

**Draft Environmental Assessment  
with  
Unsigned Finding of No Significant Impact (FONSI)**

---

**Wappapello Lake Flowage Easement  
Real Estate Design Memorandum  
Wayne and Butler County, Missouri**



**August 2025**

**U.S. Army Corps of Engineers  
St. Louis District  
Regional Planning & Environmental Division North  
1222 Spruce Street  
St. Louis, Missouri 63103-2833**

# 1 TABLE OF CONTENTS

|          |                                                                    |           |
|----------|--------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Introduction</b>                                                | <b>5</b>  |
| 1.1      | PROJECT LOCATION                                                   | 5         |
| 1.2      | Project Authority                                                  | 6         |
| 1.3      | Previous REDMs and Environmental Assessments                       | 7         |
| 1.4      | Purpose and Need                                                   | 7         |
| 1.5      | Scoping, Public and Partner Review                                 | 8         |
| <b>2</b> | <b>Alternatives</b>                                                | <b>8</b>  |
| 2.1      | No Action Alternative                                              | 8         |
| 2.2      | Action Alternative – Acquisition of Flowage Easements              | 8         |
| 2.3      | Action Alternative – Change Water Control Operations               | 9         |
| 2.4      | Comparison of Environmental Consequences and Preferred Alternative | 10        |
| <b>3</b> | <b>Affected Environment and Environmental Consequences</b>         | <b>10</b> |
| 3.1      | Land Cover/Use                                                     | 11        |
| 3.1.1    | Existing Condition                                                 | 11        |
| 3.1.2    | No Action Alternative                                              | 12        |
| 3.1.3    | Action Alternative                                                 | 12        |
| 3.2      | Geology                                                            | 12        |
| 3.2.1    | Existing Conditions                                                | 12        |
| 3.2.2    | No Action Alternative                                              | 12        |
| 3.2.3    | Action Alternative                                                 | 12        |
| 3.3      | Hydrology and Hydraulics                                           | 13        |
| 3.3.1    | Existing Conditions                                                | 13        |
| 3.3.2    | No Action Alternative                                              | 13        |
| 3.3.3    | Action Alternative                                                 | 13        |
| 3.4      | Soils                                                              | 13        |
| 3.4.1    | Existing Conditions                                                | 13        |
| 3.4.2    | No Action Alternative                                              | 14        |
| 3.4.3    | Action Alternative                                                 | 14        |
| 3.5      | Water Quality                                                      | 14        |
| 3.5.1    | Existing Conditions                                                | 14        |
| 3.5.2    | No Action Alternative                                              | 14        |
| 3.5.3    | Action Alternative                                                 | 14        |
| 3.6      | Wetlands                                                           | 14        |
| 3.6.1    | Existing Conditions                                                | 14        |
| 3.6.2    | No Action Alternative                                              | 15        |
| 3.6.3    | Action Alternative                                                 | 15        |
| 3.7      | Terrestrial Organisms and Habitat                                  | 15        |
| 3.7.1    | Existing Conditions                                                | 15        |
| 3.7.2    | No Action Alternative                                              | 15        |
| 3.7.3    | Action Alternative                                                 | 15        |
| 3.8      | Aquatic Organisms and Habitat                                      | 15        |
| 3.8.1    | Existing Conditions                                                | 15        |
| 3.8.2    | No Action Alternative                                              | 16        |

|             |                                                         |           |
|-------------|---------------------------------------------------------|-----------|
| 3.8.3       | Action Alternative                                      | 16        |
| <b>3.9</b>  | <b>Vegetative Resources</b>                             | <b>16</b> |
| 3.9.1       | Existing Conditions                                     | 16        |
| 3.9.2       | No Action Alternative                                   | 17        |
| 3.9.3       | Action Alternative                                      | 17        |
| <b>3.10</b> | <b>State Listed Species</b>                             | <b>17</b> |
| 3.10.1      | Existing Conditions                                     | 17        |
| 3.10.2      | No Action Alternative                                   | 17        |
| 3.10.3      | Action Alternative                                      | 17        |
| <b>3.11</b> | <b>Federally Listed Species (Biological Evaluation)</b> | <b>18</b> |
| 3.11.1      | Biological Evaluation Summary                           | 24        |
| 3.11.2      | No Action Alternative                                   | 24        |
| 3.11.3      | Action Alternative – ESA Determination                  | 24        |
| <b>3.12</b> | <b>Bald Eagle</b>                                       | <b>25</b> |
| 3.12.1      | Existing Conditions                                     | 25        |
| 3.12.2      | No Action Alternative                                   | 25        |
| 3.12.3      | Action Alternative                                      | 25        |
| <b>3.13</b> | <b>Recreation and Aesthetics</b>                        | <b>25</b> |
| 3.13.1      | Existing Conditions                                     | 25        |
| 3.13.2      | No Action Alternative                                   | 26        |
| 3.13.3      | Action Alternative                                      | 26        |
| <b>3.14</b> | <b>Air Quality and Noise</b>                            | <b>26</b> |
| 3.14.1      | Existing Conditions                                     | 26        |
| 3.14.2      | No Action Alternative                                   | 27        |
| 3.14.3      | Action Alternative                                      | 27        |
| <b>3.15</b> | <b>Historic and Cultural Resources</b>                  | <b>27</b> |
| 3.15.1      | Existing Conditions                                     | 27        |
| 3.15.2      | No Action Alternative                                   | 28        |
| 3.15.3      | Action Alternative                                      | 28        |
| <b>3.16</b> | <b>Tribal Resources</b>                                 | <b>28</b> |
| 3.16.1      | Existing Conditions                                     | 28        |
| 3.16.2      | No Action Alternative                                   | 29        |
| 3.16.3      | Action Alternative                                      | 29        |
| <b>3.17</b> | <b>Hazardous, Toxic, and Radioactive Materials</b>      | <b>29</b> |
| 3.17.1      | Existing Conditions                                     | 29        |
| 3.17.2      | No Action Alternative                                   | 29        |
| 3.17.3      | Action Alternative                                      | 30        |
| <b>3.18</b> | <b>Demographics and Socioeconomics</b>                  | <b>30</b> |
| 3.18.1      | Existing Conditions                                     | 30        |
| 3.18.2      | No Action Alternative                                   | 31        |
| 3.18.3      | Action Alternative                                      | 31        |
| <b>4</b>    | <b>Climate</b>                                          | <b>31</b> |
| <b>5</b>    | <b>Cumulative Impacts</b>                               | <b>32</b> |
| <b>6</b>    | <b>Environmental Compliance</b>                         | <b>34</b> |
| <b>6.1</b>  | <b>List of Preparers</b>                                | <b>35</b> |

|          |                                         |           |
|----------|-----------------------------------------|-----------|
| <b>7</b> | <b>References</b>                       | <b>36</b> |
|          | <b>FINDING OF NO SIGNIFICANT IMPACT</b> | <b>38</b> |



# **1 INTRODUCTION**

This Environmental Assessment (EA) is being prepared to evaluate the environmental effects of the US Army Corps of Engineers St. Louis District's (USACE) acquisition of new flowage easement rights for the purpose of flood risk management operations at Wappapello Lake. This EA will satisfy the National Environmental Policy Act (NEPA) compliance associated with the implementation of a Real Estate Design Memorandum (REDM) at Wappapello Lake.

Construction of the 8,400-acre lake began in 1938 and was completed by in 1941 by damming the St. Francis River with the Wappapello Dam. The lake and dam are federally owned and operated and managed by the U.S. Army Corps of Engineers (USACE) St. Louis District and associated with the Memphis District's St. Francis Basin Project. Located within the St. Francis River Basin, the lake and dam are part of a comprehensive plan for protecting the St. Francis River Basin from headwater flooding. In addition, drainage is improved downstream of the dam by moderating river elevations. The St. Louis District Water Control Management Office controls water releases from Wappapello Dam on the St. Francis River by monitoring flow at various gauges and adjusting the dam gates.

Fee-simple lands are permanent Government-owned tracts, and flowage easements grant USACE the perpetual right to occasionally flood and submerge the land. Flowage easement land is privately owned land on which USACE has acquired certain perpetual rights, including the right to flood it in connection with the operation of the reservoir; the right to prohibit construction or maintenance of any structure for human habitation; the right to approve all other structures constructed on flowage easement land, except fencing. This is typically based on elevation and is done to protect individual property during a flood event and allow hydrologists to better predict the changes in elevation a lake will undergo during high inflow.

## **1.1 PROJECT LOCATION**

Wappapello Lake is located on the Upper St. Francis River in southeastern Missouri. The dam site is located at the edge of the Ozark Plateau hill country, 22 miles southeast of Greenville, MO and 16 miles northeast of Poplar Bluff, MO. Although most of the lake is in Wayne County, a small southern portion extends into Butler County (Figure 1). The proposed project would involve lands located along Wappapello Lake, as well as the St. Francis River and smaller tributaries upstream of Wappapello Lake (Figure 1).

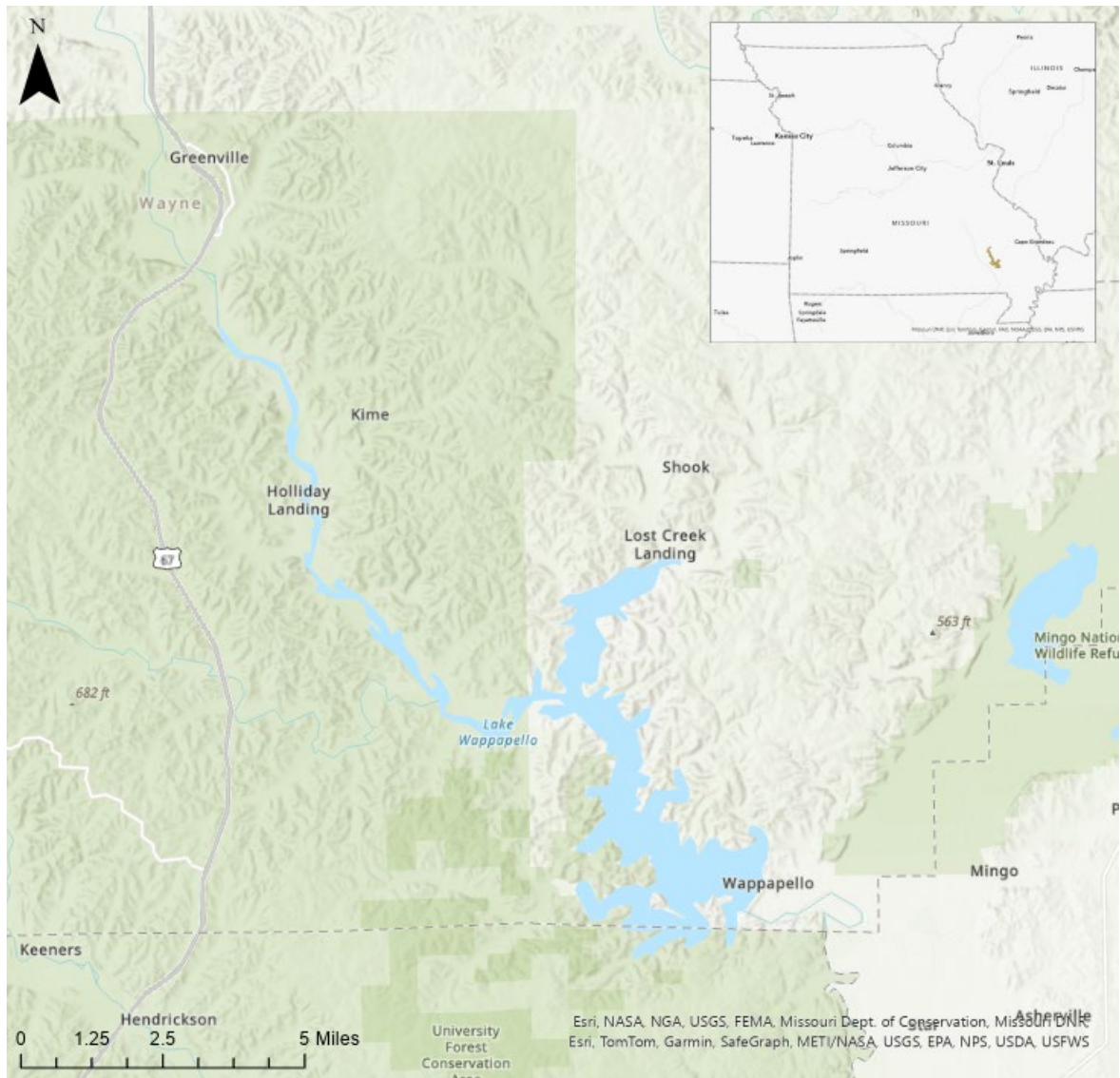


Figure 1. Vicinity Map of Wappapello Lake, MO

## 1.2 PROJECT AUTHORITY

Wappapello Lake Project was originally authorized for construction and downstream flood control by the Flood Control Act of 1936. Engineering Regulation (ER) 405-1-11 outlines the procedures for acquiring real property for USACE Civil Works projects. It requires that prior to the initiation of negotiations for the acquisition of interests in land, compliance with the National Environmental Policies Act (NEPA) and the National Historical Preservation Act (NHPA) are required.

Flowage easements, as outlined in ER-405-1-12, grant USACE the perpetual right to occasionally overflow and flood the land. Flowage easements rights are acquired with the provision that no structure for human habitation is to be constructed on the lands and that no structures of other types except farm fences are

to be constructed or maintained on the lands except as approved by USACE. The landowners reserve the rights and privileges to the property for their use and enjoyment as long as the use does not interfere with or abridge the rights and easements conveyed to the Government.

### **1.3 PREVIOUS REDMs AND ENVIRONMENTAL ASSESSMENTS**

There have been five previous REDM supplements:

**REDM Supplement No. 1** to the Basic Real Estate Requirements, St. Francis River Basin Project, Wappapello Dam and Lake, Missouri, approved 12 December 1997, for the remedial action for State of Missouri Highways and Wayne County roads adversely flooded by operation of the Wappapello Lake Project.

**REDM Supplement No. 2** to the Basic Real Estate Requirements, St. Francis River Basin Project, Wappapello Dam and Lake, Missouri, approved 19 May 2003, for 28 acres of mitigation lands from M&A Electric in return for easement on project lands.

**REDM Supplement No. 3** to the Basic Real Estate Requirements, St. Francis River Basin Project, Wappapello Dam and Lake, Missouri, Memorandum CEMVD-TS-R, Delegation of Approval Authority for Real Estate Design Memorandum Supplements, dated 31 July 2003.

**REDM Supplement No. 4** to the Basic Real Estate Requirements, St. Francis River Basin Project, Wappapello Dam and Lake, Missouri dated September 2010, for the acquisition of a flowage easement over one property and acquisition of fee simple interest in another property.

### **1.4 PURPOSE AND NEED**

The USACE has identified a need to address the intermittent inundation of privately owned land parcels adjacent to the Wappapello Lake project boundaries. These parcels, not subject to flooding under the initial authorization for the Lake project, are now being intermittently inundated with flood water at elevations as low as 380 feet above mean sea level (m.s.l.). This inundation is attributable to a combination of factors, including:

- Land acquisition policies implemented during the initial authorization of the Wappapello Lake project.
- Modifications to the water control plan governing reservoir operations.
- Alterations in surrounding land use patterns.
- The natural accumulation of organic matter and sediment within the lake system.

The purpose of this action is to fulfill USACE's responsibility to effectively implement flood risk management at Wappapello Lake, as authorized by the U.S. Congress while adequately compensating for private property intermittently inundated with flood water.

## **1.5 SCOPING, PUBLIC AND PARTNER REVIEW**

USACE circulated an initial scoping letter 29 April 2022. USACE will conduct a month-long review period using a variety of communication methods with affected public, agencies, organizations, and tribes to identify any potential issues related to project scope or proposed project alternatives. The input received during this review period will be considered in the decision-making process for this project.

## **2 ALTERNATIVES**

NEPA requires the inclusion of an alternatives analysis in comparative form to allow the decision maker a framework for determining the significance of resource impacts to allow for an informed decision in choosing the Government's Proposed Action. Action Alternatives were developed by revisiting requirements of Wappapello Lake's congressional authority and the purpose and need of the project. A No Action Alternative is also considered for the project area and acts as a baseline against which the Action Alternative is measured.

### **2.1 NO ACTION ALTERNATIVE**

Under No Action, USACE would not pursue any real estate actions for private properties adjacent to Wappapello Lake intermittently inundated by flood water. USACE would continue to control lake water levels according to the Wappapello Lake Water Control Manual (USACE, 2016), and would not resolve the deficiencies in flowage easement rights up to the 405' m.s.l. This alternative would continue to subject any structure (habitable or non-habitable) or property improvements to temporary flooding, increase the potential risk of flooding and damage to personal property, and potentially increase the risk to human health and safety. Without government interest in lands below the authorized impoundment stage, USACE would continue to lack authority to enforce deed restrictions that are needed on those lands. The current conditions as described in Chapter 3 (Affected Environment) would not be anticipated to change.

### **2.2 ACTION ALTERNATIVE – ACQUISITION OF FLOWAGE EASEMENTS**

Under the Action Alternative, USACE would acquire flowage easements on privately owned land experiencing intermittent inundation. USACE would use a Real Estate Design Memorandum (REDM) for the purchase of flowage easements up to elevation 405' m.s.l. An initial estimate of 696 acres were identified for acquisition based on this elevation criterion, however this number has been reduced, based off landowner interest, to a total of 332 acres.

The Action Alternative, and all further analysis, includes 332 acres of land owned by 78 private entities within Wayne and Butler County, MO (Figure 2). Many of the parcels have been identified for easements because access roads frequently flood with lake elevation changes, resulting in restricted access for emergency services to these properties. USACE would continue to control lake water levels according to the Wappapello Lake Water Control Manual (USACE, 2016).

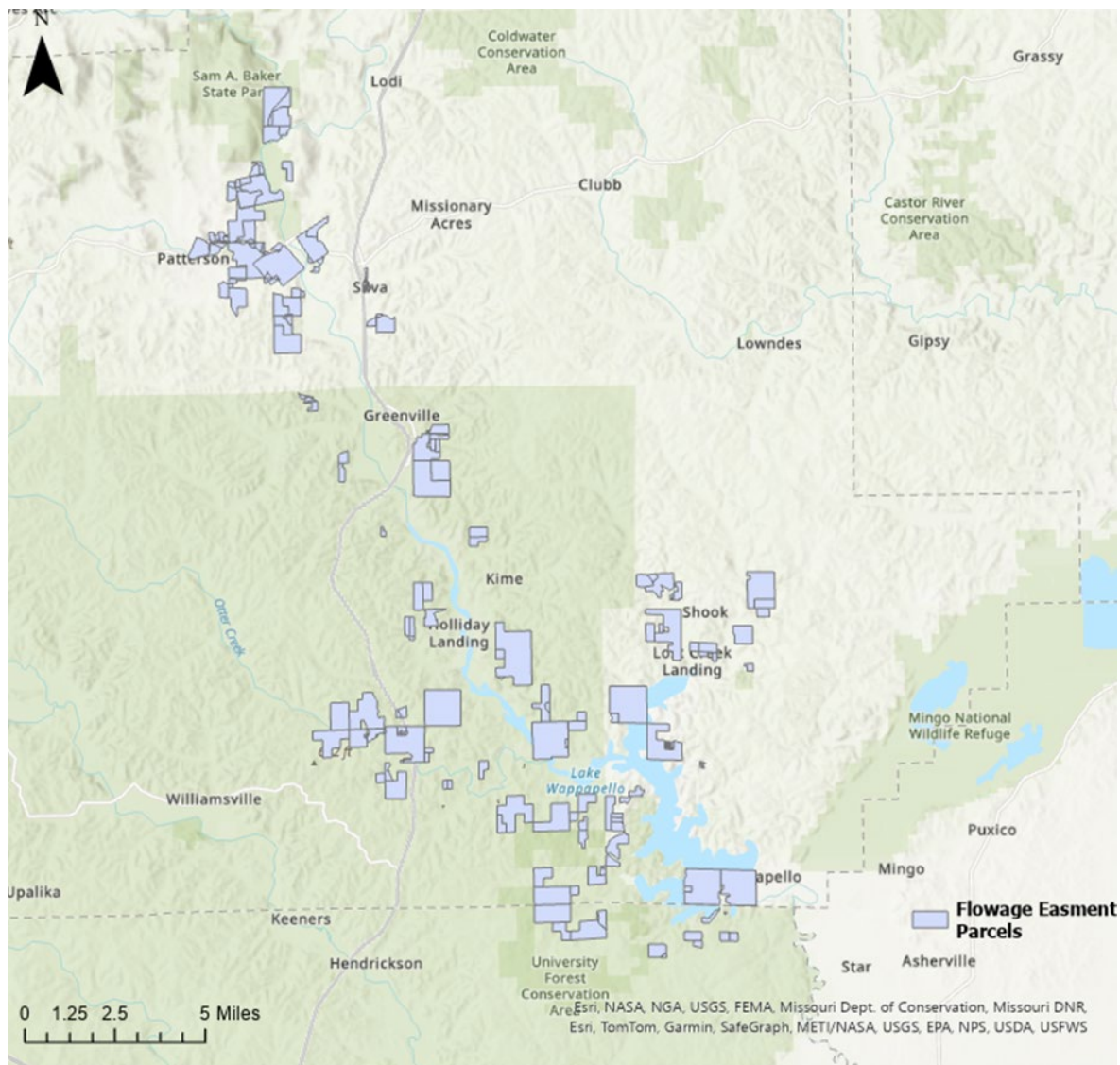


Figure 2. Location of Flowage Easement Parcels

### 2.3 ACTION ALTERNATIVE – CHANGE WATER CONTROL OPERATIONS

A third alternative considered, but eliminated from further review, is the operation of the Wappapello Lake Project in a manner that avoids the potential for inundation levels from reaching the 405' m.s.l. contour. Releasing waters downstream to avoid inundation of properties at or below 405' m.s.l. carries a greater risk to communities downstream and would be contrary to the intent for which Congress authorized the Wappapello Lake Project. Wappapello Lake operates within the St. Francis Basin to effect reduction in flood stages downstream from the Lake. Waters may be held and released as directed by USACE water management to protect downstream losses. There is no reasonable alternative related to operational avoidance of inundating lands below the 405' m.s.l. contour as a consequence of major precipitation events. Therefore, the acquisition of flowage easements up to 405' m.s.l. is necessary. The potential impacts of operational avoidance of inundating these properties are not further addressed in this Environmental Assessment.

## 2.4 COMPARISON OF ENVIRONMENTAL CONSEQUENCES AND PREFERRED ALTERNATIVE

The Preferred Alternative is the Action Alternative – Acquisition of Flowage Easements.

When the No Action Alternative and Action Alternatives are compared, there are several similarities and differences (Table 1), however the No Action Alternative would not meet the project objective.

Table 1. Resource summary for each alternative

| Resource           | No Action                | Preferred Alternative                                                                                           |
|--------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Project Objectives | Does not meet objectives | Fully meets objectives                                                                                          |
| Physical Effects   | No impacts               | Land use restrictions associated with flowage easement requirements.                                            |
|                    |                          | Limits localized hydraulic alterations through development restrictions.                                        |
|                    |                          | Protects existing wetlands from draining or development.                                                        |
|                    |                          | No impacts to land cover, geology, hydrology, soils, water quality, aesthetics, air quality, or HTRW resources. |
| Biological Effects | No impacts               | Preserves existing aquatic and terrestrial habitat from future development.                                     |
|                    |                          | No impacts to state or federally listed species.                                                                |
| Social Effects     | No impacts               | No impacts to recreational, cultural, historic, or tribal resources.                                            |

## 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes existing conditions (Affected Environment) and discussion of impacts (Environmental Consequences) in the proposed project area associated with each alternative. The resources described in this section are those recognized as significant by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public.



### 3.1 LAND COVER/USE

#### 3.1.1 Existing Condition

Wappapello Lake is in a region characterized by narrow ridges between deeply cut valleys that are heavily forested with open and closed woodland community types. The lake shoreline length is approximately 180 miles at the normal recreational pool of 359.74'. Lands within the USACE Wappapello Lake boundary are classified based on how the land is managed. The project area contains four land use classes, vegetative management, wildlife management as well as low and high-density recreation. Vegetative management is the largest designation of land use at Wappapello Lake, totaling approximately 27,810 acres. Vegetative management activities include protection and development of forest and vegetative cover, and wetland restoration. All lands in government fee ownership are being managed to maintain forest resources for recreation, wildlife, and scenic values. Timber harvest is used to achieve other management objectives, such as wildlife habitat improvement. Forest management supports both low and high-density recreation. A state managed wildlife management area (1,880 acres) is located at the northern end of the lake. There are a total of seven environmentally sensitive areas, including three ecologically significant areas (1,689 acres) and four cultural area (312 acres).

Current land cover documented by the National Land Cover Database (2023) indicates that the area around Wappapello Lake is predominately deciduous forest, interspersed with woody wetlands, low and medium intensity development, pasturelands, and cultivated crops, particularly southeast of the dam (Figure 3).

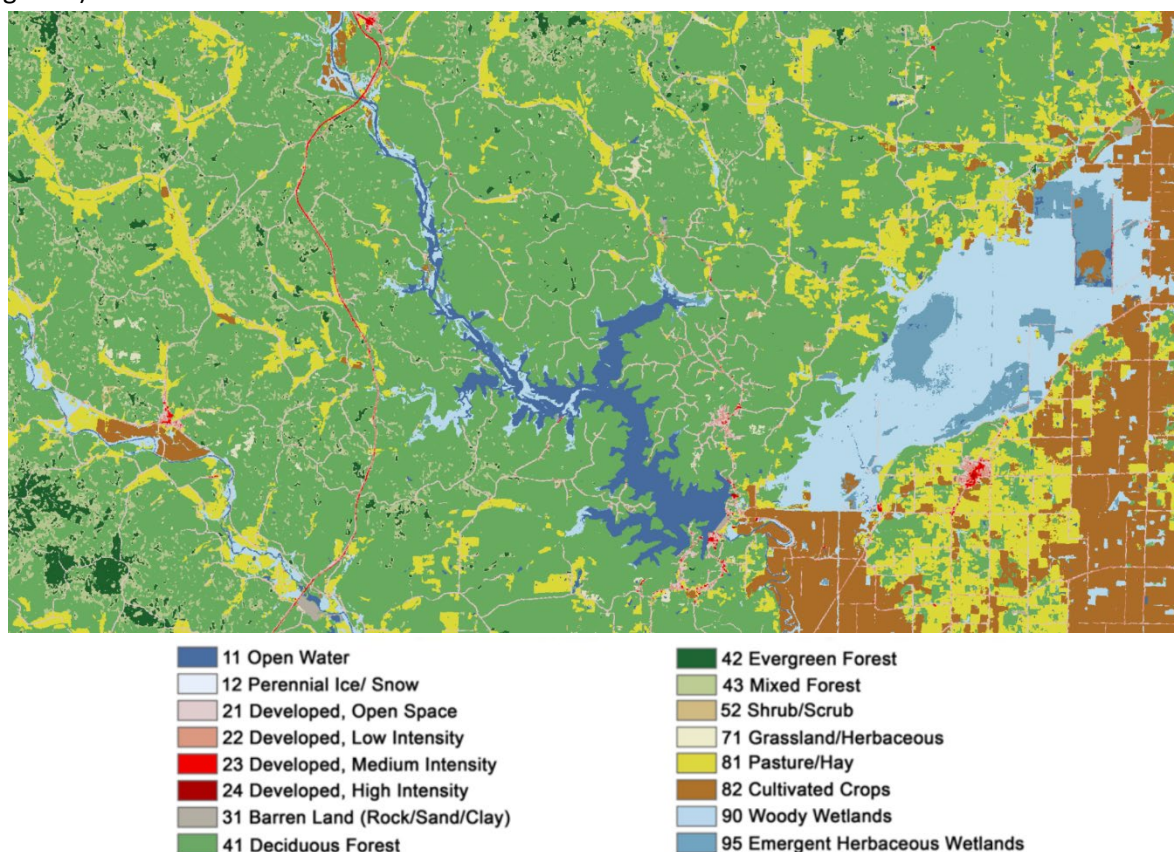


Figure 3. Current land cover at Wappapello Lake (NLCD, 2023).

### **3.1.2 No Action Alternative**

Land cover and land-use practices within the project area would not be expected to change as a result of taking no action.

### **3.1.3 Action Alternative**

Under the Action Alternative, land cover within the project area would not be expected to change. Land-use practices would be restricted, specifically prohibition of construction or maintenance of any structure for human habitation and restricted construction of other structures within the proposed flowage easement boundaries. Existing non-habitable structures, if present, would not be removed. Landowners would retain ownership and use of lands in terms of the ability to mow, clear, plant vegetation, or otherwise use as desired if not in conflict with the terms of rights acquired by the government; sell or lease the land to others, subject to all restrictions contained in the flowage easement instrument; and construct a fence to or along the easement boundary line.

## **3.2 GEOLOGY**

### **3.2.1 Existing Conditions**

The topography around the Lake is characterized by steeply sloping hills, deeply eroded uplands and escarpment, and dense forest. The Lake lies on the Edge of the Mississippi Embayment, an area of flat, poorly drained land that occupies extreme southeastern Missouri. Surficial materials around the area have been differentiated into three major types, including residual materials derived from the Roubidoux Formation and Gasconade Dolomite associated with the St. Robert Unit; gravel, sand and clay associated with the Rock Hill Unit; and alluvial detritus deposited through Holocene fluvial processes associated with the Alluvia Unit. Karst features such as caves, springs, and sinkholes are common throughout the area.

