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.02404635000005,-92.57990381141525,14z>



Counties: Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Harperella <i>Ptilimnium nodosum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Missouri Bladderpod <i>Physaria filiformis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5361	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Defense
Name: Eric Larrat
Address: 819 Taylor St
City: Fort Worth
State: TX
Zip: 76102
Email: eric.p.larrat@usace.army.mil
Phone: 8173576165



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2023-0004487
Project Name: MKARNS - Section 6

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0004487

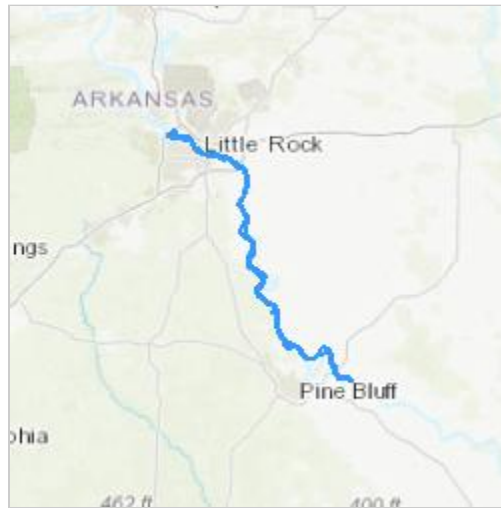
Project Name: MKARNS - Section 6

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.4745956,-92.11351418706238,14z>



Counties: Jefferson and Pulaski counties, Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Defense
Name: Eric Larrat
Address: 819 Taylor St
City: Fort Worth
State: TX
Zip: 76102
Email: eric.p.larrat@usace.army.mil
Phone: 8173576165



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2023-0004490
Project Name: MKARNS - Section 7

January 23, 2024

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office

110 South Amity Suite 300

Conway, AR 72032-8975

(501) 513-4470

PROJECT SUMMARY

Project Code: 2023-0004490

Project Name: MKARNS - Section 7

Project Type: Navigation Channel Improvement

Project Description: This is a navigation study to deepen from 9ft to 12ft of navigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.1028205,-91.54140969214782,14z>



Counties: Arkansas

ENDANGERED SPECIES ACT SPECIES

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Ivory-billed Woodpecker <i>Campephilus principalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8230	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

FISHES

NAME	STATUS
Pallid Sturgeon <i>Scaphirhynchus albus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered

CLAMS

NAME	STATUS
Fat Pocketbook <i>Potamilus capax</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2780	Endangered
Pink Mucket (pearlymussel) <i>Lampsilis abrupta</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829	Endangered
Rabbitsfoot <i>Quadrula cylindrica cylindrica</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5165	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Pondberry <i>Lindera melissifolia</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1279	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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