Wappapello Lake lies within the southeastern limits of the Salem Plateau sections of the Ozark Plateau Physiographic Province. This province is frequently referred to as the Ozark dome since the area is topographically an east-west elongated dome of outward dipping Paleozoic rocks. Structural features are common, but poorly exposed, and can be recognized by exposure of silicification and iron mineralization of chert and sandstone beds. Wayne County currently ranks eighth in the State in production of iron ore, with an accredited output of 52,342 tons.

The Lake also lies within the New Madrid Seismic Zone. Faults are buried beneath 100- to 200' thick layers of alluvium. Due to their infrequency, the recurrence interval of large earthquakes is difficult to predict. Given a magnitude 7.6 New Madrid Seismic Zone Earthquake, Wayne County was given an estimate earthquake intensity score of VII using the Modified Mercalli Intensity (MMI) Scale, While Butler County was given a score of VIII.

### **3.2.2 No Action Alternative**

The geology of the project area would not be expected to change as a result of taking no action.

### **3.2.3 Action Alternative**

Under the Action Alternative, the geology of the project area would not be expected to change.



### **3.3 HYDROLOGY AND HYDRAULICS**

#### **3.3.1 Existing Conditions**

Wappapello Lake is located within the St. Francis River Basin, which drains 1,839 square miles in Missouri. Numerous small springs with discharges of less than 10 gallons per minute have been reported near Wappapello Lake. The upper subbasin is drier than many Ozark drainages due to the predominance of impervious rock. These geological conditions limit infiltration, fracturing, and subsurface flows, producing flashy hydrographs and frequent flooding. The St. Francis River flows swiftly out of the steep uplift of the St. Francois Mountains and meanders through moderate slopes before spilling out onto the flat Mississippi Alluvial Plain after exiting Wappapello Dam. Excessive streambank erosion and headcutting are serious problems in the channelized section of the lower subbasin. Periods of peak discharge do not correspond with periods of greatest precipitation.

The hydrology of the project area is primarily a result of water control in Wappapello Lake as well as local and regional rainfall. Water elevation levels in Wappapello Lake are altered based on seasonal, local, and regional weather conditions. Typically, Lake levels are between 354.74' (Conservation Pool) and 394' (Flood Control Pool). The Lake has capacity to hold up to 394.74' before the spillway is overtopped. The typical Lake level for the summer recreational period is 359.74' (Summer Pool). The Wappapello Lake Water Control Plan was last updated in 2016 and is typically updated every 10 years.

#### **3.3.2 No Action Alternative**

The hydrology of the project area would not be expected to change as a result of taking no action. Hydraulic dynamics could be altered due to unrestricted development opportunities below the 405' m.s.l. contour.

#### **3.3.3 Action Alternative**

Under the Action Alternative, the hydrology of the project area would not be expected to change. Easement acquisitions would limit the development of structures that could alter hydraulics under 405' m.s.l.

### **3.4 SOILS**

#### **3.4.1 Existing Conditions**

A Natural Resources Conservation Service (NRCS) Custom Soil Resource Report was used to describe the soil types found around Wappapello Lake. The most abundant soil association within the project area is Alred-Rueter complex, 15 to 35 percent slopes, very stony. This soil type is formed from gravelly material that has slowly moved downhill over material that weathered in place from dolomite bedrock. It occurs on the backslopes of hillsides and has high runoff rates. These soils often restrict root growth. During extended rainy periods, this soil remains saturated at a depth of approximately 19 inches. This complex is considered vulnerable to erosion.

Additional soils abundant in the project area include Westerville-Kaintuck complex, 0 to 3 percent slopes, frequently flooded; Poynor-Clarksville-Scholten complex, 8 to 15 percent slopes, stony; and Clarksville-Scholten complex, 15 to 45 percent slopes, very stony.

### **3.4.2 No Action Alternative**

The soils in the project area would not be expected to change as a result of taking no action.

### **3.4.3 Action Alternative**

Under the Action Alternative, the soils in the project area would not be expected to change.

## **3.5 WATER QUALITY**

### **3.5.1 Existing Conditions**

The USACE has implemented a Water Quality Management Plan (WQMP) as part of the operation and maintenance activities associated with managing USACE civil works projects (ER 1110-2-8154) throughout the District which includes, among other reservoirs and rivers, the Wappapello Lake and watershed. Data collected from this effort serves as an invaluable tool for evaluating the significance of annual water quality measurements and tracking long-term trends. Water quality data is provided to the Missouri Department of Natural Resources to be used as a screening mechanism for the Missouri and Illinois Water Quality Report, which is required every two years by the Clean Water Act Sections 303(d) and 305(b). The National Water Quality Inventory Report to Congress (305(b) report) is the primary vehicle for informing law makers and the public about general water quality conditions in the United States. This document characterizes our water quality, identifies widespread water quality problems of national significance, and describes various programs implemented to restore and protect our waters. The most recent water quality report compiled by the Missouri Department of Natural Resources (MDNR, 2020) has Wappapello Lake listed as impaired for Chlorophyll-a caused by non-point sources.

The WQMP for Wappapello Lake includes water samples taken at the following locations: major tributary (WAP-7), main body of the lake (WAP-6, WAP-5, WAP-2, five marinas), and just downstream of the dam (WAP-1). Findings from recent sampling at Wappapello Lake have revealed the following concerns when compared to state standards: dissolved oxygen, chlorophyll-a, total phosphorus, total nitrogen, pH, iron, and manganese.

### **3.5.2 No Action Alternative**

Water quality within the project area would not be expected to change as a result of taking no action.

### **3.5.3 Action Alternative**

Under the Action Alternative, water quality within the project area would not be expected to change.

## **3.6 WETLANDS**

### **3.6.1 Existing Conditions**

Wetlands are areas where the frequent and prolonged presence of water at or near the ground surface dictates the kinds of soils that form, the plants that grow, and the fish and/or wildlife that use the habitat. Wetland habitats are important ecosystems because they provide flood control and storm barriers. Under Section 404 of the Clean Water Act, wetlands are a protected habitat type and the alteration, or destruction, of wetlands requires mitigation.

Wappapello Lake has a network of sloughs, oxbows, and depressions that act as self-sustaining wetlands. Constant lake fluctuations will flood forested lowlands, scrub shrub communities, and open fields multiple times a year. The Lake currently has four moist soil units managed with water control structures. Wetland

drainage has converted the lower subbasin from an immense swampland forest to a vast agricultural area. An evaluation of National Wetlands Inventory data suggests that at least 51 of the 78 proposed parcels may feature wetlands.

### **3.6.2 No Action Alternative**

Wetlands within the project area would not be impacted as a result of taking no action.

### **3.6.3 Action Alternative**

Under the Action Alternative, wetlands within the project area would be protected from draining and development.

## **3.7 TERRESTRIAL ORGANISMS AND HABITAT**

### **3.7.1 Existing Conditions**

The extensive deciduous forest and woodland-aquatic edge habitat creates a diverse landscape that supports numerous wildlife species. Game and non-game species use the landscape for food, shelter, and reproduction. Regulated hunting in combination with quality conservation and wildlife habitat management have helped to maintain healthy populations of many big game species within the project area. Common terrestrial species in the project area include white-tailed deer, coyotes, gray and red fox, bobcats, skunks, river otters, weasels, minks, opossums, eastern cottontail rabbits, eastern gray and fox squirrels, chipmunks, beavers, muskrats, eastern wild turkeys, bobwhite quail, as well as several mouse, bat, and other species. Common bird species for the area include waterfowl, songbirds, and raptors.

Exotic species continue to be a growing issue at Wappapello Lake. These invasive species diminish habitat quality and can out-compete native species for resources, making them a threat for sustaining biodiversity within the project area. Feral hogs and emerald ash borers are two examples of invasive fauna at the Lake which have caused widespread damage to agriculture and natural resources. USACE collaborates with the Missouri Department of Agriculture (MDA), Missouri Department of Conservation (MDC), the US Department of Agriculture Animal and Plant Health Inspection Service (APHIS), and the Mark Twain National Forest to combat the spread of these species.

### **3.7.2 No Action Alternative**

No terrestrial organisms or habitat within the project area would be impacted as a result of taking no action.

### **3.7.3 Action Alternative**

Under the Action Alternative, no terrestrial organisms within the project area would be impacted. Habitat would be protected from future development.

## **3.8 AQUATIC ORGANISMS AND HABITAT**

### **3.8.1 Existing Conditions**

Wappapello Lake supports a high diversity of aquatic organisms including phytoplankton, zooplankton, aquatic insects, crustaceans, mollusks, amphibians, and fish species. USACE and MDC work in a collaborative effort to manage the lake for water quality and ecosystem sustainability. Aquatic habitat

degradation is a normal process as lakes age. To refurbish some of the structural habitat that decomposes over time, the agencies have partnered to add brush piles to the lake and investigate new ways to re-establish aquatic vegetation.

MDC has been managing for quality fisheries in Wappapello Lake since its construction. Surveys are conducted each year in the spring and fall to monitor the population, assess existing regulations and determine future management practices. Common fish in Wappapello Lake include white and black crappie, largemouth bass, white bass, bluegill, redear sunfish, warmouth, green sunfish, longear sunfish, channel catfish, and flathead catfish. Aquatic habitat within the project area is commonly disturbed by recreational use, bank erosion and associated sedimentation, and Wappapello Lake flooding and water control practices. Recreational boating and related moorings are typically associated with reduced cover of aquatic vegetation (Hansen et al., 2019).

Northern snakeheads (*Channa argus*) are an invasive species of fish in Missouri and have been spreading north through the waters of the St. Francis River watershed since they were first found in an Arkansas drainage ditch in 2008. The first northern snakehead was recorded in Missouri in a borrow ditch within the St. Francis River levees in Dunklin County in 2019. A second verified catch was caught in Wayne County in 2023. The diet of snakeheads overlaps the diet of largemouth bass and several other native fishes. This competition disturbs ecosystems in many types of aquatic habitats. Snakeheads have many adaptations that could help them become established at Wappapello Lake. They can breathe atmospheric air, which makes them capable of surviving poorly oxygenated environments. Additionally, they can survive under ice, they have flexible diets throughout all life stages, they are predatory, and they are highly fecund.

### **3.8.2 No Action Alternative**

No aquatic organisms or habitat within the project area would be impacted as a result of taking no action.

### **3.8.3 Action Alternative**

Under the Action Alternative, no aquatic organisms within the project area would be impacted. Habitat would be protected from future development.

## **3.9 VEGETATIVE RESOURCES**

### **3.9.1 Existing Conditions**

Tree species typical of the project area include white oak, black oak, shagbark hickory, and mockernut hickory. Pignut hickory and post oak are dominant in the ridge tops where soils have a low moisture content throughout most of the season. Shortleaf pine and oak-pine mixed forests dominate the landscape where sandstone-based soils are present. Eastern red cedar tends to be locally abundant where limestone derived soils are present and close to the surface. While the upland oak-hickory community type dominates the higher elevations, tree species such as red oak, chinquapin oak, white ash, green ash, basswood, black walnut, and bitternut hickory make up most of the forest composition within the transition elevations (i.e., drainage and toe slope landscape features). Forest stands positioned on highly productive soils contain tree species that consist of large, high-quality specimens. Trees found on the dry ridge top sites exhibit slower growth, lower quality, and smaller stature.

Open lands consist of rotational agricultural crops, warm season grasses, forbs, woody vegetation, and wetland plants. These lands are maintained in early successional stages by prescribed fire, bush-hogging, and other agricultural practices.

### **3.9.2 No Action Alternative**

The vegetative resources of the project area would not be expected to change as a result of taking no action.

### **3.9.3 Action Alternative**

Under the Action Alternative, the vegetative resources of the project area would not be expected to change.

## **3.10 STATE LISTED SPECIES**

### **3.10.1 Existing Conditions**

MDC was contacted via the Missouri Heritage Review website on 28 March 2025, for a list of Missouri State threatened and endangered species that could potentially be present in the project area (MDC project number: 16560; Appendix A). The Missouri Natural Heritage Database generated a Level Two Report due to three State and Federally listed bat species in the project vicinity (see Section 3.8.2- Federally Listed Species). There are State species and communities of conservation concern within the project vicinity. These include Swainson's warbler (*Limnothlypis swainsonii*), lake cress (*Rorippa aquatica*), and water hyssop (*Mecardonia acuminata*).

Swainson's warbler is a neotropical migrating bird that nests in the southeastern United States. In Missouri, they may be found in the southeastern part of the state, inhabiting giant cane (*Arundinaria gigantea*) within forested riparian landscapes. Swainson's warblers are not believed to have ever been common in Missouri, though they are designated as imperiled due to habitat destruction. Lake cress is a perennial, flowering plant that is found in wooded swamps, sloughs, springs, and shallow or still water and muddy shores of rivers in ponds. Lake cress is designated as imperiled in Missouri due to habitat destruction, invasive species encroachment, and poor seed production. *M. acuminata*, referred to here as water hyssop, but commonly referred to as purple mecardonia and axiflower, is a perennial plant that inhabits shallow oxbows, sloughs, mudflats, wet prairies, and meadows. The species is designated as critically imperiled in Missouri due to its extreme rarity and vulnerability to habitat destruction.

### **3.10.2 No Action Alternative**

No state listed species, or their habitat, within the project area would be impacted as a result of taking no action.

### **3.10.3 Action Alternative**

No state listed species or habitat within the project area would be impacted under the Action Alternative

### 3.11 FEDERALLY LISTED SPECIES (BIOLOGICAL EVALUATION)

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973 (as amended), federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species.

The U.S. Fish and Wildlife Service (USFWS) was contacted via USFWS Information for Planning and Consultation (IPaC) website on 28 March 2025, for a list of Federal threatened, endangered and candidate species (Appendix A; Table 2) that could potentially be located in the project area (Project Code: 2025-0009725).

Table 2. List of federally listed threatened and endangered species potentially occurring within the proposed project area.

| Common Name<br>(Scientific Name)                                 | Classification         | Habitat                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gray Bat<br>( <i>Myotis grisescens</i> )                         | Endangered             | Roosts in caves and forages along streams and open water bodies.                                                                                                                                                                                                                             |
| Indiana bat<br>( <i>Myotis sodalist</i> )                        | Endangered             | Caves, mines (hibernacula); small stream corridors with well-developed riparian woods (foraging); upland forests (roosting).                                                                                                                                                                 |
| Northern long-eared bat<br>( <i>Myotis septentrionalis</i> )     | Endangered             | Caves, mines, human-made cave-like structures (hibernacula); under the canopy on forested hillsides and ridges; over small forest clearings and water, and along roads (foraging); forested areas under underneath bark, in cavities or in crevices of both live trees and snags (roosting). |
| Tricolored Bat<br>( <i>Perimyotis subflavus</i> )                | Proposed<br>Endangered | Caves, mines (hibernacula); small stream corridors with well-developed riparian woods (foraging); upland forests (roosting).                                                                                                                                                                 |
| Alligator Snapping Turtle<br>( <i>Macrochelys temminckii</i> )   | Proposed<br>Threatened | Occurs in large rivers, reservoirs, sloughs, oxbow lakes, and upland Ozark streams in southern and southeastern Missouri.                                                                                                                                                                    |
| Curtis Pearlymussel<br>( <i>Epioblasma florentina curtisii</i> ) | Endangered             | Creeks and streams with shallow flowing water and a stable substrate. Historically found in the Black, Castor, and Little Black Rivers and Cane Creek.                                                                                                                                       |

|                                                                                    |                        |                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pink Mucket<br>( <i>Lampsilis abrupta</i> )                                        | Endangered             | Rivers with cobble-gravel bottom. Found in the Big, Black, Gasconade, Little Black, Meramec, Osage, Sac, and St. Francis Rivers.                                                                                                      |
| Rabbitsfoot Mussel<br>( <i>Quadrula cylindrica</i> ) +<br>Critical habitat         | Threatened             | Typically occurs in small to medium sized rivers of moderate current with clear, relatively shallow water and a mixture of sand and gravel substrates. Found in Black, St. Francis, and Spring Rivers and Big Creek.                  |
| Snuffbox Mussel<br>( <i>Epioblasma triquetral</i> ) +<br>Critical habitat          | Endangered             | Medium to large rivers with clear water and gravel riffles.                                                                                                                                                                           |
| Western Fanshell<br>( <i>Cyprogenia aberti</i> ) +<br>Critical habitat             | Threatened             | Found in small to large sized creeks and rivers with rock, gravel, and soft mud bottoms. Occurs south of the Missouri River.                                                                                                          |
| Monarch Butterfly<br>( <i>Danaus plexippus</i> )                                   | Proposed<br>Threatened | A migratory insect that uses milkweed plants as a reproductive host. Found in open grassy areas with milkweed.                                                                                                                        |
| Big Creek Crayfish<br>( <i>Faxonius peruncus</i> ) +<br>Critical habitat           | Threatened             | Occurs exclusively in small, high-gradient, rocky creeks in cavities that it excavates beneath rocks, on riffles, or in shallow, silt-free ponds. Endemic to St. Francis River watershed.                                             |
| St. Francis River Crayfish<br>( <i>Faxonius quadruncus</i> ) +<br>Critical habitat | Threatened             | Occurs in clear, rocky streams, ranging from small headwater creeks to moderately large rivers. Prefers silt-free bottoms near or beneath dense beds of water willow or boulders. Endemic to Upper St. Francis River and tributaries. |
| Mead's Milkweed ( <i>Asclepias meadii</i> )                                        | Threatened             | Occurs in vegetative communities that are adapted for drought and fire like upland tallgrass prairies and glad/barren habitats.                                                                                                       |

**Gray bat** (*Myotis grisescens*) has been listed as endangered by the USFWS since April 28, 1976, and is still in danger of extinction throughout all or a significant portion of its range. Typically, gray bats roost in caves year-round, with most wintering caves being vertical and deep. During the spring and fall transient periods, a much wider variety of cave types are used. During the summer, maternity colonies prefer caves that provide restricted rooms or domed ceilings that act as warm air traps. There are no known caves within the project area, therefore there would be no direct effects to the gray bat. This species may drink or forage over the lake, nearby ponds, or the St. Francis River. There will be no reduction in the species' foraging habitat, degradation of water quality, or changes in forest canopy.

**Indiana bat** (*Myotis sodalis*) hibernate in caves and mines during late fall and winter. During the spring and summer, Indiana bats roost in trees. Suitable roosting trees can be alive or dead, but all would have

loose, exfoliating bark, holes, and other damage that can be used by a roosting bat. These damages allow bats to crawl inside and be sheltered from predators and weather. Indiana bat roost trees are typically at least 5 inches diameter at breast height (dbh) with suitable roosting characteristics (U.S. Fish & Wildlife Service, 2022). Preferred roost sites are in forest openings, at the forest edge, or where the overstory canopy allows some sunlight exposure to the roost tree, which is usually within 1 km (0.6 mi.) of water. Indiana bats forage for flying insects (particularly moths) in and around the tree canopy of floodplain, riparian, and upland forests. The most significant threat facing Indiana bat populations today is white-nose syndrome (WNS), a fungal disease. Other major range wide threats to the Indiana bat include habitat loss/degradation, forest fragmentation, winter disturbance, and environmental contaminants. Suitable Indiana Bat summer roost and foraging habitat may be located in the forested areas in within the project area. Trees will not be removed under either alternative, therefore there will be no direct effects to the Indiana bat. There will be no reduction in the species' foraging habitat, degradation of water quality, loss of roosting habitat, or changes in forest canopy.

**Northern long-eared bat** (*Myotis septentrionalis*) is sparsely found across much of the eastern and north central United States and spend winter hibernating in caves and mines (U.S. Fish & Wildlife Service, 2022). They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Within hibernacula, they are found in small crevices or cracks. During summer, NLEB habitat includes a variety of forested habitats and adjacent non-forested habitats such as emergent wetland, edges of agricultural fields, old fields, pastures, fencerows, strips of riparian forest, and linear wooded corridors (U.S. Fish & Wildlife Service, 2022). Trees that would serve as potential roosts would be at least 3 inches dbh and have exfoliating bark, cracks, crevices and/or cavities. Suitable forested areas would be either dense or loose aggregations of trees, relatively unfragmented compared to areas that are highly fragmented or that have been clear-cut. The NLEB is more likely to use a single tree with roosting characteristics if it is within 1,000 feet of other forest. Human-made structures, like houses, barns, and bridges have also been observed to host roosting NLEBs. Forest fragmentation, logging and forest conversion are major threats to the species. One of the primary threats to the northern long-eared bat is white-nose syndrome. Suitable Northern long-eared bat foraging habitat may be located in the forested portions of the project area. Trees will not be removed under either alternative, therefore there will be no direct effects to the northern long-eared bat. There will be no reduction in the species' foraging habitat, degradation of water quality, loss of roosting habitat, or changes in forest canopy.

**Tricolored bats** (*Perimyotis subflavus*) are usually found roosting singly, only sometimes in pair or clusters of up to a dozen individuals (Missouri Department of Conservation, 2022). In winter, Tricolored bats hibernate in caves. They prefer caves that are humid and warm. In summer, they leave their hibernation caves and roost in trees amongst dead leaves, in crevices in cliffsides, and in human-made structures. They also sometimes roost in caves during summer. It forages for insects high in the air along forest edge and the boundary of streams or open bodies of water. Tricolored bats mate during spring, fall, and sometimes in the winter. Maternity colonies begin forming in mid-April and females bear 1 to 2 pups by late May to mid-July. Tricolored bats face extinction due primarily to the range-wide impacts of white-nose syndrome. Trees will not be removed under either alternative, therefore there will be no direct



effects to the northern long-eared bat. There will be no reduction in the species' foraging habitat, degradation of water quality, loss of roosting habitat, or changes in forest canopy.

**Alligator snapping turtles** (*Macrochelys temminckii*) are large aquatic reptiles that inhabit large rivers, sloughs and oxbow lakes in southern and southeastern Missouri. This species is completely aquatic and only rarely exits the water to bask in the sun or to lay eggs. They spend most of their time submerged in deep water near structure like roots or sunken logs. Movements throughout the river channel can be extensive, with individuals able to cross more than 15 miles along a river over a three-year period. Alligator snapping turtles spend daylight hours in hiding and become active at night. This species mainly consumes fish, however they have a diverse diet that sometimes includes reptiles, small mammals, invertebrates, as well as nuts and fruits. Females emerge to build nests and lay eggs during late April through June. Preferred nesting habitat occurs in vegetated riparian areas with sandy soils. The primary threats to this species include harvest, poaching, and bycatch; habitat alteration and water quality impairment; predation of juvenile turtles. Alligator snapping turtle habitat is expected to remain abundant under both the No Action and Action Alternative.

**Curtis pearlymussel** (*Epioblasma florentina curtisii*) is an endangered mussel with a thick, stout yellow-tan shell with green rays. Curtis pearlymussel live in small Ozark streams with stable gravel. The current species range of the Curtis pearlymussel includes Missouri and Arkansas. Conservation threats to the Curtis pearlymussel include dams both upstream and downstream of mussel beds. Dams cause adverse impacts by disrupting natural river flow patterns, scouring river bottoms, alterations to normal water temperature, and by creating lake habitat in place of stream habitat. Dams also block fish passage, which would disrupt the reproduction of mussels, which require host fish to reproduce. Pollution upstream of mussel beds is another major concern. Pollutants and sedimentation can directly kill mussels or indirectly harm mussels by reducing water quality. The introduction of invasive Asian clams (*Corbicula fluminea*) and zebra mussels (*Dreissena polymorpha*) poses another threat. Efforts to promote Curtis pearlymussel populations should focus on eliminating sources of pollution, preventing the spread of invasive bivalves, and prohibiting impoundments in streams with large populations of Curtis pearlymussel and other mussels. Neither Alternative will impact habitat availability for the Curtis pearlymussel, or its hosts.

**Pink mucket** (*Lampsilis abrupta*) is an endangered mussel with a slightly elongated shell that can be yellowish-brown to chestnut in color. Pink muckets live in the large stream reaches where flowing water covers beds of cobble, gravel and sand. Conservation threats to pink mucket include dams both upstream and downstream of mussel beds. Dams cause adverse impacts by disrupting natural river flow patterns, scouring river bottoms, alterations to normal water temperature, and by creating lake habitat in place of stream habitat. Dams also block fish passage, which would disrupt the reproduction of mussels, which require host fish to reproduce. Pollution upstream of mussel beds is another major concern. Pollutants and sedimentation can directly kill mussels or indirectly harm mussels by reducing water quality. The introduction of invasive Asian clams and zebra mussels poses another threat. Efforts to promote pink mucket populations should focus on eliminating sources of pollution, preventing the spread of invasive bivalves, and prohibiting impoundments in streams with large populations of pink mucket and other mussels. Neither Alternative will impact habitat availability for the pink mucket, or its hosts.

**Rabbitsfoot Mussel** (*Quadrula cylindrica*) is a threatened mussel with an elongate, rectangular shell covered in tubercles, knobs, and pustules. It typically occurs in small to medium-sized streams with moderate current velocities and relatively shallow water over sand and gravel substrates (Roe, 2002). Threats to rabbitsfoot populations include pollution in streams, declines in populations of their fish hosts, and introduction of non-native clams and mussels. Conservation efforts for rabbitsfoot should focus on reducing siltation and prohibiting impoundments in streams where they are known to occur. Any conservation effort that benefits the host minnow species would indirectly benefit the rabbitsfoot. Three species of minnows have been determined to be suitable hosts for rabbitsfoot: whitetail shiner (*Cyprinella galctura*), spotfin shiner (*Cyprinella spiloptera*), and bigeye chub (*Hybopsis amblops*). Efforts to limit the spread of Asiatic clam and zebra mussel would also indirectly benefit the rabbitsfoot. Neither Alternative will impact habitat availability for the rabbitsfoot mussel, or its hosts.

**Snuffbox Mussel** (*Epioblasma triquerta*) is an endangered mussel with a yellow, green, or brown shell. The Snuffbox typically occurs in small to medium-sized streams with a swift current over sand, gravel, and cobble substrates. Conservation threats to Snuffbox include dams both upstream and downstream of mussel beds. Dams cause adverse impacts by disrupting natural river flow patterns, scouring river bottoms, as well as alterations to normal water temperature, dissolved oxygen, and nutrient availability. Dams also impede connectivity by blocking fish passage, which disrupts the reproduction of mussels, which require host fish to reproduce. Suitable host fishes include logperch (*Percina caprodes*), blackside darter (*P. maculata*), rainbow darter (*Etheostoma caeruleum*), mottled sculpin (*Uranidea bairdii*), banded sculpin (*U. carolinae*), Ozark sculpin (*U. hypselurus*), and largemouth bass (*Micropterus salmoides*). Pollutants and sedimentation can directly kill mussels or indirectly harm mussels by reducing water quality. The introduction of invasive Asian clams and zebra mussels poses another threat. The population of Snuffbox in the Upper St. Francis subbasin are categorized as having low demographic condition based on water quality, landscape, hydrological regime, connectivity, and invasive species presence. Efforts to promote Snuffbox populations should focus on eliminating sources of pollution, preventing the spread of invasive bivalves, and prohibiting impoundments in streams with large populations of snuffbox and other mussels. Approximately 58 river miles of the St. Francis River in Madison and Wayne Counties has been proposed as Critical Habitat. This extends from the Twelvemile Creek confluence to Wappapello Lake. The proposed Critical Habitat coincides with the Action Area. Neither Alternative will impact habitat availability for the snuffbox mussel, or its hosts.

**Western Fanshell** (*Cyprogenia aberi*) is a threatened species of mussel with a thick tan or brown shell that has distinct growth lines. This species is typically found in large creeks and rivers with good water quality, moderate to swift current and gravel-sand substrates. Conservation threats to western fanshell include dams both upstream and downstream of mussel beds. Dams cause adverse impacts by disrupting natural river flow patterns, scouring river bottoms, alterations to normal water temperature, and by creating lake habitat in place of stream habitat. Dams also block fish passage, which would disrupt the reproduction of mussels, which require host fish to reproduce. Suitable hosts include logperch (*Percina caprodes*) and rainbow darters (*Etheostoma caeruleum*). Pollutants and sedimentation can directly kill mussels or

indirectly harm mussels by reducing water quality. The introduction of invasive Asian clams and zebra mussels poses another threat. The western fanshell has suffered a 60% reduction in stream length occupation. Efforts to promote western fanshell populations should focus on eliminating sources of pollution, preventing the spread of invasive bivalves, and prohibiting impoundments in streams with large populations of western fanshell and other mussels. Approximately 261.4 river miles in Arkansas and Missouri have been designated as Critical Habitat for this species, notably in the Black and St. Francis Rivers in Wayne County, MO. Neither Alternative will impact habitat availability for the western fanshell, or its hosts.

**Monarch Butterfly** (*Danaus plexippus*) is proposed threatened, and much of its life is spent migrating between Canada, Mexico, and the United States. Grasslands of central North America and areas vegetated by milkweed (*Asclepias syriaca* L.) comprise the majority of its summer breeding areas. During the breeding season monarchs require milkweed to rear larvae and nectar sources to sustain adults during reproduction. Nectar sources are also required by the butterflies to fuel fall migration and spring flights northward. Monarchs are sensitive to environmental variability and disturbances (e.g., storms, drought, etc.), which can cause large swings in population numbers year-to-year. Monarch populations of eastern North America have declined 90%, due primarily to deforestation, illegal logging, increased development, agricultural expansion, livestock raising, forest fires, and other threats to their migratory paths and summer and overwintering habitats. Chemical-intensive agriculture, increasing acreage converted to row crops, and mowing/herbicide treatment of roadsides have contributed to a decline of milkweed, the only plant eaten by monarch caterpillars and an obligate host plant for eggs. There may be milkweed habitat within the Action Area, however no herbicides or ground disturbing activities will occur under either alternative.

**Big Creek Crayfish** (*Faxonius peruncus*) is proposed threatened and occurs only in Iron, Madison, St. Francois, Washington, and Wayne counties in southeastern Missouri. The Big Creek crayfish is composed of two populations, including the main population in Big Creek and other streams on the west side of the watershed and the Twelvemile Creek sub watersheds on the east side. The species is moderately small, with brown coloration with black spots across its surface. The species is most abundant in smaller streams with widths less than 10 meters and in shallow depths less than 0.5 meters where it inhabits cavities excavated beneath rocks. It can also be found in riffles and shallow, silt-free ponds. The main conservation threats to Big Creek crayfish include resource competition with the invasive woodland crayfish, heavy metal contamination, and sedimentation. The entire range of the Big Creek crayfish is designated as critical habitat, which intersects with the Action Area. Conservation efforts focus on reintroduction to suitable streams, curtailing woodland crayfish invasions, and preventing adverse modifications to streams within their range. Neither Alternative will impact habitat availability for the Big Creek crayfish.

**St. Francis River Crayfish** (*Faxonius quadruncus*) is proposed threatened and endemic to the upper St. Francis River and its tributaries in Missouri. It is a medium-small crayfish with black spots along its surface and pincers trimmed in red. It cannot be visually distinguished from the Big Creek crayfish without close examination of the male reproductive organs. The St. Francis River crayfish typically occurs in clear, rocky

streams between the sizes of small headwater creeks to moderately large rivers. It occupies pools, backwaters, and run macrohabitats that are silt-free and have dense beds of water willow or boulders. It digs its burrow beneath boulders set in gravel substrates. The entire range of the St. Francis River crayfish has been designated as critical habitat, which intersects with the Action Area. Conservation threats to the St. Francis River crayfish include resource competition with the invasive woodland crayfish, heavy metal contamination, and sedimentation. Conservation efforts focus on reintroduction to suitable streams, curtailing woodland crayfish invasions, and preventing adverse modifications to streams within their range. Neither Alternative will impact habitat availability for the St. Francis River crayfish.

**Mead's milkweed** (*Asclepias meadii*) is found in vegetative communities that are adapted for drought and fire like upland tallgrass prairies and igneous glades in the Missouri Ozarks. In 1988, Mead's milkweed was listed as a threatened species under the U.S. Endangered Species Act and is now extirpated or rare across most of its range. Mead's Milkweed is a slow growing species with a low reproductive rate that can take up to 30 years to reach reproductive maturity. Little is understood about its pollination, due to low visitation by insects. Threats to Mead's Milkweed include habitat loss due to mowing, farming, and feral swine, and commercial development as well as pesticide application, disease, largescale pollinator decline and fire suppression. Mead's milkweed has not been documented in the Action Area, however no mowing, pesticide application, or construction will occur under either alternative, leaving any potential suitable habitat available.

### **3.11.1 Biological Evaluation Summary**

Suitable habitat may be located in forested, aquatic, and grassland areas within the project area for all federally listed species, however no environmental impacts are associated with either Alternative. Neither Alternative would involve any change in forested habitat or water quality, and the structural character of the area would not be changed. Water bodies will be maintained as-is to provide long-term foraging and drinking areas for threatened and endangered species, and neither Alternative would have direct or indirect effects on species documented or likely to occur in Wayne or Butler County, MO.

### **3.11.2 No Action Alternative**

No federally listed species or habitat within the project area would be impacted as a result of taking no action.

### **3.11.3 Action Alternative – ESA Determination**

The St. Louis District has determined that the Action Alternative would have “no effect” on the gray bat, Indiana bat, northern long-eared bat, Curtis pearlymussel, pink mucket, rabbitsfoot, snuffbox, western fanshell, Big Creek crayfish, St. Francis River crayfish, and Mead's milkweed; and the Action Alternative would not jeopardize the continued existence of tricolored bat, alligator snapping turtle, and monarch butterfly. These determinations were made because the existing condition would remain the same whether the No Action Alternative or Action Alternative is implemented. Concurrence with the US Fish and Wildlife Service is not required when the Proposed Action is determined to have no effect on federally listed or proposed species. If the proposed project changed, re-analysis of impacts on these species would be necessary.

### **3.12 BALD EAGLE**

#### **3.12.1 Existing Conditions**

Bald eagles (*Haliaeetus leucocephalus*) winter along the major rivers of Illinois and Missouri, and at scattered locations some remain throughout the year to breed. Perching and feeding occurs along the edge of open water, from which eagles obtain fish. The bald eagle was removed from the List of Endangered and Threatened Species in August 2007, but it continues to be protected under the Bald and Golden Eagle Protection Act and by the Migratory Bird Treaty Act. Recommendations to minimize potential project impacts to the bird and nests are provided by the USFWS in the agency's National Bald Eagle Management Guidelines publication (USFWS, 2010). The guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. Specifically, construction activity is prohibited within 660 feet of an active nest during the nesting season, which in the Midwest is generally from late January through late July. There are five known bald eagle nests in the project vicinity. The first nest is located 0.36 miles east of the Redman Creek Recreation Area. The second eagle nest is located 1.1 miles west of Redman Creek Recreation Area. The third eagles nest sits 1.3 miles east of the Chaonia Marina. The fourth nest lies 1.4 miles west of Greenville on the other side of highway 67. The fifth nest is located 0.33 miles SE of the 34 Bridge Recreation Area.

#### **3.12.2 No Action Alternative**

Suitable bald eagle habitat would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

#### **3.12.3 Action Alternative**

Suitable bald eagle habitat would remain consistent with the existing conditions. No adverse effects are anticipated within the Proposed Action Area.

### **3.13 RECREATION AND AESTHETICS**

#### **3.13.1 Existing Conditions**

The Corps developed recreational facilities in accordance with Section 4 of the Flood Control Act of 1944. Lands have been outgranted to MDNR for operation of Lake Wappapello State Park. MDC leases lands for fish and wildlife management and conservation. High-density recreation zones are comprised of 3,655 acres, while low-density recreation zones total 554 acres. Existing recreational development in the lake area consists of picnic areas and shelters, campgrounds, boat ramps, swimming beaches, trails, playgrounds, sporting courts, concessionaire services, and group recreational and education areas (Boy Scouts, Girl Scouts, and SEMO Youth Camps), as well as the utilities to support those facilities. Aesthetic resources are natural and human environments that are pleasing or pleasant for most people to look at and visually enjoy. Primary aesthetic resources contributing to the recreational value of the project area are Wappapello Lake and the surrounding forested habitat.

### 3.13.2 No Action Alternative

Recreation and aesthetics would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

### 3.13.3 Action Alternative

Recreation and aesthetics remain consistent with the existing conditions. No adverse effects are anticipated within the Proposed Action Area.

## 3.14 AIR QUALITY AND NOISE

### 3.14.1 Existing Conditions

The Clean Air Act of 1963 requires the USEPA to designate National Ambient Air Quality Standards (NAAQS). The USEPA has identified standards for six pollutants: lead, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, particulate matter (less than 10 microns and less than 2.5 microns in diameter), along with some heavy metals, nitrates, sulfates, volatile organic and toxic compounds (Table 3). The Missouri Department of Natural Resources maintains approximately 50 air monitors across the state to track concentrations of these six pollutants. The project lies in Butler and Wayne Counties; both counties are in attainment for all pollutant criteria (USEPA, 2025).

Table 3. Six pollutants and their standard criteria designated by the USEPA.

| Pollutant                               | Averaging time  | Criteria               | Form                                                                                         |
|-----------------------------------------|-----------------|------------------------|----------------------------------------------------------------------------------------------|
| Carbon monoxide                         | 8 hours         | 9 ppm                  | Not to be exceeded more than once per year                                                   |
|                                         | 1 hour          | 35 ppm                 |                                                                                              |
| Lead                                    | Rolling 3 month | 0.15 µg/m <sup>3</sup> | Not to be exceeded                                                                           |
| Nitrogen dioxide                        | 1 hour          | 100 ppb                | 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years<br>Annual Mean |
|                                         | 1 year          | 53 ppb                 |                                                                                              |
| Ozone                                   | 8 hours         | 0.070 ppm              | Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years              |
| Particle Pollution (PM <sub>2.5</sub> ) | 1 year          | 12.0 µg/m <sup>3</sup> | Annual mean, averaged over 3 years                                                           |
|                                         | 24 hours        | 35 µg/m <sup>3</sup>   | 98th percentile, averaged over 3 years                                                       |
| Sulfur dioxide                          | 1 hour          | 75 ppb                 | 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years                |

Multiple residential and recreational areas are located within the project vicinity. There are no major population centers near the project area. Residential and recreational areas typically have noise levels in the range of 30-70 decibels (dB) depending on their proximity to major transportation facilities. Noise associated with major transportation facilities such as highways and railroads would be greater than those in rural areas.

### **3.14.2 No Action Alternative**

Air quality and noise levels would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

### **3.14.3 Action Alternative**

Air quality and noise levels would remain consistent with the existing conditions. No adverse effects are anticipated within the Proposed Action Area.

## **3.15 HISTORIC AND CULTURAL RESOURCES**

### **3.15.1 Existing Conditions**

Cultural resources are locations of past human activity, occupation or use and typically include archaeological sites such as prehistoric lithic scatters, villages, procurement area, rock art, shell middens; and historic era sites such as refuse scatters, homesteads, railroads, ranches, logging camps, and any structures or buildings that are over 50 years old. Cultural resources also include Traditional Cultural Places (TCPs), which are historic properties that are significant to a living community because of its association with cultural beliefs, customs, and practices that are rooted in the community's history and are important to maintaining the community's cultural identity. The National Historic Preservation Act (NHPA) is the major piece of federal legislation that mandates that federal agencies consider how undertakings could affect significant cultural resources.

There are more than 400 known cultural properties at Wappapello Lake. Most of the sites at the Lake were identified during pre-impoundment surveys, but more recent cultural resource management activities continue to identify additional sites. As many as one-fifth of the site count total are comprised of historic sites, some dating back to the founding and settlement of Wayne County. The remainder are prehistoric sites that may date to 10,000 B.C. or even earlier. However, the majority of the prehistoric sites in the area are probably more recent and represent Lake Archaic (ca. 1,000 B.C.), Woodland (ca. 500 B.C. to A.D. 900), and Mississippian sites (ca. A.D. 900 to A.D. 1,500).

The U.S. Army Corps of Engineers, St. Louis District (District) contracted with New South Associates (W912P922F0321) for the survey of 696 acres, which included woodland, secondary growth and brush, pastures, and urban development on or across toe slopes and flood plains around Wappapello Lake and its tributaries. The entire survey area was on private property, and obtaining all Rights of Entry was not possible. Of the contracted 696 acres, only 310 acres has signed ROEs and could be surveyed.

The survey was conducted intermittently between 28 November 2022 and 31 May 2023, covering the areas of signed ROEs. Ten archaeological sites and 22 isolated finds were recorded. Sites 23WE255, 23WE2281–2282, and 23WE2288–2290 are recommended not eligible for listing on the National Register of Historic Places. Sites 23WE2283, 23WE2285–2287, and 23WE2072 extended beyond the Area of Potential Effect (APE) and could not be fully evaluated for the National Register of Historic Places (NRHP) eligibility. Site, 23WE2284, a single, historic burial, remains unevaluated for NRHP eligibility. Because such a high percentage of the project area could not be surveyed, the SHPO requested that a basic predictive model for the unsurveyed areas be generated based on the known inventory of archaeological sites within 1-mile of the APE. Through this modeling, it is predicted that 99% of the unsurveyed APE has

a projected site density of 0.01 or fewer sites per acre, meaning that 3 or 4 new archaeological sites could be recorded should these areas be surveyed. The probability that one of these sites is NRHP-eligible is about 1 in 7, so it is possible that none of those sites would be eligible for the NRHP. The contractor noted that the predictions derived from the model were estimations based on a limited and imperfect set of variables and do not replace archaeological survey should the opportunity arise.

The contractor's report recommended *No adverse effects* for the proposed flowage easements within the 310 acres surveyed was supported by USACE. The site probability model estimates a relatively low potential for archaeological sites within the unsurveyed 386 acres. The proposed project includes land leases without additional ground disturbances, therefore, the likelihood of this project having any effects on historic properties within the entire 696-acre APE is extremely low.

On 3 November 2023, USACE initiated coordination with the Missouri Department of Natural Resources (MDNR) State Historic Preservation Officer (SHPO) regarding the Wappapello Flowage Easement report. The District's opinion was that the project would have no adverse effect on historic properties.

On 8 December 2023, the MDNR SHPO responded that based on the survey findings and the scope of the work, the SHPO concurs with the USACE determination of No Adverse Effect on Historic Properties.

### **3.15.2 No Action Alternative**

Historic and cultural resources would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

### **3.15.3 Action Alternative**

Historic and cultural resources would remain consistent with the existing conditions. No adverse effects are anticipated for cultural resources within the Proposed Action Area.

## **3.16 TRIBAL RESOURCES**

### **3.16.1 Existing Conditions**

In addition to the consultation with Missouri State Historic Preservation Office (MO SHPO), consultation with Indian Tribal nations is required to ensure compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The USACE St. Louis District consults with 27 Tribal nations that have interests within the District's area of responsibility.

On 3 November 2023, 23 Tribal nations who have expressed interest in Wayne and Butler Counties, Missouri were contacted via letter in order to initiate consultation in accordance with Section 106 of the National Historic Preservation Act of 1964, as amended, for the proposed project. A copy of the Phase I archaeological survey, described in Section 3.11, was sent to four of the Tribal nations at their request.

Responses were received from six tribal nations (Appendix A). The Quapaw Nation (16 November 2023) requested further information about the anticipated erosion over the next decade and wanted to know the distance between three sites and five isolated finds. The District responded on 17 November 2023 with the requested information. The Quapaw Nation responded on 28 November 2023 and stated that



they concur with no historic properties will be affected with the avoidance of sites 22WE2284, 22WE2285, 22WE2286, and 22WE2287, The Caddo Nation of Oklahoma (7 November 2023), Forest County Potawatomi Community, Wisconsin (5 December), Delaware Nation, Oklahoma (21 December 2023), and Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians (8 January 2024) stated that they agreed with no historic properties will be affected, but wanted to be contacted if any archaeological or human remains were discovered during construction. The Citizen Potawatomi Nation, Oklahoma (3 November 2023) stated that Wayne and Butler Counties were outside of their areas of interest.

### **3.16.2 No Action Alternative**

Tribal resources would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

### **3.16.3 Action Alternative**

Tribal resources would remain consistent with the existing conditions. No adverse effects are anticipated within the Proposed Action Area.

## **3.17 HAZARDOUS, TOXIC, AND RADIOACTIVE MATERIALS**

### **3.17.1 Existing Conditions**

The HTRW Phase I ESA revealed no concerns with existing conditions.

USACE regulations (ER 1165-2-132 and ER 200-2-3), and St. Louis District policy, requires procedures be established to facilitate early identification and appropriate consideration of potential hazardous, toxic, or radioactive waste (HTRW) in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resource studies or projects by conducting HTRW Initial Hazard Assessments. USACE specifies that these assessments follow the process/standard practices for conducting Phase I Environmental Site Assessments (ESA) published by the American Society for Testing and Materials (ASTM). The objective of the Phase I is to identify, to the extent feasible pursuant to the process described, recognized environmental conditions (RECs) in connection with a given property(s).

A modified Phase I ESA was conducted in accordance with ASTM E 1527-21 in the form of an Environmental Condition of Property (ECP) memorandum for this project. This effort included site visits, interviews, and a review of available records. Only parcels with structures present were visited since those would have the greatest chance of containing RECs. The ECP memorandum dated March 1, 2024 revealed no evidence of RECs in connection with these parcels. The USACE does not and cannot represent that the parcels contain no HTRW material or oil products. If future development of the parcels indicates the presence of hazardous or toxic materials, USACE Environmental Quality should be notified.

### **3.17.2 No Action Alternative**

The HTRW Phase I ESA revealed no concerns with existing conditions. The status of HTRW would not be expected to change as a result of taking no action.

### **3.17.3 Action Alternative**

Given that the HTRW Phase I ESA revealed no concerns, the project associated with the Action Alternative is not expected to encounter any HTRW. No adverse effects would be expected as a result of the action alternative. If any HTRW is encountered during implementation of this project, the Environmental Quality Section of the St. Louis District USACE would be contacted.

## **3.18 DEMOGRAPHICS AND SOCIOECONOMICS**

### **3.18.1 Existing Conditions**

Wappapello Lake is primarily located in Wayne County, with a small portion of the dam and south region located in Butler County. Wayne County is predominantly rural; much of the county is composed of public lands owned and operated by USACE, USFWS, U.S. Forest Service (USFS), MDC or MDNR. Wayne County, with an area of 764 square miles, has a population density of 18 people per square mile. Butler County, 699 square miles, has a slightly larger density of 63 people per square mile. According to the Missouri Office of Administration, Division of Budget and Planning (2008), both Wayne and Butler Counties are expected to lose residents through 2030.

According to the US Census Bureau (2023), the median ages are 40.5 and 48.2 for Butler and Wayne Counties, respectively. The median household income in Wayne County is \$43,393 and \$49,213 in Butler County, which are less than the median household income in Missouri which is \$68,545. Approximately 25% of Wayne County's population fall under the poverty level, while the poverty rate is 20.3% in Butler County. Educational services, and health care and social assistance represents the largest industry in both Counties. Unemployment rates are 5.2% and 4.9% in Wayne and Butler Counties, respectively (US Bureau of Labor Statistics, 2025).

The US Department of Transportation (USDOT) recommends using the US Department of Health and Human Services (HHS) poverty guidelines when identifying low-income populations. The HHS poverty guidelines vary by family size and geographic location. The 2025 poverty level in the 48 contiguous states and the District of Columbia is \$15,650 for an individual and \$32,150 for a household of four (ASPE, 2025).

Less than 20% percent of the individuals living in the Census blocks containing the project area are considered part of a minority population (Table 3). The median household income is approximately \$45,000 within the Census Block Groups containing the project area, higher than the HHS 2025 poverty guidelines for a household of four.

Table 4. Ethnicity and Race of individuals within the Census Block that contains the project area compared to Wayne County, Butler County, and the state of Missouri according to the US Census Bureau, ACS 2020 1-Year Estimate.

| <b>Ethnicity and Race</b>              | <b>Wayne County</b> | <b>Butler County</b> | <b>Missouri</b> |
|----------------------------------------|---------------------|----------------------|-----------------|
| <b>Total Persons</b>                   | 10,974              | 42,130               | 6,154,913       |
| <b>White Population</b>                | 10,165              | 36,033               | 4,740,335       |
| <b>African American Population</b>     | 50                  | 2,488                | 699,840         |
| <b>American Indian Population</b>      | 72                  | 205                  | 30,518          |
| <b>Asian Population</b>                | 23                  | 304                  | 133,377         |
| <b>Native Hawaiian Population</b>      | 5                   | 16                   | 9,730           |
| <b>Hispanic Population (all races)</b> | 155                 | 901                  | 303,068         |
| <b>Two or More Races</b>               | 629                 | 2,732                | 413,171         |

### **3.18.2 No Action Alternative**

Demographics and socioeconomics would remain consistent with the existing conditions. No adverse effects would be expected as a result of taking no action.

### **3.18.3 Action Alternative**

Demographics and socioeconomics would remain consistent with the existing conditions. No adverse effects are anticipated for cultural resources within the Proposed Action Area.

## **4 CLIMATE**

The climate of the area is mild, with humid summers and variable winters. The average annual temperature is about 58.2° Fahrenheit (F). The first killing frost normally occurs in mid to late October and the last frost occurs mid to late April. The average temperature for January is 34.4°F and for July, it is 80.1°F. Normal annual rainfall in the St. Francis Basin in the Ozark uplands is about 49 inches per year. Normal monthly rainfall varies from about 3 to nearly 5 inches in the region, the heaviest occurring spring and late fall. Normal monthly rainfall in the southern portion of the Basin, which lies in the Mississippi River Valley, varies from about 2.8 to 6.0 inches, with the heaviest occurring during the months November through May. Average annual snowfall is about 8 to 12 inches in the reservoir area, diminishing to about 4 inches in the southern portion of the basin, with the heaviest in January and February. Snow rarely remains on the ground more than a few days at a time.

According to the US Department of Agriculture (USDA), a plant hardiness zone is the standard by which gardeners and growers can determine which plants are most likely to thrive at a certain location. Between 1990 and 2012 the plant hardiness zones shifted northward. In 1990, Zone 7a covered an area from just north of Pascola, MO southwest to Hornersville, MO and south to the Arkansas border. By 2012, Zone 7a had moved north to a line that roughly extends from Benton, MO to Myrtle, MO, over to the southern Bootheel. Zone 8a now covers the extreme southern end of the Bootheel. The south end of the lake is currently in Zone 7a. If the lateral migration of zones continues, the landscape and vegetation around

Wappapello Lake may gradually become more representative of those in more southern zones, potentially affecting economic and natural resources.

## 5 CUMULATIVE IMPACTS

This chapter identifies possible cumulative effects of the considered alternatives when combined with past trends and other ongoing or expected plans and projects. The discussion of cumulative impacts considers the effects on the resource that result from the incremental impact of the action being considered when added to other past, present, and reasonably foreseeable future actions regardless of what agency, Federal or non-Federal, or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taken place over a period of time (40 CFR §1508.7).

In order to identify present and reasonably foreseeable actions, information from resources managers and online resources were compiled. Criteria applied to determine reasonably foreseeable actions includes: 1) Actions on an agency's list of proposed actions; 2) Actions where scoping has started; 3) Actions already permitted; 4) Actions where budgets have been requested. Based on these criteria, the following actions were identified as being reasonably foreseeable and were included in this cumulative effects analysis:

- **U.S. Forest Service Mark Twain National Forest 2005 Land and Resource Management Plan & Final Environmental Impact Statement** – The Mark Twain National Forest manages 1.5 million acres of land, with the Poplar Bluff District encompassing the area around Wappapello Lake. The Land and Resource Management Plan, also known as the Forest Plan, guides all natural resource management activities on the Forest; addresses new information and concerns raised since the previous Plan was published; and meets objectives of federal laws, regulations, and policies. Based on the alternatives laid out in this plan, the Mark Twain National Forest intends to continue the sale of timber harvests, adaptively manage oak-hickory, shortleaf pine, and oak-pine communities, develop management strategies for restoring and maintaining natural forest ecosystems, use prescribed fire to restore ecosystems, emphasize protecting riparian areas, develop protections for water quality associated with karst features, and improve monitoring.
- **Wappapello Lake Timber Stand Improvement (TSI; 2011)** – An EA/FONSI signed in 2011 outlined the impacts of TSI at Wappapello Lake. TSI occurred in three forest compartments. The TSI work completed in Compartment 2, also known as Browns Hollow, was partially funded by the Missouri Department of Transportation as part of bat mitigation associated with the expansion of Highway 67 at the northern end of Wappapello Lake. The TSI was estimated to occur across 12,000 acres of forested habitats over approximately eight years.
- **Wappapello Highway D Road Relocation (2019)** – An EA/FONSI signed in 2020 discussed the impacts of relocating and raising a section of MO Highway D. Located to the east of Wappapello Lake, a 1.6-mile section of Highway D would be relocated and raised above an elevation of 405' to prevent it from flooding. The project requires approximately 13 acres of tree clearing, and therefore mitigation in the form of installed fence at the entrance of Slough Bottom Hollow Cave in Ozark

County, Missouri, to preserve vital bat habitat. The project requires placement of fill in wetlands, four improvements to existing stream crossing, and the clearing of four acres of bottomland hardwood forests. Wetland and stream mitigation credits are to be purchased from a wetland mitigation bank and Missouri in-lieu fee program.

- **Wappapello Lake Master Plan (2020)** – Numerous proposed actions have been included in the updated Master Plan, including land classification changes; assigning land classification to recently acquired land; adjusting acreages as a result of such changes and based on more accurate mapping capabilities; evaluating road raise and/or relocation plans; updating plates to reflect changes since the 2000 Master Plan was prepared; and a listing of future undertakings such as new construction and facility replacement. Actions within the Master Plan would improve recreation at designated areas around Wappapello Lake and define management actions for lands recently acquired by the Wappapello Lake Project.
- **Wappapello Lakeside Marina Expansion Project (2021)** – An EA/FONSI signed in 2022 outlined the impacts associated with expanding an access road and parking facilities at Lakeside Marina at Wappapello Lake, an action needed to prevent the obstruction of recreational opportunities and safety for visitors. This project includes the widening of the entrance road and curved entrance; resurfacing of the new road with concrete and adding gravel to the parking area; Approximately 1.4 acres of permanent and 0.7 acres of temporary tree clearing; replacing an existing waterline to maintain water access to the marina's tackle shop; dredging of marina cove to restore boating access to marina docks; and stabilizing Lake's bank within project area with stone revetment to reduce further erosion.
- **Wappapello Lake Forestry Management (2021)** – An EA/FONSI signed in 2023 describes the impacts of Forest Stand Improvement (FSI) implementation on 12 large forest compartments at Wappapello Lake. Activities include selective tree cutting treatments on 6,431 acres over a span of 20 years with the goal of restoring and maintaining forest diversity, health, and sustainability on Federal lands to provide native vegetation communities sufficient to support wildlife habitat, as well as to reduce impacts of invasive species on natural communities. Selective treatments include standalone and combinations of edge feathering, single tree selection, cut and spray timber stand improvement, and hazard tree removal.

The proposed Action Alternative would prohibit the construction of structures on individual tracts adjacent to Wappapello Lake. There will be no additional cumulative impacts from development into the potential flood inundation areas. A moratorium on new construction and elimination of existing structures at or below this elevation serves as a net benefit to natural resources as the action prevents future loss of habitat that could be realized with human development. The federal action does not encourage new development, commercial or residential. Based on the information available, the acquisition of flowage easement parcels is not expected to significantly adversely affect specific resources, ecosystems, and human communities on tracts adjacent to Wappapello Lake.

## 6 ENVIRONMENTAL COMPLIANCE

Notification of the Draft Environmental Assessment and unsigned Finding of No Significant Impact was sent to officials, agencies, organizations, and individuals for public review and comment. Additionally, an electronic copy was available during the public review period (13 Aug – 12 Sep 2025) on the USACE St. Louis District's website at:

<https://www.mvs.usace.army.mil/Missions/Regulatory/Public-Notices/Open-Notices/>

Please note that the Finding of No Significant Impact was unsigned in the draft version of the EA and will only be signed into effect after careful consideration of the comments received as a result of the public review. In addition, to ensure compliance with the National Environmental Policy Act, Endangered Species Act, and other applicable environmental laws and regulations, coordination with these agencies will continue, as required, throughout the execution of the project.

| Guidance                                                                                | Degree of Compliance |
|-----------------------------------------------------------------------------------------|----------------------|
| Archaeological and Historic Preservation Act, as Amended, 16 U.S.C. 469, et seq.        | FC                   |
| Bald and Golden Eagle Protection Act, 42 USC 4151-4157                                  | FC                   |
| Clean Air Act, as Amended, 42 U.S.C. 7401-7542                                          | FC                   |
| Clean Water Act, as Amended 33 U.S.C. 1251-1375                                         | FC                   |
| Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601-9675 | FC                   |
| Endangered Species Act, as Amended, 16 U.S.C. 1531-1543                                 | FC                   |
| Federal Water Project Recreation Act, as Amended. 16 U.S.C. 4601, et seq.               | FC                   |
| Fish and Wildlife Coordination Act, as Amended, 16 U.S.C. 661-666c                      | FC                   |
| Land and Water Conservation Fund Act, as Amended, 16 U.S.C. 4601, et seq.               | FC                   |
| National Environmental Policy Act, as Amended, 42 U.S.C. 4321- 4347                     | PC <sup>1</sup>      |
| National Historic Preservation Act, as Amended, 54 U.S.C 300101, et seq.                | FC                   |
| Noise Control Act, 42 USC 4901, et seq.                                                 | FC                   |
| Migratory Bird Treaty Act of 1918, 16 USC 703, et seq.                                  | FC                   |
| Resource Conservation and Recovery Act, 42 USC 6901-6987                                | FC                   |
| Floodplain Management, E.O. 11988 as amended by E.O. 12148                              | FC                   |
| Protection of Wetlands, E.O 11990 as amended by E.O. 12608                              | FC                   |
| Protection and Enhancement of the Cultural Environment, E.O. 11593                      | FC                   |
| Consultation and Coordination with Indian Tribal Governments, 06 Nov 2000, E.O. 13175   | FC                   |
| Protection of Migratory Birds (EO 13186)                                                | FC                   |

FC = Full Compliance, PC = Partial Compliance.

1. Full compliance will be attained upon signing of the NEPA decision document.

## **6.1 LIST OF PREPARERS**

- Emily Dietz, USACE Biologist
- Chris Hopfinger, USACE Regulatory Specialist
- Ben Greeling, USACE HTRW Specialist
- Amy Williams, USACE Cultural Specialist
- Meredith Trautt, USACE Tribal Specialist
- Diana Zahner, USACE Reality Specialist
- Eric Lemons, USACE Wappapello Lake Natural Resource Specialist

## 7 REFERENCES

- ACS (American Community Survey). 2019. U.S. Census Bureau 5-Year Estimate data for Wayne County, MO. <https://data.census.gov/>
- ASPE (Office of the Assistant Secretary for Planning and Evaluation). 2025. U.S. Federal Poverty Guidelines Used to Determine Financial Eligibility for Certain Programs. HHS Poverty Guidelines for 2024. <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>
- Census Bureau (U. S. Census Bureau). 2023. U.S. Census Bureau Data from 2023 [https://data.census.gov/profile/Butler\\_County,\\_Missouri?g=050XX00US29023](https://data.census.gov/profile/Butler_County,_Missouri?g=050XX00US29023)
- Census Bureau (U. S. Census Bureau). 2023. U.S. Census Bureau Data from 2023 [https://data.census.gov/profile/Wayne\\_County,\\_Missouri?g=050XX00US29223](https://data.census.gov/profile/Wayne_County,_Missouri?g=050XX00US29223)
- Hansen, J.P., Sundblad, G., Bergström, U. et al. 2019. Recreational boating degrades vegetation important for fish recruitment. *Ambio* 48, 539–551. <https://doi.org/10.1007/s13280-018-1088-x>
- Missouri Department of Natural Resources (MDNR). 2020. 2020 EPA Approved Section 303(d) Listed Waters. <https://dnr.mo.gov/document/2020-epa-approved-section-303d-listed-waters>
- USACE (U.S. Army Corps of Engineers). 1995. Wappapello Lake Road Relocation Project – Road Alterations/Relocation. Final Environmental Assessment and Finding of No Significant Impact. St. Louis District – Environmental Planning Branch. St. Louis, MO.
- USACE (U.S. Army Corps of Engineers). 2011. Wappapello Lake (Compartments 2, 6, and 8) Timber Stand Improvement Management Strategies. Final Environmental Assessment and Finding of No Significant Impact. St. Louis District – Environmental Compliance Branch. St. Louis, MO.
- USACE (U.S. Army Corps of Engineers). 2016. Water Control Manual Wappapello Lake Applicable to U.S. Army Corps of Engineers Missions – Lower Mississippi River Drainage Basin. USACE – St. Francis River Basin, MO
- USACE (U.S. Army Corps of Engineers). 2018. Wappapello Lake Water Quality Report. St. Louis District – Environmental Quality Section. St. Louis, MO.
- USACE (U.S. Army Corps of Engineers). 2020. Wappapello Lake Master Plan Update. <https://www.mvs.usace.army.mil/Missions/Recreation/Wappapello-Lake/Master-Plan-Wappapello-Lake/>
- USDA (U.S. Department of Agriculture). 2011. Web Soil Survey UMRR LTRM Soils Map. <https://websoilsurvey.nrcs.usda.gov/app/>



- USEPA (U.S. Environmental Protection Agency). 2021. The Green Book Nonattainment Areas for Criteria Pollutants. Available at <http://www.epa.gov/oar/oaqps/greenbk/index.html>
- USFS (U.S. Forest Service). 2005. Mark Twain National Forest Land and Resource Management Plan. Available at: <https://www.fs.usda.gov/r09/marktwain/planning>
- USFWS (U.S. Fish and Wildlife Service). 2007a. Species Profile: Bald Eagle (*Haliaeetus leucocephalus*). <http://ecos.fws.gov/speciesProfile/SpeciesReport.do?spcode=B008>
- USFWS (U.S. Fish and Wildlife Service). 2007b. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp. <http://www.mcrcc.osmre.gov/Bats/PDF/IN%20BAT%20DRAFT%20PLAN%20apr07.pdf>.
- USFWS (U.S. Fish and Wildlife Service). 2010. National Bald Eagle Management Guidelines. <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.
- USFWS (U.S. Fish and Wildlife Service). 2017. National Wetlands Inventory. Available at: <https://www.fws.gov/wetlands/index.html>.
- USFWS (U.S. Fish and Wildlife Service). 2019a. Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. <https://www.fws.gov/midwest/eagle/history/protectations.html>
- USFWS (U.S. Fish and Wildlife Service). 2019b. Indiana Bat (*Myotis sodalis*) Fact Sheet. <https://www.fws.gov/midwest/endangered/mammals/inba/index.html>

## FINDING OF NO SIGNIFICANT IMPACT

1. In accordance with the National Environmental Policy Act, I have reviewed and evaluated the documents relevant to the Wappapello Lake Flowage Easement Real Estate Design Memorandum. The Action Alternative would acquire 332 acres of flowage easements on 78 properties adjacent to Wappapello Lake boundaries.
2. As part of this evaluation, I have considered the following project alternatives:
  - a. No Action Alternative – Under this alternative, no federal action would take place. USACE would continue to control lake water levels according to the Wappapello Lake Water Control Manual.
  - b. Action Alternative (Recommended Plan) – USACE would acquire flowage easements on privately owned land experiencing intermittent inundation due to current water control practices. USACE would use a Real Estate Design Memorandum for the purchase of flowage easements up to elevation (EL) 405 ft. This would include 332 acres of land owned by 78 private entities within Wayne and Butler County, MO. USACE would continue to control lake water levels according to the Wappapello Lake Water Control Manual.
3. The possible consequences of the two alternatives have been studied for physical, environmental, cultural, and social effects. Significant factors evaluated as part of my review include:
  - a. Land use restrictions
  - b. No adverse impacts on physical or environmental resources
  - c. No adverse impact upon archaeological remains or historic properties
  - d. Demographics/Socioeconomics
4. Based on my analysis and evaluation of the alternative courses of action presented in the Environmental Assessment, I have determined that the implementation of the Action Alternative would not have significant effects on the quality of the environment. The proposed action has been coordinated with appropriate resource agencies and there are no significant unresolved issues. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

---

(Date)

---

Andy J. Pannier  
Colonel, U.S. Army  
District Commander

[Page Left Intentionally Blank]

# **Wappapello Lake Flowage Easement Real Estate Design Memorandum**

**Wayne and Butler County, Missouri**

**August 2025**



## [Appendix A: Environmental Compliance and Coordination](#)

**U.S. Army Corps of Engineers  
St. Louis District  
Regional Planning & Environmental Division North  
Environmental Compliance Section  
1222 Spruce Street**



**US Army Corps  
of Engineers®**

## **1 List of Recipients**

U.S. Fish and Wildlife, Missouri Ecological Field Services  
Missouri Department of Conservation  
Missouri Department of Natural Resources  
Absentee-Shawnee Tribe of Indians of Oklahoma  
Caddo Nation of Oklahoma  
Citizen Potawatomi Nation, Oklahoma  
Delaware Nation, Oklahoma  
Delaware Tribe of Indians  
Eastern Shawnee Tribe of Oklahoma  
Forest County Potawatomi Community, Wisconsin  
Hannahville Indian Community, Michigan  
Ho-Chunk Nation of Wisconsin  
Iowa Tribe of Oklahoma  
Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas  
Kickapoo Tribe of Oklahoma  
Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians  
Nottawaseppi Huron Band of Potawatomi, Michigan  
The Osage Nation  
Peoria Tribe of Indians of Oklahoma  
Prairie Band Potawatomi Nation  
Quapaw Nation  
Sac & Fox Nation of Missouri in Kansas and Nebraska  
Sac & Fox Tribe of the Mississippi in Iowa  
Shawnee Tribe  
United Keetoowah Band of Cherokee of Oklahoma



## Missouri Department of Conservation

Missouri Department of Conservation's Mission is to protect and manage the forest, fish, and wildlife resources of the state and to facilitate and provide opportunities for all citizens to use, enjoy and learn about these resources.

### **Natural Heritage Review Level Three Report: Species Listed Under the Federal Endangered Species Act**

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

**Foreword:** Thank you for accessing the Missouri Natural Heritage Review Website developed by the Missouri Department of Conservation with assistance from the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Missouri Department of Transportation and NatureServe. The purpose of this report is to provide information to federal, state and local agencies, organizations, municipalities, corporations, and consultants regarding sensitive fish, wildlife, plants, natural communities, and habitats to assist in planning, designing, and permitting stages of projects.

#### **PROJECT INFORMATION**

**Project Name and ID Number:** Wappapello Flowage Easements #16560

**Project Description:** The US Army Corps of Engineers is proposing to acquire flowage easements in Wayne and Butler Counties. Privately owned land parcels adjacent to Wappapello Lake project boundaries that were not subject to flooding under the initial authorization for the Lake project are now being intermittently inundated with flood water. In order to remain within congressional authorizations, the USACE must adequately compensate for private property that is intermittently inundated with flood water. No construction or tree removal will take place, as this is a real estate matter.

**Project Type:** Conservation Easement

**Contact Person:** Emily Dietz

**Contact Information:** emily.l.dietz@usace.army.mil or 6184470711

**Disclaimer:** This NATURAL HERITAGE REVIEW REPORT identifies if a species or natural community tracked by the Natural Heritage Program is known to occur within or near the project area submitted, and shares recommendations to avoid or minimize project impacts to sensitive species or natural habitats. Incorporating information from the Natural Heritage Program into project plans is an important step in reducing impacts to Missouri's sensitive natural resources. If an occurrence record is present, or the proposed project might affect federally listed species, the user must contact the Department of Conservation or U.S. Fish and Wildlife Service for more information.

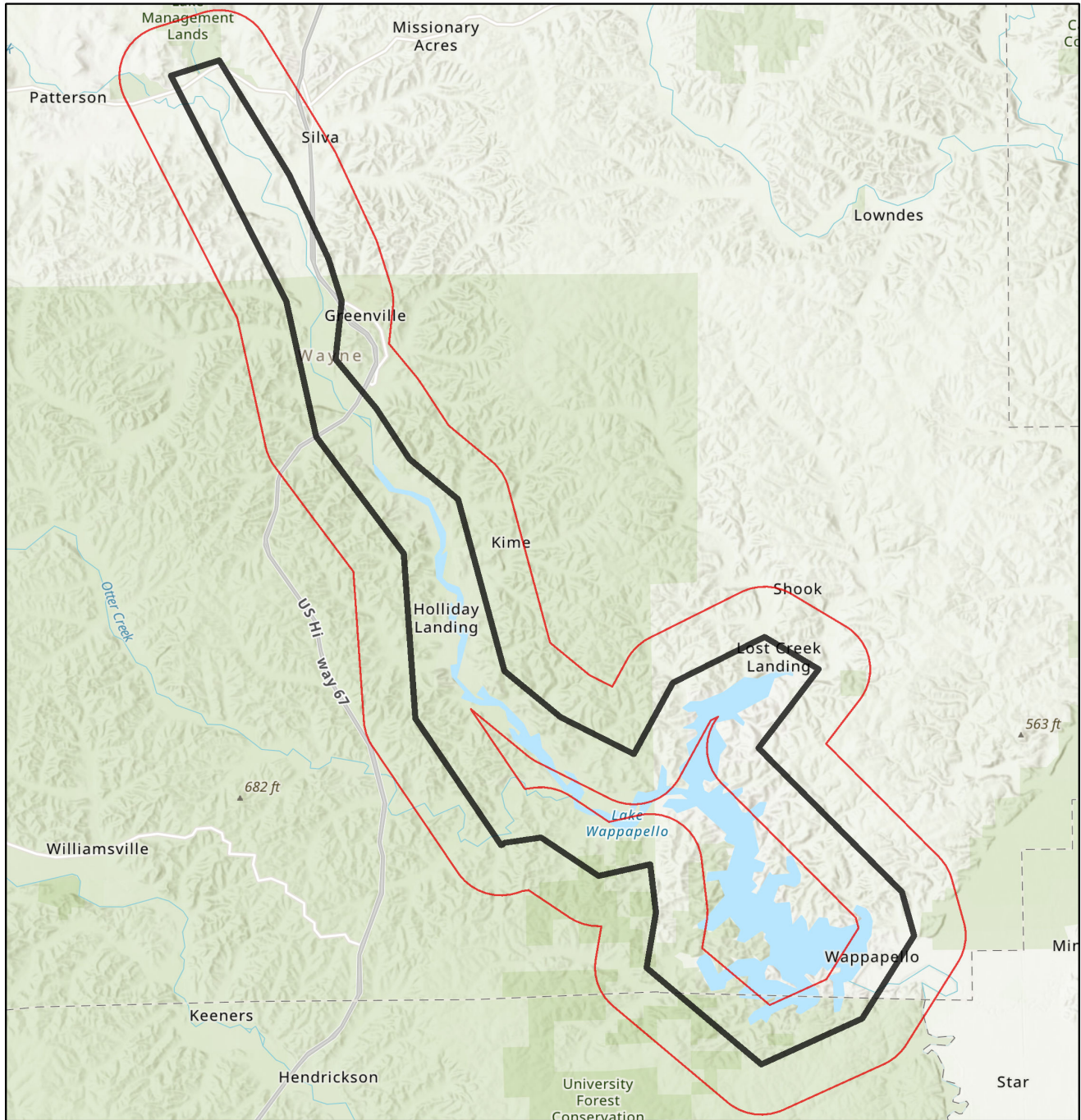
This Natural Heritage Review Report is not a site clearance letter for the project. Rather, it identifies public lands and records of sensitive resources located close to and/or potentially affected by the proposed project. If project plans or location change, this report may no longer be valid. Because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, reports include information about records near but not necessarily on the project site. Lack of an occurrence record does not mean that a sensitive species or natural community is not present on or near the project area. On-site verification is the responsibility of the project. However, the Natural Heritage Program is only one reference that should be used to evaluate potential adverse project impacts and additional information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Reviewing current landscape and habitat information, and species' biological characteristics would additionally ensure that Missouri Species of Conservation Concern are appropriately identified and addressed in planning efforts.

**U.S. Fish and Wildlife Service – Endangered Species Act (ESA) Coordination:** Lack of a Natural Heritage Program occurrence record for federally listed species in your project area does not mean the species is not present, as the area may never have been surveyed. Presence of a Natural Heritage Program occurrence record does not mean the project will result in negative impacts. This report does not fulfill Endangered Species Act consultation with the U.S. Fish and Wildlife Service (USFWS) for listed species. Direct contact with the USFWS may be necessary to complete consultation and it is required for actions with a federal connection, such as federal funding or a federal permit; direct contact is also required if ESA concurrence is necessary. Visit [IPaC: Home \(fws.gov\)](https://www.fws.gov/ipac) to initiate USFWS Information for Planning and Conservation (IPaC) consultation. Contact the Columbia Missouri Ecological Field Services Office (573-234-2132, or by mail at 101 Park Deville Drive, Suite A, Columbia, MO 65203) for more information.

**Transportation Projects:** If the project involves the use of Federal Highway Administration transportation funds, these recommendations may not fulfill all contract requirements. Please contact the Missouri Department of Transportation at 573-526-4778 or visit [Home Page | Missouri Department of Transportation \(modot.org\)](https://www.modot.org) for additional information on recommendations.



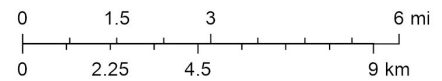
# Wappapello Flowage Easements



March 28, 2025

1:176,204

- Buffered Project Boundary
- Project Boundary



Esri, CGIAR, USGS, Missouri Dept. of Conservation, Missouri DNR, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS



## Species or Communities of Conservation Concern within the Area:

There are records of species listed under the Federal Endangered Species Act, and possibly also records for species listed Endangered by the state, or Missouri Species and/or Natural Communities of Conservation Concern within or near the defined Project Area. Please contact the U.S. Fish and Wildlife Service and the Missouri Department of Conservation for further coordination.

Email (preferred): [NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)  
MDC Natural Heritage Review  
Science Branch  
P.O. Box 180  
Jefferson City, MO  
65102-0180  
Phone: 573-522-4115 ext. 3182

U.S. Fish and Wildlife Service  
Ecological Service  
101 Park Deville Drive  
Suite A  
Columbia, MO  
65203-0007  
Phone: 573-234-2132

## Other Special Search Results:

The project occurs on or near public land, Graves Mountain CA, Lake Wappapello State Park, Lake Wappapello State Park - DNR, MARK TWAIN NF, MINGO NATIONAL WILDLIFE REFUGE, NOT USACOE LAND, USACE (Wappapello Lake, Choania Landing RA fishin\*, USACE (Wappapello Lake, Greenville RA fishing pla\*, USACE (Wappapello Lake, Spillway RA stairways), University Forest CA, WAPPAPELLO LAKE USACOE, Wappapello, Wappapello Lake ML, Yokum School CA, please contact MDC, DNR, COE, USFS, USFWS, MOARNG.

Your project is near a designated Natural Area . Please contact Missouri Department of Conservation ([NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)) for further coordination.

## Project Type Recommendations:

No recommendations have been identified for this project type.

## Project Location and/or Species Recommendations:

**Endangered Species Act Coordination - If this project has the potential to alter habitat (e.g. tree removal, projects in karst habitat) or cause direct mortality of bats, please coordinate directly with U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 Ext. 100 for Ecological Services) for further coordination under the Endangered Species Act. Indiana bats (*Myotis sodalis*, federal- and state-listed endangered) and Northern long-eared bats (*Myotis septentrionalis*, federal-listed threatened) may occur near the project area. Both of these species of bats hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in wooded areas, often riparian forests and upland forests near perennial streams. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor Indiana bats or Northern long-eared bats, especially from September to April.**

The project site submitted and evaluated is on or near Sensitive Aquatic Species Waters St. Francis River, an important stream for freshwater mussel and amphibian populations. These streams were so designated because they have highly diverse mussel communities and mussel and amphibian species identified as Species of Conservation Concern. These streams are important to maintaining, restoring, or avoiding future listing of Species of Conservation Concern. Impacts to these aquatic species and habitats can be reduced by avoiding or minimizing activities that disturb the stream substrate, including rock placement, dredging, trenching, and wetted gravel bar disturbance; and avoid introducing heavy sediment loads, chemical or organic pollutants. These streams also are included as a Missouri Nationwide Permit Regional Condition (Number 7) that must be considered if working under if working under a Clean Water Act Section 404 Permit issued by the U.S. Army Corps of Engineers (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermit...>). A list of all streams designated under this Condition is available at <http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/nationwidepermi...>.

**Bald Eagle:** The project location submitted and evaluated is within the geographic range of nesting Bald Eagles in Missouri. Bald Eagles (*Haliaeetus leucocephalus*) may nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. Adults begin nesting activity in late December and January and young birds leave the nest in late spring to early summer. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act. Work managers should be alert for nesting areas within 1500 meters of project activities, and follow federal guidelines at: [Do I need an eagle take permit? | U.S. Fish & Wildlife Service \(fws.gov\)](#) if eagle nests are seen.

**Gray Bat:** The submitted project location is within the range of the Gray Myotis (i.e., Gray Bat) in Missouri. Depending on habitat conditions of your project's location, Gray Myotis (*Myotis grisescens*, federal and state-listed endangered) could occur within the project area, as they forage over streams, rivers, lakes, and reservoirs. Avoid entry or disturbance of any cave inhabited by Gray Myotis and when possible retain forest vegetation along the stream and from the cave opening to the stream. Please see [Best Management Practices for Construction and Development Projects Gray bat \(mo.gov\)](#).

**Karst:** This county has known karst geologic features (e.g., caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in Natural Heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are Species of Conservation Concern) are influenced by changes to water quality; please check your project site for any karst features and make every effort to protect groundwater in the project area. Additional information and specific recommendations are available at [Management Recommendations for Construction and Development Projects Affecting Missouri Karst Habitat \(mo.gov\)](#).

The project site submitted and evaluated is on or near Fish Spawning Stream Reaches St. Francis River, one of 138 state-designated fish spawning stream segments. These stream reaches were so designated because they have highly diverse fish communities, fish Species of Conservation Concern present, and because they are important to maintaining, restoring, or avoiding future listing of Species of Conservation Concern. These stream reaches also are included as a Missouri Nationwide Permit Regional Condition (Number 2) that must be considered if working under a Clean Water Act Section 404 Permit issued by the U.S. Army Corps of Engineers (<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermit...>). A list of all stream reaches is available at <http://www.nwk.usace.army.mil/Portals/29/docs/regulatory/nationwidepermi...>. Activities that alter or destabilize stream bottoms or banks should be avoided during the important fish spawning period for that stream, in order to not disrupt fish spawning (i.e., laying and fertilizing fish eggs.) The sensitive spawning period for this stream is March 15th to June 15th. At all times, avoid habitat destruction or introducing heavy sediment loads, chemical or organic pollutants.

**Invasive exotic species** are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment. Please inspect and clean equipment thoroughly before moving between project sites. See [Managing Invasive Species in Your Community | Missouri Department of Conservation \(mo.gov\)](#) for more information.

- Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that have operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water (>140° F, typically available at do-it-yourself car wash sites), and dry in the hot sun before using again.

**Streams and Wetlands – Clean Water Act Permits:** Streams and wetlands in the project area should be protected from activities that degrade habitat conditions. For example, soil erosion, water pollution, placement of fill, dredging, in-stream activities, and riparian corridor removal, can modify or diminish aquatic habitats. Streams and wetlands may be protected under the Clean Water Act and require a permit for any activities that result in fill or other modifications to the site. Conditions provided within the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permit ([Kansas City District Regulatory Branch \(army.mil\)](#)) and the Missouri Department of Natural Resources (DNR) issued Clean Water Act Section 401 Water Quality Certification ([Section 401 Water Quality Certification | Missouri Department of Natural Resources \(mo.gov\)](#)), if required, should help minimize impacts to the aquatic organisms and aquatic habitat within the area. Depending on your project type, additional permits may be required by the Missouri Department of Natural Resources, such as permits for stormwater, wastewater treatment facilities, and confined animal feeding operations. Visit [Wastewater Permits | Missouri Department of Natural Resources \(mo.gov\)](#) for more information on DNR permits. Visit both the USACE and DNR for more information on Clean Water Act permitting.

**For further coordination with the Missouri Department of Conservation and the U.S. Fish and Wildlife Services, please see the contact information below:**

Email (preferred): [NaturalHeritageReview@mdc.mo.gov](mailto:NaturalHeritageReview@mdc.mo.gov)  
MDC Natural Heritage Review  
Science Branch  
P.O. Box 180  
Jefferson City, MO  
65102-0180  
Phone: 573-522-4115 ext. 3182

U.S. Fish and Wildlife Service  
Ecological Service  
101 Park Deville Drive  
Suite A  
Columbia, MO  
65203-0007  
Phone: 573-234-2132

### **Miscellaneous Information**

FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.

STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and that are protected under the Wildlife Code of Missouri (RSMo 3 CSR 10). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR 10-4.111. Species tracked by the Natural Heritage Program have a "State Rank" which is a numeric rank of relative rarity. Species tracked by this program and all native Missouri wildlife are protected under rule 3CSR 10-4.110 General Provisions of the Wildlife Code.

See [Missouri Species and Communities of Conservation Concern Checklist \(mo.gov\)](#) for a complete list of species and communities of conservation concern. Detailed information about the animals and some plants mentioned may be accessed at [Mofwis Search Results](#). Please contact the Missouri Department of Conservation to request printed copies of any materials linked in this document.



# Missouri Department of Conservation Natural Heritage Review Report

March 31, 2025

Science Branch  
P. O. Box 180  
Jefferson City, MO 65102  
Prepared by: Dillon Freiburger  
NaturalHeritageReview@mdc.mo.gov  
(573) 522 - 4115 ext. 3182

Emily Dietz  
USACE  
emily.l.dietz@usace.army.mil

|                 |                                   |                |   |
|-----------------|-----------------------------------|----------------|---|
| NHR ERT ID:     | 16560                             | NHR ERT Level: | 3 |
| Project type:   | Conservation Easement             |                |   |
| Location/Scope: | Wappapello Flowage Easements      |                |   |
| County:         | Wayne and Butler                  |                |   |
| Project Title:  | Lake Wappapello Flowage Easements |                |   |
| Query received: | 3/28/2025                         |                |   |

**This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and records of sensitive resources located close to and/or potentially affected by the proposed project. If project plans or location change, this report may no longer be valid.** Because land use conditions change and animals move, the existence of an occurrence record does not mean the species/habitat is still present. Therefore, reports include information about records near but not necessarily on the project site. Lack of an occurrence record does not mean that a sensitive species or natural community is not present on or near the project area. On-site verification is the responsibility of the project. These records serve as one reference and additional information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed to avoid or minimize impacts. More information is at [Natural Areas | Missouri Department of Conservation \(mo.gov\)](#) and [Missouri Fish and Wildlife Information System \(MOFWIS\)](#).

## Level 3: Records of federal-listed (also state-listed) species or critical habitats near the project site:

Natural Heritage records identify the St. Francis River within the impacted area:

- **St. Francis River:** The St. Francis River and its tributaries are home to many aquatic species of concern, including fish, mussels, and crayfish of state and/or federal status. Freshwater mussels are important indicators of water quality and stream degradation, with many in serious decline. These species must be assumed to be present in appropriate habitats in this part of the St. Francis River and some of its tributaries. Every effort should be made to avoid introducing pollution, sediment, or higher volumes of stormwater runoff from the project site, both during construction and after development.
  - Terrestrial projects that manage construction and include operation plans to avoid runoff of sediment or pollutants are unlikely to affect the aquatic species.
  - Regulations enforced by other agencies to protect water quality and human health are generally adequate to protect the needs of wildlife as well.
  - Projects that place fill in or discharge water to the river are subject to federal permits, and strict observance of conditions required in those permits is important to minimize risk of damage to endangered species.
  - See General Recommendations for additional information on ways to minimize impacts to aquatic resources.

FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. **Contact U.S. Fish & Wildlife Service** (101 Park Deville Drive Suite A, Columbia, Missouri 65203-0007; 573-234-2132) for Endangered Species Act coordination and concurrence information).

## Level 2: Records of state-listed (not federal-listed) endangered species AND / OR state-ranked (not state-listed endangered) species and natural communities of conservation concern. The Department tracks these species and natural communities due to population declines and/or apparent vulnerability.

Natural Heritage records indicate the following state-ranked species near the impacted area:



| Scientific Name                | Common Name        | State Rank | Proximity (miles) | Primary Habitat                                              |
|--------------------------------|--------------------|------------|-------------------|--------------------------------------------------------------|
| <i>Limnothlypis swainsonii</i> | Swainson's Warbler | S2         | <1                | Forest bottomland                                            |
| <i>Rorippa aquatica</i>        | Lake Cress         | S2         | <1                | Aquatic matrix, Moist edge/mudflat                           |
| <i>Mecardonia acuminata</i>    | Water Hyssop       | S1         | <1                | Shallow oxbow/slough, Moist edge/mudflat, Wet prairie/meadow |

### **State Rank Definitions:**

- S1: Critically imperiled in the state because of extreme rarity of or because of some factor(s) making it especially vulnerable to extirpation from the state. Typically, 5 or fewer occurrences or very few remaining individuals (<1,000).
- S2: Imperiled in the state because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state (6 to 20 occurrences or few remaining individuals).
- S3: Vulnerable in the state either because rare and uncommon, or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
- S4: Uncommon but not rare, and usually widespread in the nation or state. Possible cause of long-term concern. Usually more than 100 occurrences and more than 10,000 individuals.
- S#S#: Range Rank: A numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty about the exact status.
- ?: Denotes inexact or uncertain numeric rank.
- SU: Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

There are no regulatory requirements associated with this status, however we encourage voluntary stewardship to minimize the risk of further decline that could lead to listing.

STATE ENDANGERED species are protected under the Wildlife Code of Missouri (3CSR10-4.111).

See the [Missouri Species And Communities Of Conservation Concern Checklist \(mo.gov\)](#) for a complete list.

### **General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific Natural Heritage records):**

- **Natural Disasters - Floodplain Buyout:** This project should be managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any Clean Water Act permit conditions. Project design should include stormwater management elements that assure storm discharge rates to streams for heavy rain events will not increase from present levels. Revegetate disturbed areas to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Annual ryegrass may be combined with native perennials for quicker green-up. Avoid aggressive exotic perennials such as crown vetch and sericea lespedeza. Please see [Best Management Practices for Construction and Development Projects Affecting Missouri Rivers and Streams \(mo.gov\)](#).
- **Indiana Bats, Northern Long-eared Bats, and Tri-colored Bats** occur in Wayne County and could occur in the project area. These species have been significantly impacted by White-nose syndrome. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Do not enter caves known to harbor these species, especially from September to April. **If any trees need to be removed by your project,**

**please contact the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132 Ext. 100) for further coordination under the Endangered Species Act.**

- Indiana Bats (*Myotis sodalis*, federal and state-listed endangered) and Northern Long-eared Bats (*Myotis septentrionalis*, federal-listed endangered) hibernate during winter months in caves and mines. During the summer months, they roost and raise young under the bark of trees in riparian forests and upland forests near perennial streams.
  - Tri-colored bats (*Perimyotis subflavus*, federally proposed endangered) hibernate in winter in the most humid and warm parts of caves and mines. In summer, they roost in trees, bridges, culverts, in crannies about cliffs or buildings, in barns, or sometimes in high domes of caves.
- **Gray Bats:** Gray Bats (*Myotis grisescens*, federal and state-listed endangered) occur in Wayne County and could occur in the project area, as they forage over streams, rivers, and reservoirs. Avoid entry or disturbance of any cave inhabited by gray bats and when possible retain forest vegetation along the stream and from the gray bat cave opening to the stream. Please see [Best Management Practices for Construction and Development Projects Gray bat \(mo.gov\)](#).
- **Bald Eagles:** Bald Eagles (*Haliaeetus leucocephalus*) nest near streams or water bodies in the project area. Nests are large and fairly easy to identify. While no longer listed as endangered, eagles continue to be protected by the federal government under the Bald and Golden Eagle Protection Act. Work managers should be alert for nesting areas within 1500 meters of project activities, and follow federal guidelines at: [Do I need an eagle take permit? | U.S. Fish & Wildlife Service \(fws.gov\)](#) if eagle nests are seen.
- **Karst:** Wayne County has known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in Natural Heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are species of conservation concern) are influenced by changes to water quality, so maintaining a buffer zone of at least 100 feet on all sides of any karst features within the project area will mitigate impacts to these species. Please see [Management Recommendations for Construction and Development Projects Affecting Missouri Karst Habitat \(mo.gov\)](#)
- Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, larvae, and aquatic plant material may be moved to new sites on boats or construction equipment, so inspect and clean equipment thoroughly before moving between project sites.
- Remove any mud, soil, trash, plants (or plant material) or animals from equipment before leaving any water body or work area.
- Drain water from boats and machinery that has operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
- When possible, wash and rinse equipment thoroughly with hard spray or HOT water ( $\geq 140^{\circ}$  F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones project managers might prudently consider based on a general understanding of species needs and landscape conditions. Natural Heritage records largely reflect sites visited by specialists in the last 30 years. Many privately owned tracts have not been surveyed and could host remnants of species once but no longer common.

[Page Left Intentionally Blank]





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Missouri Ecological Services Field Office  
101 Park Deville Drive  
Suite A  
Columbia, MO 65203-0057  
Phone: (573) 234-2132 Fax: (573) 234-2181



In Reply Refer To:

03/28/2025 13:02:57 UTC

Project Code: 2025-0009725

Project Name: Lake Wappapello Flowage Easement

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.*).

### Threatened and Endangered Species

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 may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from 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. **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.** 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.

### Consultation Technical Assistance

Refer to the Midwest Region [S7 Technical Assistance](#) website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects:

projects in developed areas, HUD, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

### Federally Listed Bat Species

Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

*Gray bats* - Gray bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. If your project will impact caves, mines, associated riparian areas, or will involve tree removal around these features – particularly within stream corridors, riparian areas, or associated upland woodlots –gray bats could be affected.

*Indiana and northern long-eared bats* - These species hibernate in caves or mines only during the winter. In Missouri the hibernation season is considered to be November 1 to March 31. During the active season in Missouri (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for Indiana bats and northern long-eared bats 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. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 5$  inches diameter at breast height (dbh) for Indiana bat, and  $\geq 3$  inches dbh for northern long-eared bat, that have exfoliating bark, cracks, crevices, and/or hollows), 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. Tree species often include, but are not limited to, shellbark or shagbark hickory, white oak, cottonwood, and maple. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas;
- Trees found in highly-developed urban areas (e.g., street trees, downtown areas);
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees; and
- A stand of eastern red cedar shrubby vegetation with no potential roost trees.

### Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see #3 below) – then project proponents can conclude the proposed activities **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) through the Species website.
3. If IPaC returns a result that one or more federally listed bat species (Indiana bat, northern long-eared bat, or gray bat) are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** these bat species **IF** one or more of the following activities are proposed:
  - a. Clearing or disturbing suitable roosting habitat, as defined above, at any time of year;
  - b. Any activity in or near the entrance to a cave or mine;
  - c. Mining, deep excavation, or underground work within 0.25 miles of a cave or mine;
  - d. Construction of one or more wind turbines; or
  - e. Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on listed bat species. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

If any of the above activities are proposed in areas where one or more bat species may be present, project proponents can conclude the proposed activities **may affect** one or more bat species. We recommend coordinating with the Service as early as possible during project planning. If your project will involve removal of over 5 acres of suitable forest or woodland habitat, we recommend you complete a Summer Habitat Assessment prior to contacting our office to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the [Range-wide Indiana Bat Summer Survey Guidelines](#).

### Other Trust Resources and Activities

*Bald and Golden Eagles* - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

*Migratory Birds* - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA

to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

*Communication Towers* - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

*Transmission Lines* - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

*Wind Energy* - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

### Next Steps

Should you determine that project activities **may affect** any federally listed species or trust resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

John Weber

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:

**Missouri Ecological Services Field Office**

101 Park Deville Drive

Suite A

Columbia, MO 65203-0057

(573) 234-2132

## PROJECT SUMMARY

Project Code: 2025-0009725

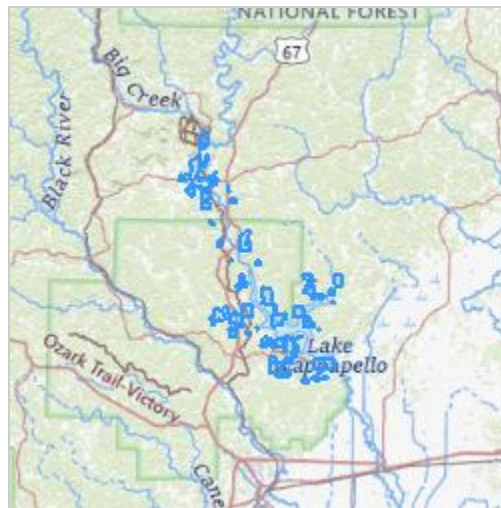
Project Name: Lake Wappapello Flowage Easement

Project Type: Easement / Right-of-Way

Project Description: USACE is acquiring easements for use during high water levels. No construction or tree removal will take place.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.99909425,-90.45581383098414,14z>



Counties: Butler and Wayne counties, Missouri

## ENDANGERED SPECIES ACT SPECIES

There is a total of 14 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 Fisheries<sup>1</sup>, 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><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>                                                                                                                                                                                                                                                                                                          | Endangered             |
| Indiana Bat <i>Myotis sodalis</i><br>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a><br>General project design guidelines:<br><a href="https://ipac.ecosphere.fws.gov/project/FW4DXCHMAJE3LLGBT23QKVDOAY/documents/generated/7280.pdf">https://ipac.ecosphere.fws.gov/project/FW4DXCHMAJE3LLGBT23QKVDOAY/documents/generated/7280.pdf</a> | Endangered             |
| Northern Long-eared Bat <i>Myotis septentrionalis</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a><br>General project design guidelines:<br><a href="https://ipac.ecosphere.fws.gov/project/FW4DXCHMAJE3LLGBT23QKVDOAY/documents/generated/7280.pdf">https://ipac.ecosphere.fws.gov/project/FW4DXCHMAJE3LLGBT23QKVDOAY/documents/generated/7280.pdf</a>                                 | Endangered             |
| Tricolored Bat <i>Perimyotis subflavus</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>                                                                                                                                                                                                                                                                                               | Proposed<br>Endangered |

## REPTILES

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

## CLAMS

| NAME                                                                                                                                                                                                                                                                     | STATUS     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Curtis Pearlymussel <i>Epioblasma curtisii</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/5628">https://ecos.fws.gov/ecp/species/5628</a>                                                | Endangered |
| Pink Mucket (pearlymussel) <i>Lampsilis abrupta</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/7829">https://ecos.fws.gov/ecp/species/7829</a>                                           | Endangered |
| Rabbitsfoot <i>Quadrula cylindrica cylindrica</i><br>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/5165">https://ecos.fws.gov/ecp/species/5165</a> | Threatened |
| Snuffbox Mussel <i>Epioblasma triquetra</i><br>There is <b>proposed</b> critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/4135">https://ecos.fws.gov/ecp/species/4135</a>    | Endangered |



| NAME                                                                                                                                                                                                                                                             | STATUS     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Western Fanshell <i>Cyprogenia aberti</i><br>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6895">https://ecos.fws.gov/ecp/species/6895</a> | Threatened |

## INSECTS

| NAME                                                                                                                                                                                                                                                                        | STATUS                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Monarch Butterfly <i>Danaus plexippus</i><br>There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a> | Proposed<br>Threatened |

## CRUSTACEANS

| NAME                                                                                                                                                                                                                                                                           | STATUS     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Big Creek Crayfish <i>Faxonius peruncus</i><br>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/10759">https://ecos.fws.gov/ecp/species/10759</a>           | Threatened |
| St. Francis River Crayfish <i>Faxonius quadruncus</i><br>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/10761">https://ecos.fws.gov/ecp/species/10761</a> | Threatened |

## FLOWERING PLANTS

| NAME                                                                                                                                                                                                               | STATUS     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Mead's Milkweed <i>Asclepias meadii</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/8204">https://ecos.fws.gov/ecp/species/8204</a> | Threatened |

## CRITICAL HABITATS

There are 5 critical habitats wholly or partially within your project area under this office's jurisdiction.

| NAME                                                                                                                                                                 | STATUS   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Big Creek Crayfish <i>Faxonius peruncus</i><br><a href="https://ecos.fws.gov/ecp/species/10759#crithab">https://ecos.fws.gov/ecp/species/10759#crithab</a>           | Final    |
| Rabbitsfoot <i>Quadrula cylindrica cylindrica</i><br><a href="https://ecos.fws.gov/ecp/species/5165#crithab">https://ecos.fws.gov/ecp/species/5165#crithab</a>       | Final    |
| Snuffbox Mussel <i>Epioblasma triquetra</i><br><a href="https://ecos.fws.gov/ecp/species/4135#crithab">https://ecos.fws.gov/ecp/species/4135#crithab</a>             | Proposed |
| St. Francis River Crayfish <i>Faxonius quadruncus</i><br><a href="https://ecos.fws.gov/ecp/species/10761#crithab">https://ecos.fws.gov/ecp/species/10761#crithab</a> | Final    |
| Western Fanshell <i>Cyprogenia aberti</i>                                                                                                                            | Final    |

| NAME                                                                                                      | STATUS |
|-----------------------------------------------------------------------------------------------------------|--------|
| <a href="https://ecos.fws.gov/ecp/species/6895#crithab">https://ecos.fws.gov/ecp/species/6895#crithab</a> |        |

## **IPAC USER CONTACT INFORMATION**

Agency: Army Corps of Engineers  
Name: Emily Dietz  
Address: 1222 Spruce St  
City: St. Louis  
State: MO  
Zip: 63103  
Email: emily.l.dietz@usace.army.mil  
Phone: 3143315040

[Page Left Intentionally Blank]



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

Michael L. Parson  
Governor

Dru Buntin  
Director

December 8, 2023

MSU, Bernice S. Warren Center for Archaeological Research  
Attn: Kevin Cupka Head  
901 South National Avenue  
Springfield, MO 65897

Re: **SHPO Project Number: 003-MLT-24** – Flowage Easements at Wappapello Lake, Wayne  
and Butler Counties, Missouri (USACE)

Dear Kevin Cupka Head:

Thank you for submitting information to the State Historic Preservation Office (SHPO) regarding the above-referenced project for review pursuant to Section 106 of the National Historic Preservation Act, P.L. 89-665, as amended (NHPA), and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which require identification and evaluation of historic properties.

We have reviewed the information regarding the above-referenced project and have included our comments on the following page(s). Please retain this documentation as evidence of consultation with the Missouri SHPO under Section 106 of the NHPA. SHPO concurrence does not complete the Section 106 process as federal agencies will need to conduct consultation with all interested parties. **Please be advised that, if the current project area or scope of work changes, such as a borrow area being added, or cultural materials are encountered during construction, appropriate information must be provided to this office for further review and comment.**

If you have questions please contact the SHPO at (573) 751-7858 or call/email Amy Rubingh, (573) 751-4589, [amy.rubingh@dnr.mo.gov](mailto:amy.rubingh@dnr.mo.gov). If additional information is required please submit the information via email to [MOSection106@dnr.mo.gov](mailto:MOSection106@dnr.mo.gov).

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

Toni M. Prawl, PhD  
Director and Deputy  
State Historic Preservation Officer

CC: Amy Williams, USACE  
Mark Smith, USACE



SHPO Project Number: **003-MLT-24** – Flowage Easements at Wappapello Lake, Wayne and Butler Counties, Missouri (USACE)

---

COMMENTS:

SHPO received an adequate cultural resource survey for this project titled, *Cultural Resources Survey of Proposed Flowage Easements at Wappapello Lake, Wayne and Butler Counties, Missouri. Research Report No. 1799* by Missouri State University. Based on the information provided, the project contains the Sam A Baker State Park Historic District, which is listed in the National Register of Historic Places (NRHP). Based on the information provided, we concur with the determination that sites 23WE2281, 23WE2282, 23WE2288, 23WE2289, and 23WE2290 should be considered not eligible for listing in the NRHP. Four sites 23WE2283, 23WE2285, 23WE2286, and 23WE2287 remain unevaluated for the NRHP. Site 23WE2284 also remains unevaluated for the NRHP but since this site a marked burial, it is subject to the State Cemetery Law 214. Therefore, SHPO concurs with the determination that the proposed scope of work, the extension of flowage easements, will have **no adverse effect** on historic properties.



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT**  
**1222 SPRUCE STREET**  
**ST. LOUIS, MISSOURI 63103**

November 3, 2023

Engineering and Construction Division  
Curation and Archives Analysis Branch

**Subject:** Flowage Easement, Lake Wappapello, Butler and Wayne Counties, Missouri

Governor John Raymond Johnson c/o Representative Alicia Miller  
Absentee-Shawnee Tribe of Indians of Oklahoma  
2025 S. Gordon Cooper Drive  
Shawnee, OK 74801

Dear Governor Johnson:

The U.S. Army Corps of Engineers, St. Louis District, and Lake Wappapello (USACE) are proposing flowage easements around the Lake Wappapello watershed in Butler and Wayne Counties, Missouri. USACE is contacting your Tribe to initiate consultation for the proposed undertaking under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations 36 CFR 800.

Lake Wappapello was originally constructed to control flooding of the St. Francois River. Several privately owned land parcels near the lake that were not subject to flooding during the initial authorization for the lake are now being intermittently inundated. Flooding is happening for various reasons including changes to the water control plan for reservoir operations, surrounding land use changes, and the natural input of organic matter and sediment to the lake system. USACE is proposing to acquire flowage easements on 696 acres of discontinuous privately owned land adjacent to Lake Wappapello that is intermittently flooding (Figures 1-15). Land subject to these easements will remain the property of the current landowner, and no construction or other ground disturbance is being proposed. USACE has determined that flowage easements constituted an undertaking subject to Section 106 of NHPA.

USACE contracted New South and Associates, who subcontracted the Center for Archaeological Research (CAR), to conduct a cultural resource survey of the proposed flowage easement areas. Rights of entry were obtained to 75 tracts, which was 310 acres (44.5%) of the area of potential effects (APE). Due to the lack of ground disturbing activity, Missouri State Historic Preservation Office (SHPO) agreed that an estimate for the potential of archaeological sites would suffice for the 204 tracts (386 acres, 55.5% of APE) where the rights of entry could not be obtained.

CAR conducted the cultural resource survey between November 21, 2022, and June 1, 2023. It consisted of a pedestrian survey and subsurface testing. Systematic subsurface testing at 15-meter intervals was conducted in areas that had poor ground surface visibility (GSV), 0-30% GSV, and slopes less than 20%. Shovel tests were reduced to 5-meter intervals around positive shovel tests, surface artifacts, and features to delineate site boundaries. If artifacts, ruins, or architectural features were identified outside of the APE, they were documented and included within site boundaries, but subsurface testing was not employed outside of the APE.



The survey revisited sites 23WE255 and 23WE2072 and identified ten new sties (23WE2281-23WE2290), two architectural resources (AR) over 50 years of age (AR-1 and AR-2), and 24 isolated finds. None of the isolated finds were determined eligible to the National Register of Historic Places (NRHP). CAR's recommendations of the archaeological sites and architectural resources are outlined in Table 1.

Six of the sites (23WE2072, 23WE2283, 23WE2284, 23WE2285, 23WE2286, and 23WE2287) were unevaluated for NRHP eligibility. Five of the sites (23WE2072, 23WE2283, and 23WE2285–23WE2287) were not evaluated because the site boundaries extended outside of the APE. It was recommended that these sites be treated as eligible pending a survey of the complete site or Phase II testing; however, it was noted for all five of the sites that the portions within the APE most likely did not contribute to the sites' NRHP status. Site 23WE2284 was a historic headstone with a tree that grew around it and a nearby depression. The tree obscured the name on the headstone; therefore, CAR did not evaluate the site for NRHP eligibility because further information on the interred was not available.

Table 1: Archaeological Sites and Architectural Resources Identified

| Site Number | Component                                  | Site Type          | NRHP Recommendation         | Comments                                        |
|-------------|--------------------------------------------|--------------------|-----------------------------|-------------------------------------------------|
| 23WE255     | Non-cultural                               | Prairie Mounds     | Not Eligible                | Natural feature of area                         |
| 23WE2072    | Multi-Component                            | Habitation/Scatter | Unevaluated                 | Site extended outside APE                       |
| 23WE2281    | 19 <sup>th</sup> /20 <sup>th</sup> Century | Habitation/Scatter | Not Eligible                |                                                 |
| 23WE2282    | 19 <sup>th</sup> /20 <sup>th</sup> Century | Habitation/Scatter | Not Eligible                |                                                 |
| 23WE2283    | 19 <sup>th</sup> /20 <sup>th</sup> Century | Habitation/Scatter | Unevaluated                 | Site extended outside of APE                    |
| 23WE2284    | 19 <sup>th</sup> /20 <sup>th</sup> Century | Grave              | Unevaluated                 |                                                 |
| 23WE2285    | Precontact                                 | Lithic Scatter     | Unevaluated                 | Site extended outside of APE, treat as eligible |
| 23WE2286    | Precontact                                 | Lithic Scatter     | Unevaluated                 | Site extended outside of APE, treat as eligible |
| 23WE2287    | Middle Woodland                            | Lithic Scatter     | Unevaluated                 | Site extended outside of APE, treat as eligible |
| 23WE2288    | 20 <sup>th</sup> Century                   | Historic Scatter   | Not Eligible                |                                                 |
| 23WE2289    | 19 <sup>th</sup> /20 <sup>th</sup> Century | Historic Scatter   | Not Eligible                |                                                 |
| 23WE2290    | 20 <sup>th</sup> Century                   | Historic Scatter   | Not Eligible                |                                                 |
| AR-1        | 20 <sup>th</sup> Century                   | Habitation         | Not Eligible                |                                                 |
| AR-2        | 20 <sup>th</sup> Century                   | Footbridge         | Contributing to NR District | Sam A. Baker State Park Historic District       |



CAR constructed a model to determine the probability of archaeological sites within the areas of the APE that were not surveyed. Utilizing sites within one mile and at similar elevations of the APE, the predictive model determined that if the remaining 386 acres were to be surveyed then it would be expected to find an additional three to four sites. Of these sites, less than 15% would be eligible to the NRHP. Predictions derived from the model are estimations and cannot substitute an archaeological survey.

CAR determined that because the proposed undertaking is land easements with no ground disturbance, it would have no adverse effects on historic properties in the 696-acre APE. Project clearance was recommended. USACE has reviewed CAR's report and concurs with its findings. USACE has determined that the proposed undertaking will have no adverse effects on historic properties.

If your Tribe has any questions, comments, or areas of concern please contact me at (314) 331-8855 or contact Meredith Hawkins Trautt (Tribal Liaison) at (314) 925-5031 or email [Meredith.M.Trautt@usace.army.mil](mailto:Meredith.M.Trautt@usace.army.mil). A copy of this letter has been furnished to Ms. Carol Butler and Ms. Devon Frazier Smith.

Sincerely,

A handwritten signature in black ink, appearing to read 'JL Riordan', with a stylized flourish at the end.

Jennifer L. Riordan  
Chief, Curation and Archives  
Analysis Branch







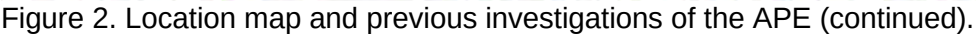


Figure 2. Location map and previous investigations of the APE (continued).











Figure 5. Location map and previous investigations of the APE (continued).



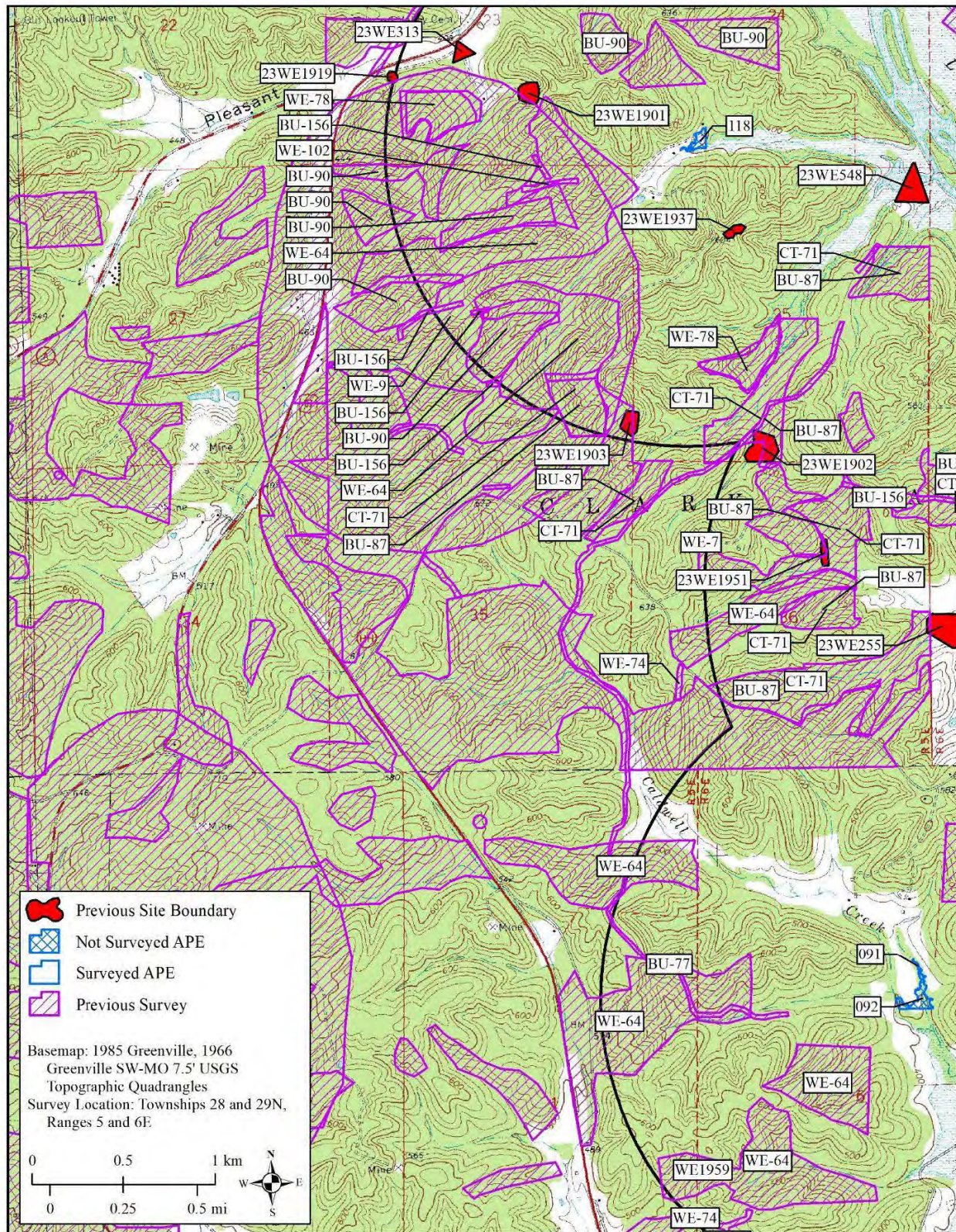


Figure 6. Location map and previous investigations of APE (continued).



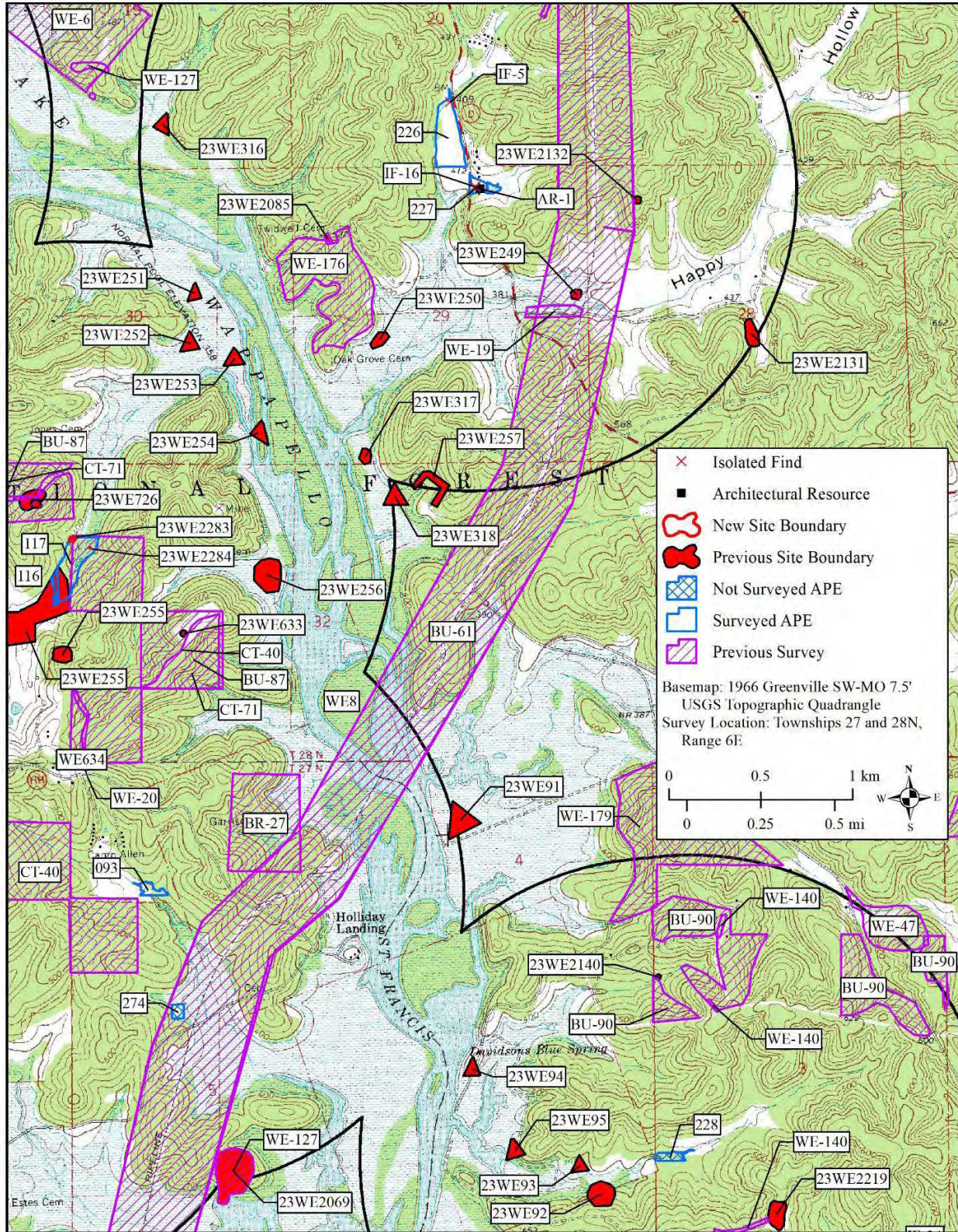


Figure 7. Location map and previous investigations and APE (continued).



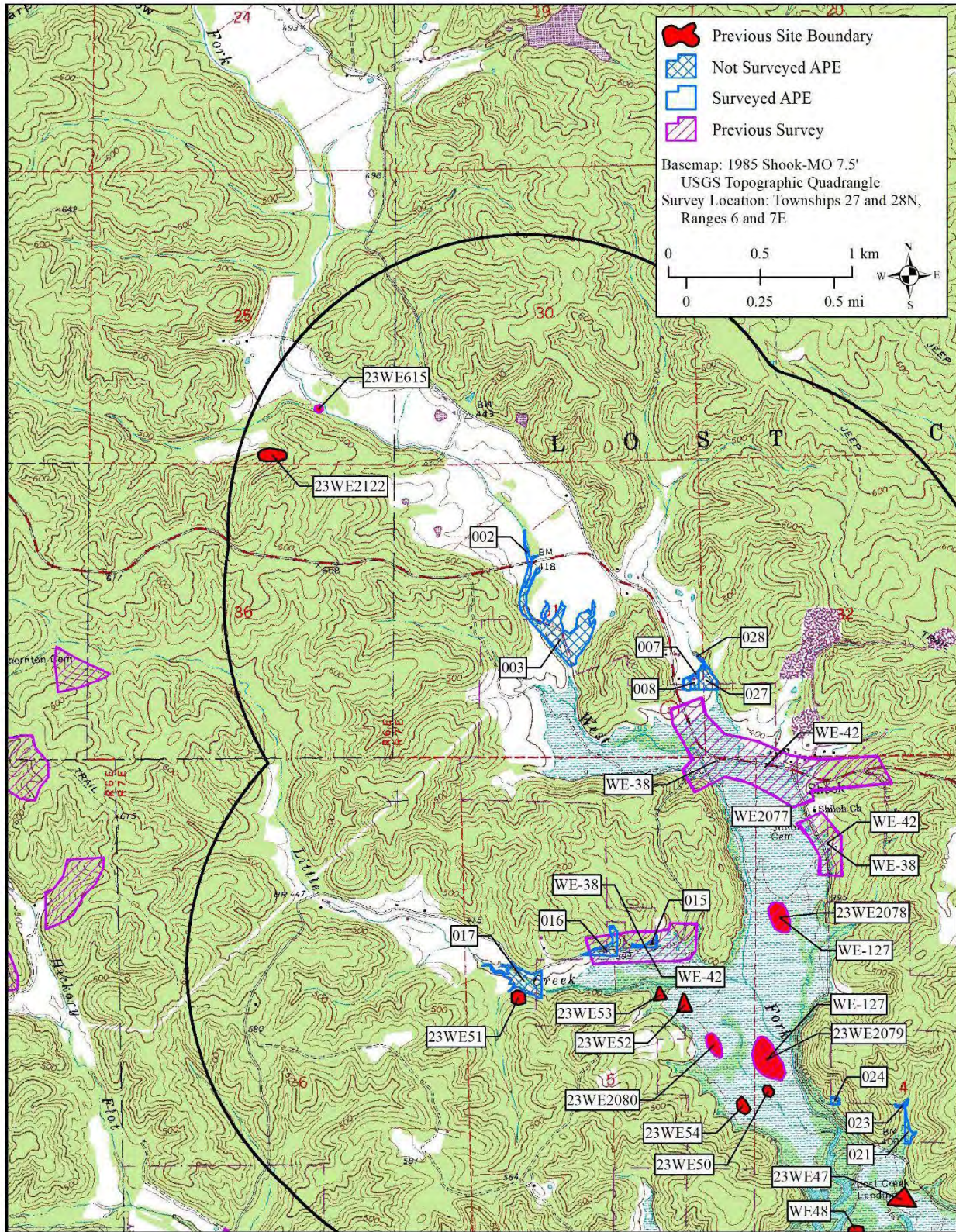


Figure 8. Location map and previous investigations of APE (continued).



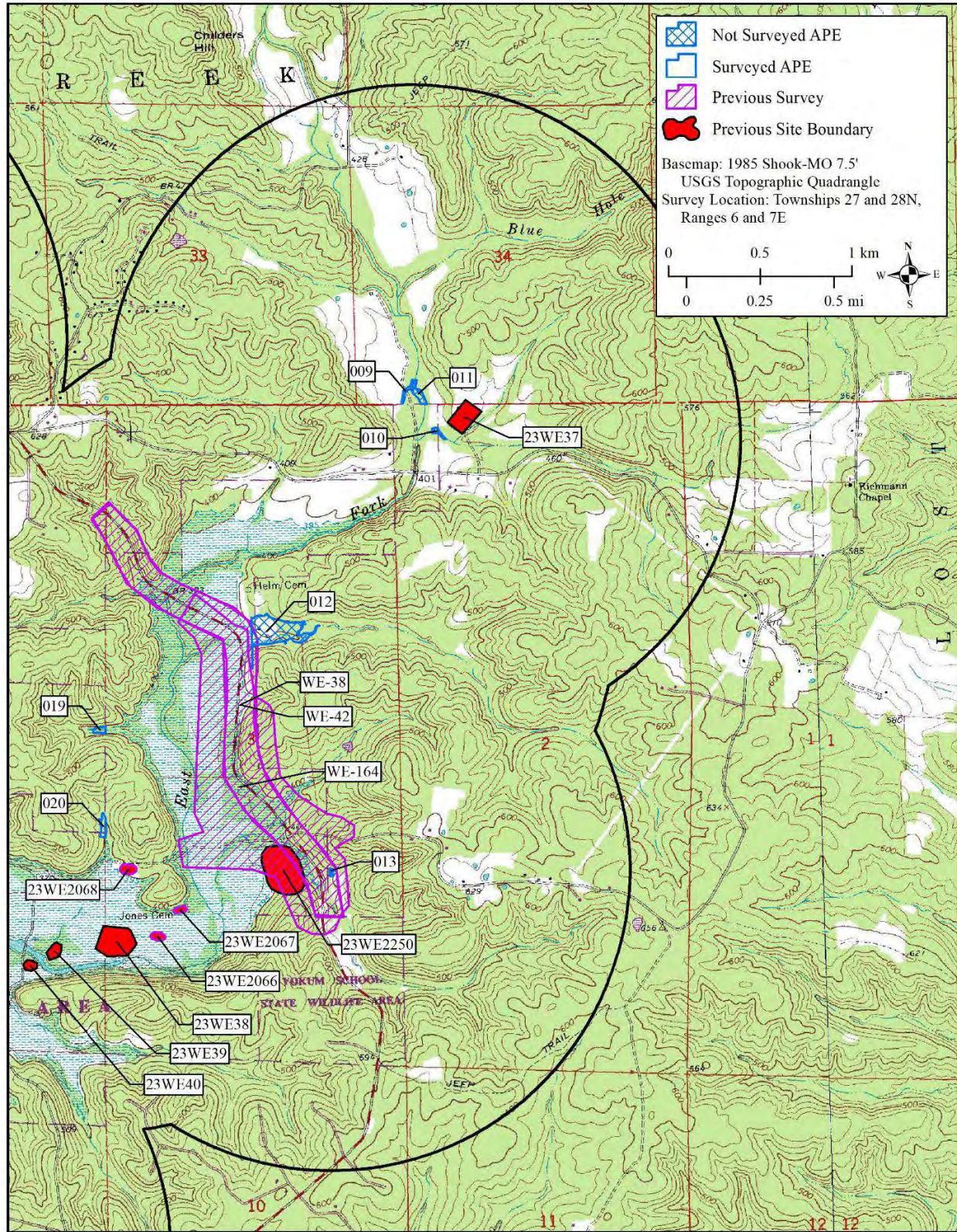


Figure 9. Location map and previous investigations of APE (continued).



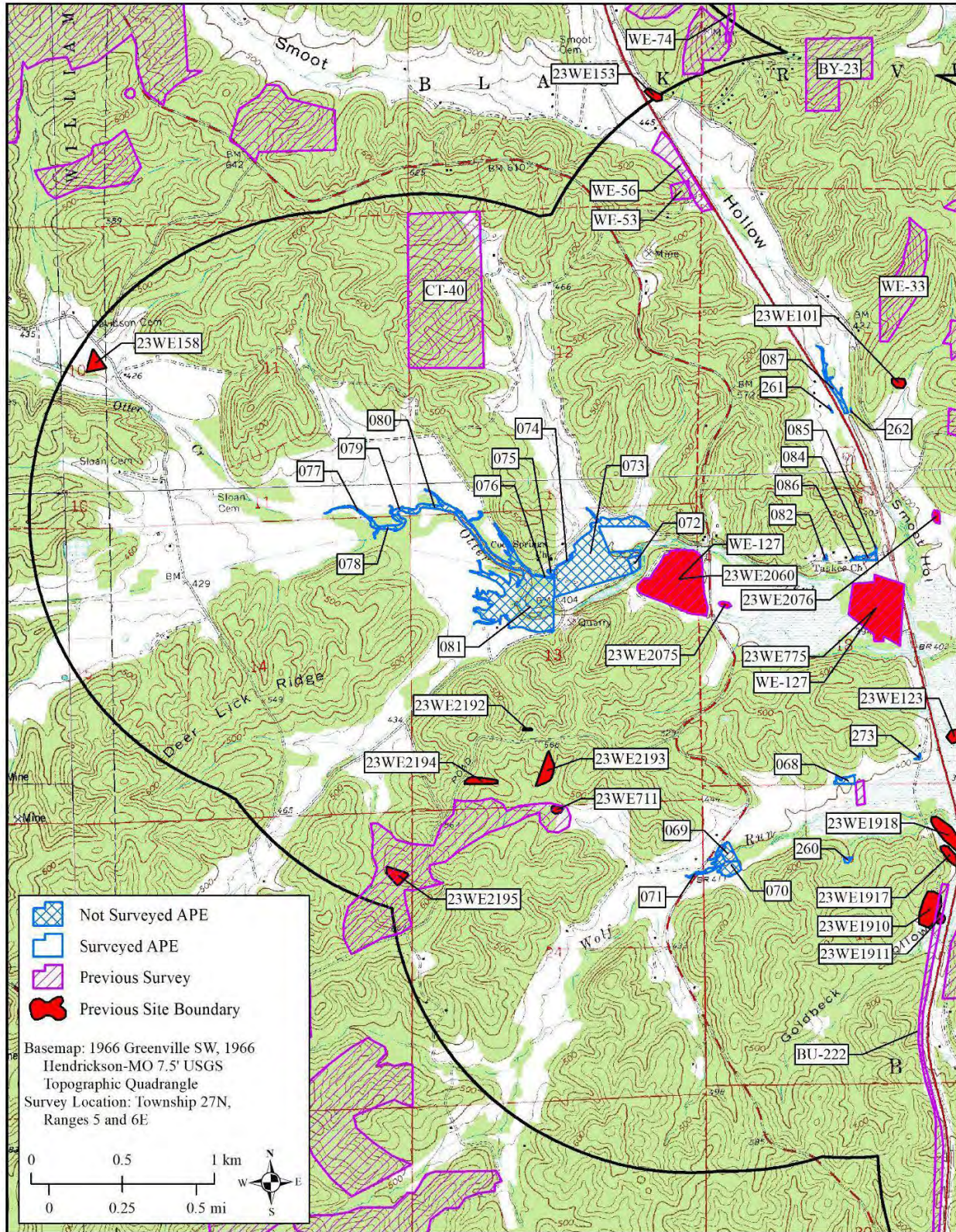


Figure 10. Location map and previous investigations of APE (continued).



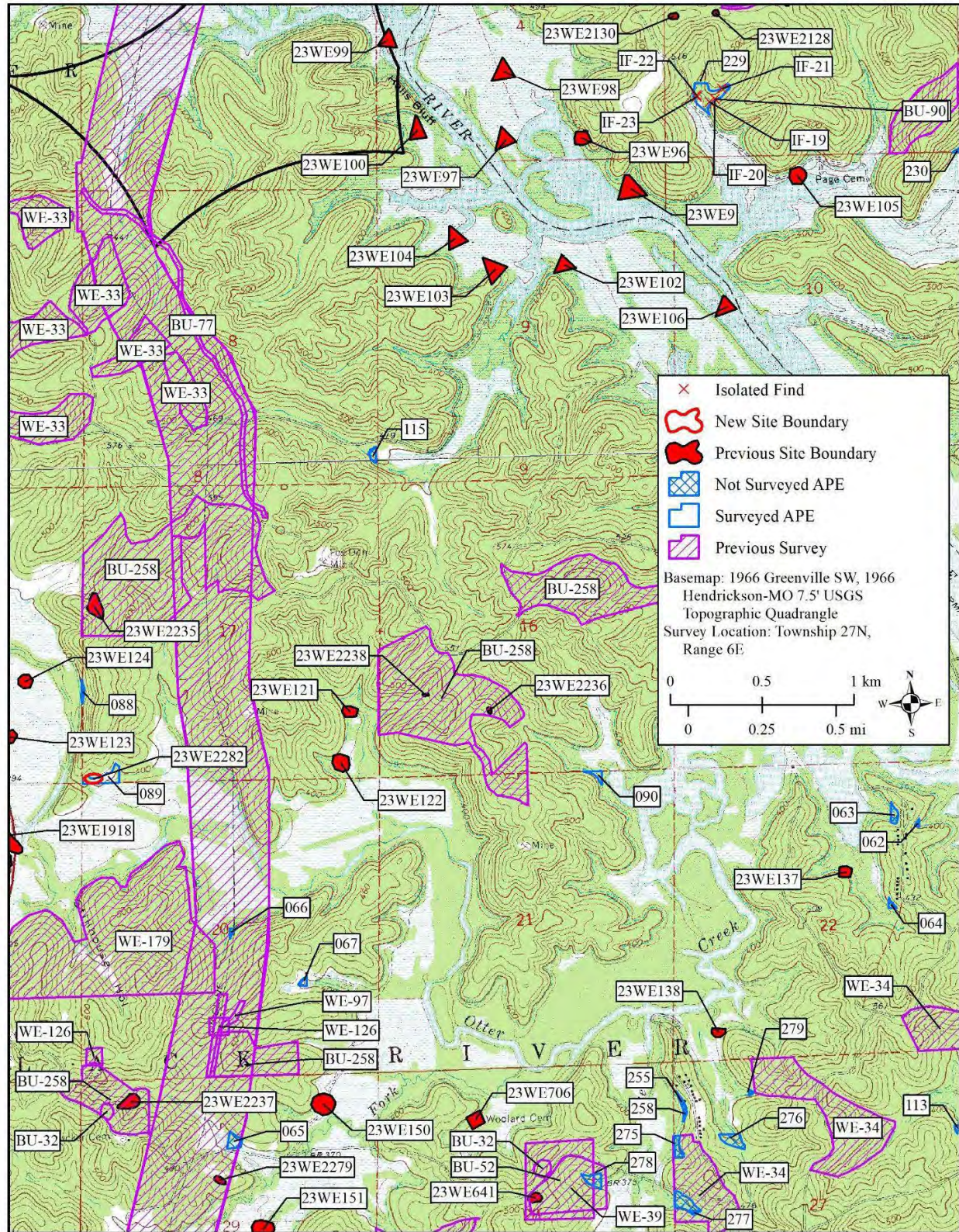


Figure 11. Location map and previous investigations of APE (continued).





Figure 12. Location map and previous investigation of APE (continued).



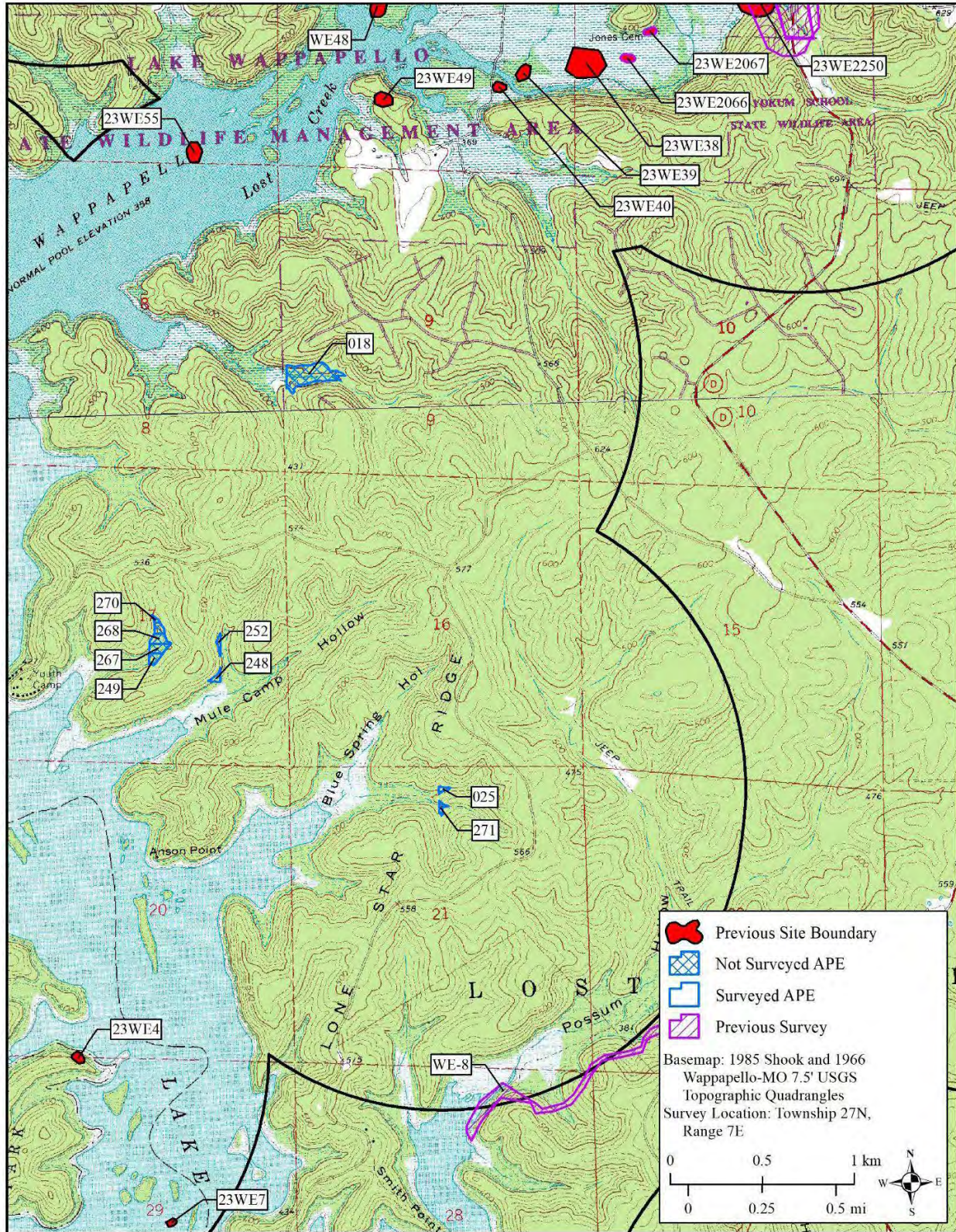


Figure 13. Location map and previous investigations of APE (continued).



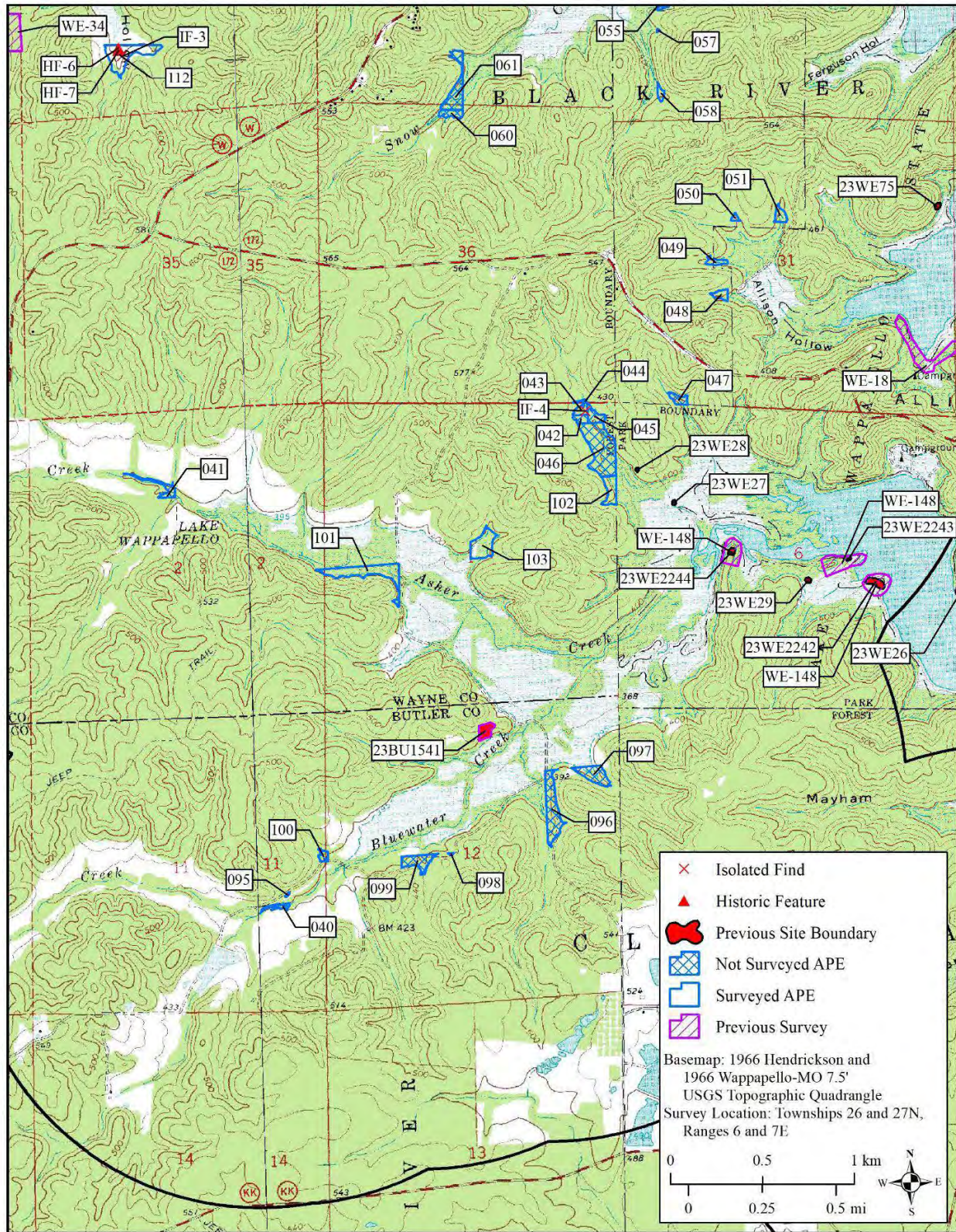


Figure 14. Location map and previous investigations of APE (continued).



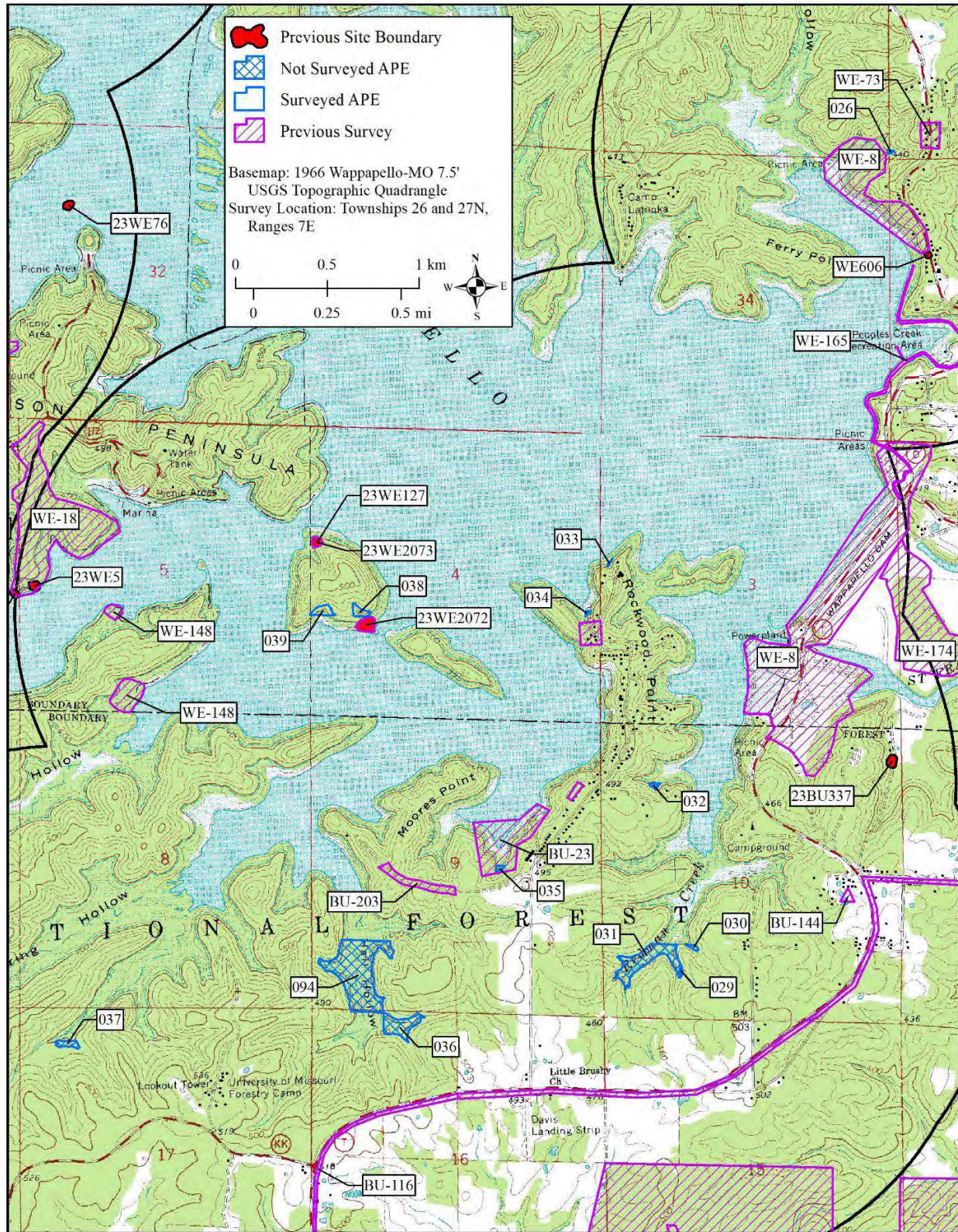


Figure 15. Location map and previous investigations of APE (continued).



## MVS Leaders

| Tribe                                                              | Name                                                              | Street Address                         | City                 | State | Zip   | Furnished Copy                                     |
|--------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------|----------------------|-------|-------|----------------------------------------------------|
| Absentee-Shawnee Tribe of Indians of Oklahoma                      | Governor John Raymond Johnson<br>c/o Representative Alicia Miller | 2025 S. Gordon<br>Cooper Drive         | Shawnee              | OK    | 74801 | Ms. Carol Butler<br>and Ms. Devon<br>Frazier Smith |
| Caddo Nation of Oklahoma                                           | Chairman Bobby Gonzalez                                           | P.O. Box 487                           | Binger               | OK    | 73009 | Mr. Jonathan M.<br>Rohrer                          |
| Citizen Potawatomi Nation, Oklahoma                                | Chairman John Barrett                                             | 1601 S. Gordon<br>Cooper Drive         | Shawnee              | OK    | 74801 | Ms. Tracy Wind                                     |
| Delaware Nation, Oklahoma                                          | President Deborah Dotson                                          | P.O. Box 825                           | Anadarko             | OK    | 73005 | Ms. Carissa Speck                                  |
| Delaware Tribe of Indians                                          | Chief Brad KillsCrow                                              | 5100 Tuxedo<br>Boulevard               | Bartlesville         | OK    | 74006 | Ms. Susan Bachor                                   |
| Eastern Shawnee Tribe of Oklahoma                                  | Chief Glenna J. Wallace                                           | 12755 S. 705 Road                      | Wyandotte            | OK    | 74370 | Mr. Paul Barton                                    |
| Forest County Potawatomi Community,<br>Wisconsin                   | Chairman James A. Crawford                                        | P.O. Box 340, 5416<br>Everybody's Road | Crandon              | WI    | 54520 | Mr. Benjamin<br>Rhodd                              |
| Hannahville Indian Community, Michigan                             | Chairman Kenneth Meshigaud                                        | N 14911 Hannahville<br>B-1 Road        | Wilson               | MI    | 49896 | Mr. Earl Meshigaud                                 |
| Ho-Chunk Nation of Wisconsin                                       | President Marlon White Eagle                                      | P.O. Box 667                           | Black River<br>Falls | WI    | 54615 | Mr. William<br>Quackenbush                         |
| Iowa Tribe of Oklahoma                                             | Chairman Edgar B. Kent, Jr.                                       | 335588 E. 750 Rd                       | Perkins              | OK    | 74059 | Ms. Candace<br>Pershall                            |
| Kickapoo Tribe of Indians of the Kickapoo<br>Reservation in Kansas | Chairman Lester Randall                                           | 824 111th Drive                        | Horton               | KS    | 66439 | Ms. Johanna<br>Thomas                              |

|                                                      |                                 |                                 |             |    |       |                       |
|------------------------------------------------------|---------------------------------|---------------------------------|-------------|----|-------|-----------------------|
| Kickapoo Tribe of Oklahoma                           | Chairman Darwin Kaskaske        | 105365 S. Hwy 102               | McCloud     | OK | 74851 | Ms. Kay Rhoads        |
| Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians | Chairman Bob Peters             | 2872 Mission Dr.                | Shelbyville | MI | 49344 | Ms. Lakota Hobia      |
| Nottawaseppi Huron Band of the Potawatomi, Michigan  | Chairman Jamie Stuck            | 2221—1 & 1/2 Mile Road          | Fulton      | MI | 49052 | Mr. Frederick Jacko   |
| Peoria Tribe of Indians of Oklahoma                  | Chief Craig Harper              | P.O. Box 1527                   | Miami       | OK | 74355 | Ms. Burgundy Fletcher |
| Prairie Band Potawatomi Nation                       | Chairman Joseph Rupnick         | Government Center, 16281 Q Road | Mayetta     | KS | 66509 | Ms. Tara Mitchell     |
| Sac & Fox Nation of Missouri in Kansas and Nebraska  | Chairperson Tiauna Carnes       | 305 N. Main Street              | Reserve     | KS | 66434 | Mr. Gary Bahr         |
| Sac & Fox Nation, Oklahoma                           | Principal Chief Justin F. Woods | 920963 S Highway 99             | Stroud      | OK | 74079 | Mr. Chris Boyd        |
| Sac & Fox Tribe of the Mississippi in Iowa           | Chairman Vern Jefferson         | 349 Meskwaki Road               | Tama        | IA | 52339 | Mr. Johnathan Buffalo |
| Shawnee Tribe                                        | Chief Benjamin Barnes           | 29 S Hwy 69A                    | Miami       | OK | 74354 | Ms. Tonya Tipton      |
| United Keetoowah Band of Cherokee of Oklahoma        | Chief Joe Bunch                 | P.O. Box 746                    | Tahlequah   | OK | 74464 | Mr. Acee Watt         |

**MVS Reps – Hard Copy**

| <b>Tribe</b>                                          | <b>Name</b>            | <b>Position</b>                             | <b>Street Address</b>           | <b>City</b> | <b>State</b> | <b>Zip</b> |
|-------------------------------------------------------|------------------------|---------------------------------------------|---------------------------------|-------------|--------------|------------|
| Absentee-Shawnee Tribe of Indians of Oklahoma         | Ms. Carol Butler       | Cultural Preservation Director              | 2025 S. Gordon Cooper Drive     | Shawnee     | OK           | 74801      |
| Caddo Nation of Oklahoma                              | Mr. Jonathan M. Rohrer | Tribal Historic Preservation Officer        | P.O. Box 487                    | Binger      | OK           | 73009      |
| Hannahville Indian Community, Michigan                | Mr. Earl Meshigaud     | Historic Preservation Office                | P.O. Box 351, Highway 2 & 41    | Harris      | MI           | 49845      |
| Iowa Tribe of Oklahoma                                | Ms. Candace Pershall   | Cultural Preservation                       | 335588 E. 750 Rd                | Perkins     | OK           | 74875      |
| Kickapoo Tribe of Oklahoma                            | Ms. Kay Rhoads         | OSG Director/NAGPRA Representatives         | P.O. Box 70, 105365 S. Hwy 102  | McCloud     | OK           | 74851      |
| Match-E-Be-Nash-She-Wish Band of Pottawatomis Indians | Ms. Lakota Hobia       | Tribal Historic Preservation Officer        | 2872 Mission Drive              | Shelbyville | MI           | 49344      |
| Prairie Band Potawatomi Nation                        | Ms. Tara Mitchell      | Deputy Tribal Historic Preservation Officer | Government Center, 16281 Q Road | Mayetta     | KS           | 66509      |
| Sac & Fox Nation, Oklahoma                            | Mr. Chris Boyd         | NAGPRA/Historic Preservation Office         | 920963 S Highway 99             | Stroud      | OK           | 74079      |
| Sac & Fox Tribe of the Mississippi in Iowa            | Mr. Johnathan Buffalo  | Historic Preservation Office                | 349 Meskwaki Road               | Tama        | IA           | 52339      |



**MVS Reps – Electronic Copies**

| <b>Tribe</b>                                                    | <b>Name</b>             | <b>Position</b>                                | <b>Street Address</b>                                 | <b>City</b>       | <b>State</b> | <b>Zip</b> | <b>Email</b>                                                                     |
|-----------------------------------------------------------------|-------------------------|------------------------------------------------|-------------------------------------------------------|-------------------|--------------|------------|----------------------------------------------------------------------------------|
| Absentee-Shawnee Tribe of Indians of Oklahoma                   | Ms. Devon Frazier Smith | Tribal Historic Preservation Officer           | 2025 S. Gordon Cooper Drive                           | Shawnee           | OK           | 74801      | <a href="mailto:dfrazier@astribe.com">dfrazier@astribe.com</a>                   |
| Citizen Potawatomi Nation, Oklahoma                             | Ms. Tracy Wind          | Assistant Tribal Historic Preservation Officer | Cultural Heritage Center, 1601 S. Gordon Cooper Drive | Shawnee           | OK           | 74801      | <a href="mailto:cpnthpo@potawatomi.org">cpnthpo@potawatomi.org</a>               |
| Delaware Nation, Oklahoma                                       | Ms. Carissa Speck       | Historic Preservation Director                 | 31064 SH 281, P.O. Box 825                            | Anardarko         | OK           | 73005      | <a href="mailto:cspeck@delawarenation-nsn.gov">cspeck@delawarenation-nsn.gov</a> |
| Delaware Tribe of Indians                                       | Ms. Susan Bachor        | Special Assistant                              | 126 University Circle, Stroud Hall, Rm. 437           | East Stroudsburg  | PA           | 18301      | <a href="mailto:sbachor@delawaretribe.org">sbachor@delawaretribe.org</a>         |
| Eastern Shawnee Tribe of Oklahoma                               | Mr. Paul Barton         | Tribal Historic Preservation Officer           | 70500 E. 128 Road                                     | Wyandotte         | OK           | 74370      | <a href="mailto:THPO@estoo.net">THPO@estoo.net</a>                               |
| Forest County Potawatomi Community, Wisconsin                   | Mr. Benjamin Rhodd      | Tribal Historic Preservation Officer           | 8130 Mish ko Swen Dr., P.O. Box 340                   | Crandon           | WI           | 54520      | <a href="mailto:Benjamin.Rhodd@fcp-nsn.gov">Benjamin.Rhodd@fcp-nsn.gov</a>       |
| Ho-Chunk Nation of Wisconsin                                    | Mr. William Quackenbush | Tribal Historic Preservation Officer           | P.O. Box 667                                          | Black River Falls | WI           | 54615      | <a href="mailto:bill.quackenbush@ho-chunk.com">bill.quackenbush@ho-chunk.com</a> |
| Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas | Ms. Johanna Thomas      | Vice Chairman                                  | 824 111th Drive                                       | Horton            | KS           | 66439      | <a href="mailto:johannathomas83@yahoo.com">johannathomas83@yahoo.com</a>         |

|                                                     |                       |                                         |                           |           |    |       |                                                                                |
|-----------------------------------------------------|-----------------------|-----------------------------------------|---------------------------|-----------|----|-------|--------------------------------------------------------------------------------|
| Nottawaseppi Huron Band of the Potawatomi, Michigan | Mr. Frederick Jacko   | Tribal Historic Preservation Officer    | 1485 MNO--Bmadzen Way     | Fulton    | MI | 49052 | <a href="mailto:Frederick.Jacko@nhbp-nsn.gov">Frederick.Jacko@nhbp-nsn.gov</a> |
| The Osage Nation                                    | Dr. Andrea Hunter     | Historic Preservation Office            | 627 Grandview Avenue      | Pawhuska  | OK | 74056 | <a href="mailto:s106@osagenation-nsn.gov">s106@osagenation-nsn.gov</a>         |
| Peoria Tribe of Indians of Oklahoma                 | Ms. Burgundy Fletcher | Tribal Historic Preservation Specialist | 118 S. Eight Tribes Trail | Miami     | OK | 74354 | <a href="mailto:bfletcher@peoriatribe.com">bfletcher@peoriatribe.com</a>       |
| Quapaw Nation                                       | Mr. Everett Bandy     | Tribal Historic Preservation Officer    | ATTN: QNHPP, P.O. Box 765 | Quapaw    | OK | 74363 | <a href="mailto:section106@quapawnation.com">section106@quapawnation.com</a>   |
| Sac & Fox Nation of Missouri in Kansas and Nebraska | Mr. Gary Bahr         | Vice Chairperson                        | 305 N. Main Street        | Reserve   | KS | 66434 | <a href="mailto:gary.bahr@sacfoxks.com">gary.bahr@sacfoxks.com</a>             |
| Shawnee Tribe                                       | Ms. Tonya Tipton      | Historic Preservation Office            | P.O. Box 189              | Miami     | OK | 74355 | <a href="mailto:Section106@shawnee-tribe.com">Section106@shawnee-tribe.com</a> |
| United Keetoowah Band of Cherokee of Oklahoma       | Mr. Acee Watt         | Tribal Historic Preservation Officer    | P.O. Box 746              | Tahlequah | OK | 74464 | <a href="mailto:ukbthpo@ukb-nsn.gov">ukbthpo@ukb-nsn.gov</a>                   |

**From:** [Jonathan Rohrer](#)  
**To:** [Trautt, Meredith M CIV USARMY CEMVS \(USA\)](#)  
**Subject:** [Non-DoD Source] Flowage Easement, Lake Wappapello, Butler and Wayne Counties, Missouri. -  
**Date:** Tuesday, November 7, 2023 12:07:36 PM

---

Meredith Hawkins

Thank you for your request for consultation, received on 11-06-2023. The Caddo Nation appreciates your willingness to conduct proper consultation, pursuant to Section 106 of the National Historic Preservation Act.

Upon review of the project and location I have determined that it does not affect known cultural, traditional or sacred sites of interest to the Caddo Nation. As such, the Caddo Nation has no objection to the project at this time. However, in the event that an inadvertent discovery of potentially relevant cultural sites, funerary objects, or human remains occurs, we request that the project be immediately halted and the proper authorities be contacted. Additionally, The Caddo Nation would need to be notified of an inadvertent discovery with 24 hours.

Should you have any question or concerns regarding this response please feel free to contact our office.

Best regards,

Jonathan

**Jonathan M. Rohrer**  
Tribal Historic Preservation Officer



**Caddo Nation**  
P.O. Box 487  
Binger, OK 73009  
t: (405)656-0970 Ext. 2070  
e: [jrohrer@mycaddonation.com](mailto:jrohrer@mycaddonation.com)

[www.mycaddonation.com](http://www.mycaddonation.com)





**From:** [Tracy Wind](#)  
**To:** [Trautt, Meredith M CIV USARMY CEMVS \(USA\)](#)  
**Subject:** [Non-DoD Source] RE: USACE St. Louis District, Lake Wappapello Flowage Easements, Butler and Wayne Co., MO  
**Date:** Friday, November 3, 2023 11:49:52 AM

---

Ms. Trautt,

Citizen Potawatomi Nation will not comment on this project as Butler and Wayne Counties are out of our areas of interest. Thank you.

*Tracy Wind*

Asst. Tribal Historic Preservation Officer  
Citizen Potawatomi Nation

---

**From:** Trautt, Meredith M CIV USARMY CEMVS (USA) <Meredith.M.Trautt@usace.army.mil>  
**Sent:** Friday, November 3, 2023 11:07 AM  
**To:** CPN THPO <cpnthpo@potawatomi.org>  
**Subject:** USACE St. Louis District, Lake Wappapello Flowage Easements, Butler and Wayne Co., MO

**EXTERNAL EMAIL**

Dear Ms. Wind,

Please see the attached letter pertaining to an archaeological survey for flowage easements at Lake Wappapello in Butler and Wayne Counties, Missouri.

Sincerely,

*Meredith Hawkins Trautt, M.S., RPA*

Archaeologist and Tribal Liaison  
U.S. Army Corps of Engineers, St. Louis District  
MCX CMAC, EC Z  
1222 Spruce Street  
St. Louis, MO 63109  
Office: (314) 925-5031  
Mobile: (314) 798-2169  
Pronouns: she/her

#### **Disclaimer**

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly

prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast, a leader in email security and cyber resilience. Mimecast integrates email defenses with brand protection, security awareness training, web security, compliance and other essential capabilities. Mimecast helps protect large and small organizations from malicious activity, human error and technology failure; and to lead the movement toward building a more resilient world. To find out more, visit our website.

**From:** [Carissa Speck](#)  
**To:** [Trautt, Meredith M CIV USARMY CEMVS \(USA\)](#)  
**Subject:** [Non-DoD Source] RE: USACE St. Louis District, Lake Wappapello Flowage Easements, Butler and Wayne Co., MO  
**Date:** Thursday, December 21, 2023 5:31:12 AM

---

Thank you. Apologies for the delayed response. Just wanted to confirm that we had no questions or concerns.

Wanishi,

Carissa Speck  
Delaware Nation  
Historic Preservation Director  
405-247-2448 Ext. 1403  
[cspeck@delawarenation-nsn.gov](mailto:cspeck@delawarenation-nsn.gov)



---

**From:** Trautt, Meredith M CIV USARMY CEMVS (USA) <Meredith.M.Trautt@usace.army.mil>  
**Sent:** Friday, November 3, 2023 11:08 AM  
**To:** Carissa Speck <cspeck@delawarenation-nsn.gov>  
**Subject:** USACE St. Louis District, Lake Wappapello Flowage Easements, Butler and Wayne Co., MO

Dear Ms. Speck,  
Please see the attached letter pertaining to an archaeological survey for flowage easements at Lake Wappapello in Butler and Wayne Counties, Missouri.

Sincerely,

*Meredith Hawkins Trautt, M.S., RPA*

Archaeologist and Tribal Liaison  
U.S. Army Corps of Engineers, St. Louis District  
MCX CMAC, EC Z  
1222 Spruce Street  
St. Louis, MO 63109  
Office: (314) 925-5031  
Mobile: (314) 798-2169  
Pronouns: she/her



CONFIDENTIALITY NOTE:

This e-mail (including attachments) may be privileged and is confidential information covered by the Electronic Communications Privacy Act 18 U.S.C. 2510-2521 and any other applicable law, and is intended only for the use of the individual or entity named herein. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any retention, dissemination, distribution or copying of this communication is strictly prohibited. Although this e-mail and any attachments are believed to be free of any virus or other defect that might affect any computer system in to which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by Delaware Nation or the author hereof in any way from its use. If you have received this communication in error, please immediately notify us by return e-mail. Thank you.

**From:** [Benjamin Rhodd](#)  
**To:** [Trautt, Meredith M.CIV.USARMY.CEMVS \(USA\)](#)  
**Subject:** [Non-DoD Source] Flowage Easement, Lake Wappapello, Butler and Wayne Counties, Missouri  
**Date:** Tuesday, December 5, 2023 8:43:34 AM

---

Ms. Trautt,

Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi Community (FCPC), a Federally Recognized Native American Tribe, reserves the right to comment on Federal undertakings, as defined under the act inclusive of licensing, permitting or use of federal funds by a delegated agency.

The Tribal Historic Preservation Office (THPO) staff has reviewed the information you provided for this project. Upon review of site data and supplemental cultural history within our Office, the FCPC THPO is pleased to offer a finding of No Historic Properties affected of significance to the FCPC, however, we request to remain as a consulting party for this project. However, as per the report, the areas not surveyed and the predictive modeling employed does raise the question of overall efficacy of sites being of significance within the APE. The presence of burials (as exemplified by the gravestone mentioned) perhaps would be a good example of there being additional internments beyond historic sepulcher. Therefore the FCPC HPO is cautious of the verity of the findings espoused within the determinations made in this reporting.

We request to remain as a consulting party to this project initiative and hope to be made aware of any sites or places of significance being discovered should disturbance occur on any level.

As a standard caveat sent with each proposed project reviewed by the FCPC THPO, the following applies. In the event an Inadvertent Discovery (ID) occurs at any phase of a project or undertaking as defined, and human remains or archaeologically significant materials are exposed as a result of project activities, work should cease immediately. The Tribe(s) must be included with the SHPO in any consultation regarding treatment and disposition of an ID find.

Thank you for protecting cultural and historic properties and if you have any questions or concerns, please contact me at the email or number listed below.

Respectfully,

Ben Rhodd, MS, RPA, Tribal Historic Preservation Officer  
Forest County Potawatomi  
Historic Preservation Office  
8130 Mish ko Swen Drive, P.O. Box 340, Crandon, Wisconsin 54520  
P: 715-478-7354 C: 715-889-0202 Main: 715-478-7474  
Email: [Benjamin.Rhodd@fcp-nsn.gov](mailto:Benjamin.Rhodd@fcp-nsn.gov)  
[www.fcpotawatomi.com](http://www.fcpotawatomi.com)

Ben Rhodd, MS, RPA, Tribal Historic Preservation Officer  
Forest County Potawatomi  
Historic Preservation Office

8130 Mish ko Swen Drive, P.O. Box 340, Crandon, Wisconsin 54520

P: 715-478-7354 C: 715-889-0202 Main: 715-478-7474

Email: [Benjamin.Rhodd@fcp-nsn.gov](mailto:Benjamin.Rhodd@fcp-nsn.gov)

[www.fcpotawatomi.com](http://www.fcpotawatomi.com)





January 8, 2024

Jennifer Riordan  
Chief, Curation and Archives  
USACE St. Louis District  
1222 Spruce Street  
St. Louis, MO 63103-2833

Re: Flowage Easement, Lake Wappapello

Dear Ms. Riordan:

The Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians' Tribal Historic Preservation Office has received the Section 106 consultation request for comments regarding the proposed flowage easements around the Lake Wappapello watershed in Butler and Wayne Counties, MO. At present, we are not providing any additional comments. We have not identified any information concerning the presence of any cultural resources significant to the Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians within the Area of Potential Effect (APE). This is not to say that such a site may not exist, just that this office does not have any available information for the area(s) at this point in time.

This office will be available to assist you in the future or during this project if there is a discovery of human remains, funerary objects, and artifacts. The discovery will require reinitiating Section 106 consultation related to all ongoing and proposed project work and the handling of the inadvertent discovery per the National Historic Preservation Act (NHPA) implementing regulations, 36 CFR Part 800, and, as applicable, the Native American Graves and Repatriation Act (NAGPRA) and its implementing regulations, 43 CFR Part 10. In the event of a discovery of artifacts, human remains, or funerary objects, we request to be notified within 10 days. At that time, the Tribe will determine if further consultation is necessary.

Please keep in mind that there may be other Tribal Nations that have interest that we may not know about.

Sincerely,

Lakota Hobia  
THPO  
[Lakota.Hobia@glt-nsn.gov](mailto:Lakota.Hobia@glt-nsn.gov)  
[Mbpi\\_thpo@glt-nsn.gov](mailto:Mbpi_thpo@glt-nsn.gov)  
Phone: (269) 397-1780

CC: Meredith Hawkins Trautt, Archaeologist & Tribal Liaison, USACE St. Louis District,  
[Meredith.M.Trautt@usace.army.mil](mailto:Meredith.M.Trautt@usace.army.mil)

**From:** [Cheyenne Greenup](#)  
**To:** [Trautt, Meredith M CIV USARMY CEMVS \(USA\)](#)  
**Subject:** [Non-DoD Source] Lake Wappello Flowage Easement Wayne and Buttlr Counties MO  
**Date:** Monday, November 27, 2023 4:10:53 PM

---

The Quapaw Nation Historic Preservation Program (QNHPP) has received and reviewed the information you have provided. Based upon the information you provided we believe that the proposed Lake Wappello Flowage Easement Wayne and Buttlr Counties, Missouri will not likely to adversely affect properties of cultural or sacred significance to the Quapaw Nation with the avoidance of sites 22WE2284, 22WE2285, 22WE2286, and 22WE2287.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Quapaw Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, or the Native American Graves Protection and Repatriation Act. If however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and that you contact the Quapaw Nation Historic Preservation Office.

Should you have any questions or need any additional information, please feel free to contact Cheyenne Greenup at [Cheyenne.greenup@quapawnation.com](mailto:Cheyenne.greenup@quapawnation.com), please copy [section106@quapawnation.com](mailto:section106@quapawnation.com) to insure additional informational request are reviewed in a timely manner. Thank you for consulting with the Quapaw Nation on this matter.

Sincerely,

Cheyenne Greenup

On behalf of  
-Everett Bandy  
Preservation Officer/ QNHPP Director  
Quapaw Nation  
P.O. Box 765  
Quapaw, OK 74363  
(w) 918-238-3100

[Page Left Intentionally Blank]





**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT**  
**1222 SPRUCE STREET**  
**ST. LOUIS, MISSOURI 63103-2833**

REPLY TO ATTENTION OF:  
Regional Planning and Environmental Division North  
Environmental Compliance Section (CEMVP-PD-C)

20 May 2022

**RE: Request for Information Regarding the Potential to Obtain Flowage Easements Near Wappapello Lake**

Dear Sir or Madam:

The Wappapello Lake Project was originally constructed to provide flood control. Over time, its authorized purposes have been modified to include recreation, water quality control, and conservation of fish and wildlife. Construction of the dam was completed in 1941.

Historically, a number of privately owned land parcels near the Wappapello Lake project boundaries which were not subject to flooding under the initial authorization for the Lake project, are now being intermittently inundated with flood water. This is occurring for various reasons, including land acquisition policies at the time of initial authorization, changes to the water control plan for reservoir operations, surrounding land use changes, and the natural input of organic matter and sediment into the lake system.

The U.S. Army Corps of Engineers, St. Louis District, is investigating the potential to acquire flowage easements on privately owned land parcels due to the intermittent inundation (flooding) of property near Wappapello Lake boundaries. We are contacting you today under the National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA) because you may be interested in this investigation.

If you have any environmental, cultural, or tribal issues or concerns regarding the investigation, please contact Rachel Steiger, at **telephone** (314) 331-8027; or via **e-mail** at Rachel.L.Steiger@usace.army.mil by close of business on 20 June 2022. If you have any flowage easement issues or concerns, please contact Diane Zahner, at **telephone** (314) 331-8170; or via **e-mail** at Diana.S.Zahner@usace.army.mil by close of business on 20 June 2022.

Thank you,

A handwritten signature in blue ink, reading "Teri C. Allen", is positioned above the printed name.

Teri C. Allen, Ph.D.  
Chief, Environmental Compliance Section

# Scoping Recipients

| Map # | County | Parcel #              | Acreage | Owner                                   | Owner Update                          | DACW #          | ROE Prepared | ROE Sent            | Certified #          | ROE Executed                    |
|-------|--------|-----------------------|---------|-----------------------------------------|---------------------------------------|-----------------|--------------|---------------------|----------------------|---------------------------------|
| 12    | Butler | 20210002001023000     | 0.25    | Richard & Susan Heitzle                 |                                       | DACW43-9-22-232 | 6/10/22      | 7019014000004314892 |                      |                                 |
| 27    | Wayne  | 20-4-0-19-0-0-2-000   | 3.08    | ARMISTEAD DEBRA                         |                                       | DACW43-9-22-132 | 6/3/22       | 6/9/22              | 70010360000209402107 |                                 |
| 27    | Wayne  | 20-4-0-19-0-0-3-000   | 1.27    | ARMISTEAD DEBRA                         |                                       |                 |              |                     |                      |                                 |
| 30    | Wayne  | 20-3-2-7-0-0-4-000    |         | BAILEY ROBERT C & DIANNE                | Snodgrass, Scott E. & Tanya M         | DACW43-9-22-135 | 6/3/22       | 7/13/22             | 70010360000209401599 |                                 |
| 53    | Wayne  | 8-2-1-10-0-0-9-000    | 12.92   | BANGERT ROY J & JACQUELIN               | Banget Inevocable Family Livint Trust | DACW43-9-22-136 | 6/3/22       | 7/13/2022           | 70010360000209401605 |                                 |
| 60    | Wayne  | 13-3-2-7-0-0-16-000   | 5.41    | BARKER CLAYBERT & VIRGINIA              | BARKER CLAYBERT & VIRGINIA            | DACW43-9-22-137 | 6/3/22       | 7/13/22             | 70010360000209401633 |                                 |
| 52    | Wayne  | 8-2-4-0-0-5-000       | 0.78    | BENNETT LEE & OPAL                      |                                       | DACW43-9-22-139 | 6/3/22       | 6/9/22              | 70010360000209401636 |                                 |
| 46    | Wayne  | 8-5-2-21-0-0-4-003    | 1       | BERGEN RICHARD & LEONA M                | BERGEN RICHARD & LEONA M              | DACW43-9-22-141 | 6/3/22       | 7/13/22             | 70010360000209401650 |                                 |
| 46    | Wayne  | 8-5-2-21-0-0-3-001    | 0.79    | BERGEN RICHARD & LEONA M                | BERGEN RICHARD & LEONA M              |                 |              |                     | 70212720000047312602 |                                 |
| 46    | Wayne  | 8-5-2-21-0-0-3-000    | 3.83    | BERGEN RICHARD & LEONA M                | BERGEN RICHARD & LEONA M              |                 |              |                     |                      |                                 |
| 46    | Wayne  | 8-5-2-16-0-0-12-000   | 1.23    | BERGEN RICHARD & LEONA M                | BERGEN RICHARD & LEONA M              |                 |              |                     |                      |                                 |
| 56    | Wayne  | 8-6-0-23-1-13-2-2-000 | 0.79    | BERGEN RICHARD & LEONA M                | BERGEN RICHARD & LEONA M              |                 | 6/3/22       | 6/9/22              |                      |                                 |
| 59    | Wayne  | 13-3-2-7-0-0-1-000    | 1.5     | BOSHELL JIMMY & BETTY                   | BOSHELL JIMMY & BETTY                 | DACW43-9-22-144 | 6/3/22       | 7/13/22             | 70010360000209401698 |                                 |
| 20    | Wayne  | 21-9-0-31-0-0-4-000   | 1.02    | BREWSTER FLORIDA LILY                   | Johnson, James L. Jr & Angel L        | DACW43-9-22-145 | 6/3/22       | 7/13/22             | 70010360000209401704 |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-10-000   | 11.73   | BROOKS CHARLES                          | BROOKS CHARLES                        | DACW43-9-22-146 | 6/3/22       | 7/13/22             | 70010360000209401711 |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-11-000   | 0.24    | BROOKS CHARLES                          | BROOKS CHARLES                        |                 |              |                     | 70212720000047312862 |                                 |
| 8     | Wayne  | 21-2-1-4-0-0-16-001   | 1.14    | BURCHETT TIM & TINA                     |                                       | DACW43-9-22-148 | 6/3/22       | 6/9/22              | 70010360000209401735 |                                 |
| 59    | Wayne  | 13-3-2-7-0-0-8-000    | 1.68    | CAPPS ROY JR & BETTY                    | CAPPS ROY JR & BETTY                  | DACW43-9-22-149 | 6/3/22       | 6/9/22              | 70010360000209401742 |                                 |
| 46    | Wayne  | 8-5-2-16-0-0-12-001   | 2.05    | CHILTON MATTHEW W                       | Richard & Leona Bergen                | DACW43-9-22-152 | 6/3/22       | 6/9/22              | 70190140000043308839 | 9/7/22 - Sold to Richard Bergen |
| 46    | Wayne  | 8-5-2-16-0-0-12-001   | 1.61    | CHILTON MATTHEW W                       | Richard & Leona Bergen                |                 |              |                     |                      | 9/7/22 - Sold to Richard Bergen |
| 56    | Wayne  | 8-6-0-23-1-3-6-001    | 0.78    | CHURCH, NEW HOPE GENERAL BAPTIST CHURCH | Dan Ross, Pastor                      |                 | 6/9/2022     |                     | 70190140000043308907 |                                 |
| 21    | Wayne  | 21-9-0-30-0-0-9-000   | 0.68    | CRAIG JAMES LEE & LISA                  | CRAIG JAMES LEE & LISA                | DACW43-9-22-157 | 6/3/22       | 7/13/22             | 70212720000047312695 |                                 |
| 44    | Wayne  | 8-5-2-21-0-0-11-000   | 2.11    | CRASS DENNIS & PALMA                    | CRASS DENNIS & PALMA                  | DACW43-9-22-158 | 6/9/2022     |                     | 70190140000043308914 |                                 |
| 44    | Wayne  | 8-5-2-21-0-0-11-000   | 6.9     | CRASS DENNIS & PALMA                    | CRASS DENNIS & PALMA                  |                 | 6/3/22       | 7/13/2022           | 70212720000047312909 |                                 |
| 59    | Wayne  | 13-3-2-7-0-0-10-000   | 1.24    | CUNNINGHAM MARY L & THOMAS J            | Meese, Brenda & Everett               | DACW43-9-22-159 | 6/3/22       | 7/13/22             | 70190140000043308921 |                                 |
| 56    | Wayne  | 8-6-0-23-1-14-7-002   | 0.28    | DAVES JEFFREY & LORA                    | DAVES JEFFREY & LORA                  | DACW43-9-22-161 | 6/3/22       | 7/13/22             | 70010360000209402800 |                                 |
| 27    | Wayne  | 20-4-0-18-0-0-13-000  | 0.68    | DAVIS JAMES M ETAL                      | DAVIS JAMES M ETAL                    |                 |              |                     | 70190140000043308945 |                                 |
| 56    | Wayne  | 8-6-0-23-1-13-3-000   | 1.31    | DAVIS JAMES W ETAL                      | DAVIS JAMES W ETAL                    |                 | 6/9/2022     |                     | 70212720000047312701 |                                 |
| 26    | Wayne  | 20-4-0-20-0-2-000     | 0.37    | DEAL KENNETH L & JEANETTE W             |                                       | DACW43-9-22-164 | 6/3/22       | 6/9/22              | 70190140000043314229 |                                 |
| 67    | Wayne  | 21-3-2-7-0-0-1-001    | 3.61    | DUNLAP JOHN & PATRICIA                  |                                       | DACW43-9-22-172 | 6/6/22       | 6/9/22              | 70190140000043314304 |                                 |
| 67    | Wayne  | 21-3-2-7-0-0-1-001    | 0.68    | DUNLAP JOHN & PATRICIA                  |                                       |                 |              |                     |                      |                                 |
| 19    | Wayne  | 20-7-36-4-11-3        | 0.11    | Dustin Shaw                             | Dustin Shaw                           | DACW43-9-22-173 | 6/9/2022     | 6/14/2022           | 70190140000043314311 |                                 |
| 47    | Wayne  | 8-4-0-19-0-0-16-000   | 0.38    | EATON JOHN S                            | Eaton, Jake Donald; Middleton, Rena   | DACW43-9-22-175 | 6/16/22      | 8/2/22              | 0360 0002 0940 2985  | 7001                            |
| 41    | Wayne  | 16-6-0-24-0-0-4-000   | 1.6     | EDERER JOSEPH L                         | Kinder, James                         | DACW43-9-22-176 | 6/6/22       | 7/13/2022           | 70190140000043314342 |                                 |
| 28    | Wayne  | 19-6-0-14-0-0-1-000   | 1.62    | FOSTER Lee ROY                          | FOSTER LEE ROY                        | DACW43-9-22-180 | 6/6/22       | 7/13/22             | 70190140000043314380 |                                 |
| 55    | Wayne  | 8-6-0-23-1-3-5-001    | 0.68    | GORECKI MICHAEL J & PAULA P             | GORECKI MICHAEL J & PAULA P           | DACW43-9-22-184 | 6/6/22       | 7/13/2022           | 70010360000209402602 |                                 |
| 2     | Wayne  | 12-9-0-32-0-0-20-000  | 2.65    | GRAY PETER & REED ANITA & KRISTIE       |                                       | DACW43-9-22-187 | 6/6/22       | 6/9/22              | 70190140000043314458 |                                 |
| 2     | Wayne  | 12-9-0-31-0-0-13-000  | 0.82    | THOMPSON MARY V REVOCABLE LIV           | Scowden, Mike                         | DACW43-9-22-251 | 6/7/22       | 6/10/22             | 70212720000047313111 |                                 |
| 28    | Wayne  | 19-1-2-11-0-0-2-000   | 0.57    | HEMMERLEIN GERTRUDE                     | HEMMERLEIN GERTRUDE                   | DACW43-9-22-194 | 6/9/2022     |                     | 70190140000043314526 |                                 |
| 28    | Wayne  | 19-1-2-11-0-0-2-000   | 0.36    | HEMMERLEIN GERTRUDE                     | HEMMERLEIN GERTRUDE                   |                 | 6/7/22       | 7/13/22             | 70010360000209402671 |                                 |
| 28    | Wayne  | 19-6-0-13-0-0-1-000   | 24.95   | HEMMERLEIN GERTRUDE                     | HEMMERLEIN GERTRUDE                   |                 |              |                     |                      |                                 |
| 28    | Wayne  | 19-1-2-12-0-0-6-000   | 1.98    | HEMMERLEIN GERTRUDE TRUST EM            | HEMMERLEIN GERTRUDE TRUST EM          |                 |              |                     |                      |                                 |
| 55    | Wayne  | 8-6-0-23-1-3-5-000    | 0.56    | HICKS ALLEN & PAULINE                   | HICKS ALLEN & PAULINE                 | DACW43-9-22-195 | 6/6/2022     |                     | 70190140000043314533 |                                 |
| 47    | Wayne  | 8-4-0-20-0-0-3-000    | 0.83    | HOW JAMES P & MARY R                    | HOW JAMES P & MARY R                  | DACW43-9-22-200 | 6/6/22       | 7/13/2022           | 70010360000209402688 |                                 |
| 49    | Wayne  | 8-3-0-8-0-0-2-000     | 11.2    | HUITT EARL F                            | HUITT Gary D.                         | DACW43-9-22-201 | 6/7/22       | 7/13/22             | 70212720000047312557 |                                 |
| 51    | Wayne  | 8-3-0-5-0-0-25-000    | 1.13    | HUITT EARL F                            | HUITT Gary D.                         |                 |              |                     |                      |                                 |
| 51    | Wayne  | 8-3-0-5-0-0-25-000    | 1.31    | HUITT EARL F                            | HUITT Gary D.                         |                 |              |                     |                      |                                 |
| 51    | Wayne  | 8-3-0-5-0-0-25-000    | 1.07    | HUITT EARL F                            | HUITT Gary D.                         |                 |              |                     |                      |                                 |
| 51    | Wayne  | 8-3-0-5-0-0-25-000    | 0.25    | HUITT EARL F                            | HUITT Gary D.                         |                 |              |                     |                      |                                 |
| 51    | Wayne  | 8-3-0-5-0-0-25-000    | 1.12    | HUITT EARL F                            | HUITT Gary D.                         |                 |              |                     |                      |                                 |
| 9     | Wayne  | 21-4-17-0-0-1-138     | 0.7     | James & Brenda Killian                  |                                       | DACW43-9-22-202 | 6/7/22       | 6/9/22              | 70190140000043314601 |                                 |
| 57    | Wayne  | 8-7-0-26-0-0-2-000    | 1.8     | JOY WILLIAM & RUTH                      | Joy, Fred & Ruth                      | DACW43-9-22-205 | 6/7/22       | 7/13/22             | 70190140000043314632 |                                 |
| 57    | Wayne  | 8-7-0-25-0-0-5-000    | 0.29    | JOY WILLIAM & RUTH                      | Joy, Fred & Ruth                      |                 |              |                     | 70010360000209402756 |                                 |
| 57    | Wayne  | 8-7-0-25-0-0-5-000    | 0.05    | JOY WILLIAM & RUTH                      | Joy, Fred & Ruth                      |                 |              |                     |                      |                                 |
| 6     | Wayne  | 21-3-1-5-0-0-6-000    | 0.77    | KELLOCK DAVID & SHIRLEY                 |                                       | DACW43-9-22-209 | 6/7/22       | 6/9/22              | 70190140000043314663 |                                 |
| 6     | Wayne  | 21-3-1-5-0-0-5-000    | 2.7     | KIELHOFFNER LEON ETAL                   |                                       | DACW43-9-22-210 | 6/7/22       | 6/9/22              | 70190140000043314670 |                                 |
| 64    | Wayne  | 20-2-1-3-0-0-14-000   | 1.74    | LANCASTER BARBARA ETAL                  |                                       | DACW43-9-22-211 | 6/7/22       | 6/9/22              | 70190140000043314687 |                                 |
| 55    | Wayne  | 8-6-0-14-0-0-28-000   | 1.61    | MASON DAVID L & WILMA                   | MASON DAVID L & WILMA                 | DACW43-9-22-213 | 6/7/22       | 7/13/22             | 70010360000209402923 |                                 |
| 55    | Wayne  | 8-6-0-23-1-3-1-000    | 0.3     | MASON DAVID L & WILMA                   | MASON DAVID L & WILMA                 |                 | 6/7/22       | 6/9/22              | 70190140000043314786 |                                 |
| 56    | Wayne  | 8-6-0-23-1-14-6-000   | 2.32    | MONTGOMERY MARK T                       | Terry & Jennifer Bounds               | DACW43-9-22-221 | 6/7/22       | 7/13/22             | 70212720000047312800 |                                 |
| 56    | Wayne  | 8-6-0-23-1-14-7-000   | 0.71    | MONTGOMERY MARK T                       | Terry & Jennifer Bounds               |                 | 6/10/22      |                     |                      |                                 |
| 49    | Wayne  | 8-3-0-8-0-0-18-000    | 1.05    | MORLAN KENNETH L & TERRY                | Green, Craig                          | DACW43-9-22-222 | 6/7/22       | 7/13/2022           | 70190140000043314793 |                                 |
| 22    | Wayne  | 21-9-0-30-0-0-18-000  | 0.2     | MORSE WILLIAM L & WILLIAM S             |                                       | DACW43-9-22-223 | 6/7/22       | 6/10/22             | 70010360000209402695 |                                 |
| 22    | Wayne  | 21-9-0-30-0-0-18-000  | 0.04    | MORSE WILLIAM L & WILLIAM S             |                                       |                 |              |                     | 70190140000043314809 |                                 |
| 22    | Wayne  | 21-9-0-30-0-0-16-000  | 0.03    | MORSE WILLIAM L & WILLODEAN ETAL        |                                       | DACW43-9-22-224 | 6/7/22       | 6/10/22             | 70190140000043314816 |                                 |
| 22    | Wayne  | 21-9-0-30-0-0-16-000  | 0.66    | MORSE WILLIAM L & WILLODEAN ETAL        |                                       |                 |              |                     |                      |                                 |
| 61    | Wayne  | 13-4-2-10-0-0-1-000   | 6.46    | MCLANE REALTY LIMITED PARTNERSHIP       | MCLANE REALTY LIMITED PARTNERSHIP     | DACW43-9-22-215 | 6/9/2022     |                     | 70190140000043314724 |                                 |
| 21    | Wayne  | 21-4-0-19-0-0-8-000   | 0.16    | NICKENS JOHN R & FRANCES                | NICKENS JOHN R & FRANCES              | DACW43-9-22-226 | 6/7/22       | 7/13/22             | 70010360000209402848 |                                 |
| 65    | Wayne  | 20-6-0-13-0-0-3-000   | 1.39    | PECK PEGGY J                            |                                       | DACW43-9-22-228 | 6/7/22       | 6/10/22             | 70190140000043314830 |                                 |
| 65    | Wayne  | 20-6-0-13-0-0-3-000   | 1.38    | PECK PEGGY J                            |                                       |                 |              |                     | 70010360000209402749 |                                 |
| 65    | Wayne  | 20-6-0-13-0-0-3-000   | 3.61    | PECK PEGGY J                            |                                       |                 |              |                     |                      |                                 |
| 65    | Wayne  | 20-1-2-11-0-0-2-000   | 1.22    | PECK PEGGY J TRUST                      |                                       |                 |              |                     |                      |                                 |
| 6     | Wayne  | 21-3-1-5-0-0-3-000    | 5.57    | Raymond J. Moore, et al                 |                                       | DACW43-9-22-231 | 6/7/22       | 6/10/22             | 70190140000043314885 |                                 |
| 9     | Wayne  | 21-5-21-0-0-4         | 0.3     | Richard and/or Janice Suoz              |                                       | DACW43-9-22-233 | 6/7/22       | 6/10/22             | 70190140000043314908 |                                 |
| 3     | Wayne  | 12-8-1-34-0-0-3-000   | 1       | RICHMOND ALVIE & SUSAN                  |                                       | DACW43-9-22-234 | 6/7/22       | 6/10/22             | 70190140000043314915 |                                 |
| 3     | Wayne  | 21-1-1-2-0-0-0-3-000  | 0.35    | RICHMOND ALVIE L & SUSAN D              |                                       |                 |              |                     |                      |                                 |
| 60    | Wayne  | 13-3-2-7-0-0-16-001   | 0.23    | ROBINSON CHARLES L & VICKI              | ROBINSON CHARLES L & VICKI            | DACW43-9-22-236 | 6/10/2022    |                     | 70190140000043314939 |                                 |
| 5     | Wayne  | 21-2-1-3-0-0-14-000   | 0.09    | ROBINSON DWAIN & VEDA                   | Robinson, Arla Dwain & Veda           | DACW43-9-22-237 | 6/7/22       | 7/13/22             | 70212720000047312985 |                                 |
| 5     | Wayne  | 21-2-1-3-0-0-14-000   | 0.06    | ROBINSON DWAIN & VEDA                   | Robinson, Arla Dwain & Veda           |                 | 6/10/2022    |                     | 70190140000043314946 |                                 |
| 50    | Wayne  | 8-4-0-17-0-0-1-000    | 1.61    | RUBLE ROCK & LIME INC                   | Cot Rock & Lime                       | DACW43-9-22-239 | 6/7/22       | 6/10/22             | 70190140000043314960 |                                 |
| 56    | Wayne  | 8-6-0-23-1-14-3-000   | 0.035   | RUSSOM ALLEN & SHARON                   |                                       | DACW43-9-22-240 | 6/7/22       | 6/10/22             | 70190140000043314977 |                                 |
| 56    | Wayne  | 8-6-0-23-1-14-2-000   | 0.33    | WHITE THEDA                             | RUSSOM ALLEN & SHARON                 | DACW43-9-22-260 | 6/7/22       | 7/13/22             | 70212720000047313197 |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-4-000    | 0.2     | SCHLATER GEORGE                         | Rusk, Amy Lynn                        | DACW43-9-22-243 | 6/7/22       | 7/13/22             | 70212720000047312947 |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-4-000    | 1.08    | SCHLATER GEORGE                         | Rusk, Amy Lynn                        |                 |              |                     |                      |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-4-000    | 0.87    | SCHLATER GEORGE                         | Rusk, Amy Lynn                        |                 |              |                     |                      |                                 |
| 48    | Wayne  | 8-4-0-18-0-0-3-000    | 10.87   | SCHLATER GEORGE                         | Rusk, Amy Lynn                        |                 |              |                     |                      |                                 |
| 44    | Wayne  | 8-8-2-28-0-0-4-001    | 1.53    | SPEERS JEFFERY & LISA                   | SPEERS JEFFERY & LISA                 | DACW43-9-22-246 | 6/10/2022    |                     | 70212720000047313067 |                                 |
| 28    | Wayne  | 19-6-0-13-0-0-4-000   | 0.13    | SWINGER RANDY & CONNIE                  | Gunnar Investments, LLC               | DACW43-9-22-248 | 6/7/22       | 7/13/22             | 70010360000209402879 |                                 |
| 28    | Wayne  | 19-6-0-13-0-0-4-000   | 29.46   | SWINGER RANDY & CONNIE                  | Gunnar Investments, LLC               |                 |              |                     | 70212720000047313081 |                                 |
| 29    | Wayne  | 20-4-0-18-0-0-7-000   | 0.02    | TAYLOR MICHAEL                          |                                       | DACW43-9-22-249 | 6/7/22       | 6/10/22             | 70212720000047313098 |                                 |
| 9     | Wayne  | 21-4-17-0-0-1-001     | 0.74    | Terrie & Dan Carter                     |                                       | DACW43-9-22-253 | 6/7/22       | 6/10/22             | 70010360000209401766 |                                 |
| 56    | Wayne  | 8-6-0-23-1-11-2-000   | 0.09    | WARD WAYNE                              |                                       | DACW43-9-22-259 | 6/7/22       | 6/10/22             | 70212720000047313180 |                                 |
| 43    | Wayne  | 14-2-1-3-0-0-3-002    | 0.06    | WIEDEMANN JANET                         | Westmoreland, Rene S.                 | DACW43-9-22-261 | 6/7/22       | 7/13/22             | 70212720000047313203 |                                 |
| 43    | Wayne  | 14-2-1-3-0-0-3-002    | 0.15    | WIEDEMANN JANET                         |                                       |                 |              |                     |                      |                                 |

## Scoping Recipients

|    |        |                        |               |                                                                        |                                        |                 |                     |                                               |                                                                                                              |
|----|--------|------------------------|---------------|------------------------------------------------------------------------|----------------------------------------|-----------------|---------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|    | Wayne  | 8-6-0-23-1-3-4-0.00    | 0.15          | BOLLINGER JERRY & WALEE<br>CHURCH, COOL SPRINGS BAPTIST<br>CHURCH INC. | DACW43-9-22-153                        | 6/3/22          | 6/9/22              | 70190140000043308860                          | 9/15/22 - Letter returned undeliverable - telephone # disconnected.                                          |
| 28 | Wayne  | 19-6-0-13-0-4-0-0.01   | 0.18          | CHURCH, COOL SPRINGS BAPTIST<br>CHURCH INC                             | DACW43-9-22-170                        | 6/3/22          | 6/9/22              | 70190140000043314281<br>70190140000043314335  | 9/15/22 - Letter returned undeliverable - telephone # disconnected.<br>9/20/22 - Returned - refused delivery |
| 2  | Wayne  | 19-6-0-13-0-4-0-1.25   | 0.18<br>0.05  | Donald & Jacquelyn Hundsiree                                           |                                        |                 |                     |                                               |                                                                                                              |
| 47 | Wayne  | 8-4-0-20-0-0-5-0.00    | 0.88          | EATON JOHN S & DORIS                                                   | EATON JOHN S & DORIS                   |                 | 7/13/22             | 70212720000047312664                          | 10/4/22 - Undclaimed/Unable to forward                                                                       |
| 2  | Wayne  | 12-9-0-31-0-10-0-10.00 | 0.15          | FLANARY MCKEY                                                          | Scowden, Markel D                      | DACW43-9-22-179 | 6/9/2022<br>6/6/22  | 70190140000043314373<br>70212720000047312718  | Undclaimed letter                                                                                            |
| 19 | Wayne  | 24-1-0-1-0-0-1-0.07    | 0.83          | GAU DONALD JR & JEANNETTE                                              | GAU DONALD JR & JEANNETTE              | DACW43-9-22-183 | 6/6/22              | 7019014000003314410<br>70212720000047312631   | 10/4/22 - Undclames/unable to forward                                                                        |
| 2  | Wayne  | 12-9-0-31-0-10-0-12.00 | 0.53          | HELM JOHN HENRY                                                        | Scowden, Michael & Terry               | DACW43-9-22-193 | 6/6/22              | 70212720000047312923                          | Undclaimed letter                                                                                            |
| 56 | Wayne  | 8-6-0-23-1-14-9-0.00   | 0.53          | HICKS CLYDE W & AUGUSTA                                                | Hicks, Rickey L & Neena M              | DACW43-9-22-196 | 6/6/22<br>6/9/2022  | 70190140000043314540<br>7010360000209402589   | Undclaimed letter                                                                                            |
| 22 | Wayne  | 21-7-0-36-0-0-2-0.00   | 1.19          | HOLLOWAY BRAD & ASHLEY                                                 | Elkede, Mrs. B.M.                      | DACW43-9-22-199 | 6/6/22<br>8/2/22    | 70212720000047312688<br>0360 0002 0939 7519   | 10/4/22 - Undclaimed unable to forward                                                                       |
| 42 | Wayne  | 14-1-0-11-0-0-3-0.00   | 0.39          | LUNDY BONNIE & BARBARA                                                 |                                        | DACW43-9-22-212 | 6/7/22              | 70190140000043314694                          | 10/4/22 - Undclaimed unable to forward                                                                       |
| 33 | Wayne  | 20-3-14-0-0-12-001     | 2.99          | MELOY LOYD & PATRICIA                                                  | MELOY LOYD & PATRICIA                  | DACW43-9-22-217 | 6/9/2022<br>6/7/22  | 70190140000043314748<br>70212720000047312763  | 9/15/22 - Refused delivery of letter<br>9/15/22 - Refused delivery of letter                                 |
| 33 | Wayne  | 20-3-14-0-0-12-001     | 2.99          | MELOY ROBERT & THERESA                                                 | MELOY ROBERT & THERESA                 | DACW43-9-22-218 | 6/9/2022<br>6/7/22  | 70190140000043314755<br>70212720000047312725  | 9/15/22 - Refused delivry of letter<br>9/15/22 - Refused delivery of letter                                  |
| 18 | Wayne  | 24-1-0-2-0-0-2-0.00    | 1.42          | RAGAN CAROLINDA C                                                      | Hughey, Melanie Revocable Living Trust | DACW43-9-22-230 | 6/10/2022           | 70190140000043314878                          | 10/4/22 - Undclaimed unable to forward                                                                       |
| 48 | Wayne  | 8-4-0-18-0-0-1-0.00    | 2.85          | SANDERS DONALD & DANIELLE                                              | Smith, Wallace Lawrence                | DACW43-9-22-242 | 6/7/22              | 70190140000043314919                          | 9/13/22 - Letter came back undeliverable.                                                                    |
| 48 | Wayne  | 8-0-7-0-0-22-004       | 4.71          | SANDERS DONALD & DANIELLE                                              | Smith, Wallace Lawrence                |                 | 6/10/2022           | 70212720000047313104                          |                                                                                                              |
| 45 | Wayne  | 8-5-2-21-0-0-9-0.00    | 1.28          | TOMPSON LLOYD ETAL                                                     | TOMPSON LLOYD ETAL                     | DACW43-9-22-250 | 6/7/22              | 7010360000209402886                           | 10/4/22 - Undclaimed unable to forward                                                                       |
| 45 | Wayne  | 8-5-1-22-0-0-3-0.00    | 0.95          | TOMPSON LLOYD ETAL                                                     | TOMPSON LLOYD ETAL                     |                 |                     |                                               |                                                                                                              |
| 45 | Wayne  | 8-5-1-22-0-0-3-0.00    | 0.87          | TOMPSON LLOYD ETAL                                                     | TOMPSON LLOYD ETAL                     |                 | 6/10/2022           | 70212720000047313125                          |                                                                                                              |
|    | Wayne  | 12-9-0-31-0-0-1-0.00   | 15.28         | THURSTON RONNIE L & MARY ANGELA                                        | THURSTON RONNIE L & MARY ANGELA        | DACW43-9-22-252 | 5/25/22             | 7010360000209402888                           | Undclaimed letter                                                                                            |
| 1  | Wayne  | 12-9-0-31-0-0-1-0.00   | 0.04          | THURSTON RONNIE L & MARY ANGELA                                        | THURSTON RONNIE L & MARY ANGELA        |                 |                     |                                               | Undclaimed letter                                                                                            |
| 22 | Wayne  | 21-7-0-25-3-1-15-00    | 3.96          | ANGELA                                                                 | Thurston, Ronnie L & Mary Angela       | DACW43-9-22-181 | 6/6/22              | 70190140000043314397                          | Undclaimed letter                                                                                            |
| 1  | Wayne  | 12-9-0-31-0-0-1-0.005  | 0.65          | GAGE LEONARD & THERESA                                                 |                                        |                 | 6/10/2022           | 70212720000047313173                          | Undclaimed letter                                                                                            |
| 10 | Wayne  | 21-7-0-26-3-4-10-00    | 0.12          | WALKER DALE & DOROTHY                                                  | Grea Luehmman                          | DACW43-9-22-257 | 6/7/22              | 70103600002093908509                          | 9/22/22 - Undelverable                                                                                       |
| 56 | Wayne  | 8-6-0-23-1-14-8-0.00   | 2.27          | RITZU WILLAM L                                                         | Burlinson, James W.                    | DACW43-9-22-235 | 6/7/22              | 70190140000043314922                          | 1/1/22 - Undclaimed/unable to forward                                                                        |
| 29 | Wayne  | 20-4-0-18-0-0-9-0.00   | 0.7           | SWENSON ROGER & EUNICE                                                 | SWENSON ROGER & EUNICE                 | DACW43-9-22-247 | 6/7/22              | 7010360000209402787                           | 10/25/22 - Return to Sender / Undclaimed                                                                     |
| 29 | Wayne  | 20-4-0-18-0-0-9-0.00   | 0.04          | SWENSON ROGER & EUNICE                                                 | SWENSON ROGER & EUNICE                 |                 | 7/13/22             | 7010360000209402954                           | 10/25/22 - Return to Sender / Undclaimed                                                                     |
| 3  | Wayne  | 12-8-1-34-0-0-2-0.00   | 0.49<br>52.11 | JOHNSON HASSELTINE                                                     | Smith, Dianne; Johnson, Edward         | DACW43-9-22-203 | 6/9/2022<br>6/7/22  | 70190140000043314618<br>7010360000209402596   | 11/8/22 - Returned / Undclaimed                                                                              |
| 28 | Wayne  | 19-6-0-13-0-0-2-0.00   | 1             | CEMETERY, CATRON CEMETERY<br>CEMETERY, PAGE-BLACKBURN<br>CEMETERY      |                                        |                 |                     |                                               |                                                                                                              |
| 64 | Wayne  | 20-2-2-10-0-0-1-0.01   | 0.12          | Re-organized District R2 School                                        |                                        |                 |                     |                                               |                                                                                                              |
| 58 | Wayne  | 14-1-0-11-1-1-1-0.00   | 5.33          |                                                                        |                                        |                 |                     |                                               |                                                                                                              |
| 56 | Wayne  |                        | 0.49          |                                                                        |                                        |                 |                     |                                               |                                                                                                              |
| 9  | Wayne  | 21-17-0-0-2-1          | 0.05          | Denzil Durbin                                                          | Denzil Durbin                          | DACW43-9-22-166 | 6/9/2022<br>6/3/22  | 70190140000043314243<br>700103600000209402619 |                                                                                                              |
|    |        |                        | 7.02          |                                                                        |                                        |                 |                     |                                               |                                                                                                              |
| 26 | Wayne  | 20-4-0-20-0-0-3-0.00   | 0.2           | BERCHTOLD LARRY                                                        | BERCHTOLD LARRY                        | DACW43-9-22-140 | 6/9/2022<br>6/3/22  | 700103600000209401643<br>70212720000047312619 | Letter undclaimed                                                                                            |
| 4  | Wayne  | 21-2-1-3-0-10-0-10.00  | 9.02          | DILLON CONNIE & PATSY                                                  | DILLON CONNIE & PATSY                  | DACW43-9-22-168 | 6/9/2022<br>6/3/22  | 70190140000043314267<br>70212720000047312855  | 9/13/22 - Does not wish to participate - doesn't want Corps on his land.                                     |
| 47 | Wayne  | 8-4-0-20-0-0-6-0.00    | 5.38          | GATEWOOD EARL D & KATHERINE                                            | Moskan, Maria Caroline & Albert C      | DACW43-9-22-182 | 6/9/2022<br>6/6/22  | 70190140000043314833<br>70212720000047312803  | Declined - 8/2/22                                                                                            |
| 47 | Wayne  | 8-4-0-17-0-0-11-0.00   | 2.96          | GRAHAM MATTHEW & BRITT                                                 | GRAHAM MATTHEW & BRITT                 | DACW43-9-22-185 | 6/9/2022<br>6/6/22  | 70190140000043314403<br>70212720000047314434  | 9/27/22 - Decline to participate<br>9/27/22 - Decline to participate                                         |
| 47 | Wayne  | 8-4-0-20-0-0-4-0.00    | 1.32          | GRAHAM MATTHEW & BRITT                                                 | GRAHAM MATTHEW & BRITT                 |                 |                     |                                               | 9/27/22 - Decline to participate                                                                             |
| 47 | Wayne  | 8-4-0-20-0-0-4-0.00    | 0.07          | GRAHAM MATTHEW & BRITT                                                 | GRAHAM MATTHEW & BRITT                 |                 |                     |                                               | 9/27/22 - Decline to participate                                                                             |
| 44 | Wayne  | 8-8-2-28-0-0-3-0.00    | 0.16          | TRUEMPER KENNETH                                                       | Graham, Matthew & Britt                | DACW43-9-22-254 | 6/10/2022<br>6/7/22 | 70212720000047313135<br>70212720000047312640  | 9/27/22 - Decline to participate<br>9/27/22 - Decline to participate                                         |
| 44 | Wayne  | 8-5-2-21-0-0-12-0.00   | 0.6           | TRUEMPER KENNETH                                                       | Graham, Matthew & Britt                |                 |                     |                                               | 10/4/22 - Decline to participate                                                                             |
| 50 | Wayne  | 20-3-2-10-0-0-6-0.00   | 1.51          | GROVES TERRY & RONDA                                                   |                                        | DACW43-9-22-188 | 6/6/22              | 70190140000043314465                          |                                                                                                              |
| 50 | Wayne  | 8-5-2-16-0-0-7-0.00    | 2.6           | MILES L C                                                              | Miles, Mark & Juanita                  | DACW43-9-22-219 | 6/9/22<br>6/6/22    | 70190140000043314762<br>70190140000043314779  |                                                                                                              |
| 50 | Wayne  | 8-5-2-16-0-0-6-0.00    | 0.17          | MILES MARK & JUANITA                                                   | MILES MARK & JUANITA                   | DACW43-9-22-220 | 6/9/2022<br>6/7/22  | 70190140000043314779<br>70212720000047312749  | 8/2/22 - Declined                                                                                            |
| 50 | Wayne  | 8-5-2-16-0-0-6-0.00    | 0.01          | MILES MARK & JUANITA                                                   | MILES MARK & JUANITA                   |                 | 6/7/22              |                                               |                                                                                                              |
| 50 | Wayne  | 8-5-2-16-0-0-6-0.00    | 0.61          | MILES MARK & JUANITA                                                   | MILES MARK & JUANITA                   |                 | 6/7/22              |                                               |                                                                                                              |
| 24 | Wayne  | 20-8-0-27-0-0-3-0.00   | 0.19          | VERNON GENE A                                                          | Stanley, Terri K & Julie P.            | DACW43-9-22-256 | 6/10/2022<br>6/7/22 | 70212720000047313159<br>700103600000209402626 | 9/27/2022 - Decline to participate                                                                           |
| 55 | Wayne  | 8-6-0-23-1-3-2-0.00    | 0.18          | WITTE OSCAR G & MICHELLE R                                             | WITTE OSCAR G & MICHELLE R             | DACW43-9-22-270 | 6/10/2022<br>6/7/22 | 70212720000047313227<br>70212720000047312879  | 8/23/22 - Declined<br>8/23/22 - Declined                                                                     |
| 66 | Wayne  | 20-6-0-14-0-0-6-0.00   | 0.14          | WITTE OSCAR G & MICHELLE R                                             | WITTE OSCAR G & MICHELLE R             |                 |                     |                                               |                                                                                                              |
| 66 | Wayne  | 20-6-0-14-0-0-6-0.00   | 0.44          | EVERETT LARRY & MARIE ETAL                                             | Witte Oscar G & Michelle R             |                 |                     |                                               |                                                                                                              |
| 66 | Wayne  | 20-6-0-14-0-0-6-0.00   | 0.13          | EVERETT LARRY & MARIE ETAL                                             | Witte Oscar G & Michelle R             | DACW43-9-22-177 | 6/6/22              | 70190140000043314359                          |                                                                                                              |
| 44 | Wayne  | 8-8-2-28-0-0-9-0.00    | 6.92          | WORLEY ROBERT & RUTH TRUST                                             | Pulliam, Rusty                         | DACW43-9-22-264 | 6/10/2022<br>6/7/22 | 70212720000047313292<br>70212720000047313557  | 8/1/22 - Declined                                                                                            |
| 47 | Wayne  | 8-4-0-17-0-0-12-0.00   | 6.35          | HICKS WM A                                                             |                                        | DACW43-9-22-197 | 6/6/22              | 70190140000043314241                          | 11/1/22 - Decline to participate                                                                             |
| 51 | Wayne  | 8-3-0-5-0-0-16-0.00    | 5.04          | DAVES JOHN & DEBBIE                                                    | DAVES JOHN & DEBBIE                    | DACW43-9-22-162 | 6/9/2022<br>6/3/22  | 70190140000043308952<br>70212720000047313794  |                                                                                                              |
| 51 | Wayne  | 8-3-0-5-0-0-16-0.00    | 0.37          | DAVES JOHN & DEBBIE                                                    | DAVES JOHN & DEBBIE                    |                 |                     |                                               |                                                                                                              |
| 51 | Wayne  | 8-3-0-5-0-0-16-0.00    | 0.51          | DAVES JOHN & DEBBIE                                                    | DAVES JOHN & DEBBIE                    |                 |                     |                                               |                                                                                                              |
| 56 | Wayne  | 8-6-0-23-1-14-7-0.01   | 0.8           | DAVES LAV & JUD REVOC TRUST                                            | DAVES LAV & JUD REVOC TRUST            | DACW43-9-22-163 | 6/9/2022<br>6/3/22  | 70190140000043314212<br>70212720000047312848  |                                                                                                              |
| 11 | Butler | 202100000000014000     | 7.78          | Charles & Dorothy Brotherton                                           |                                        | DACW43-9-22-150 | 6/3/22              | 7001036000209401759                           | 7/14/22                                                                                                      |
| 11 | Butler | 202100000000014000     | 0.2           | Charles & Dorothy Brotherton                                           |                                        |                 |                     |                                               | 7/14/22                                                                                                      |
| 11 | Butler | 202100000000014000     | 0.25          | Charles & Dorothy Brotherton                                           |                                        |                 |                     |                                               | 7/14/22                                                                                                      |
| 43 | Wayne  | 14-2-1-3-0-0-5-0.00    | 1.62          | ALFORD LOIS L & ROGER D                                                | ALFORD LOIS L & ROGER D                | DACW43-9-22-130 | 6/9/2022<br>6/3/22  | 7001036000209402084<br>70212720000047313029   | 7/28/22                                                                                                      |
| 43 | Wayne  | 14-2-1-3-0-0-5-0.02    | 0.64          | CURD LOIS L c/o Roger Alford & Lois                                    | CURD LOIS L c/o Roger Alford & Lois    |                 |                     |                                               | 7/28/22                                                                                                      |
| 43 | Wayne  | 14-2-1-3-0-0-2-0.00    | 0.04          | Patterson                                                              | ALFORD LOIS L & ROGER D                | DACW43-9-22-156 | 6/3/22              | 70190140000043308891                          | 7/28/22                                                                                                      |
| 43 | Wayne  | 14-2-1-3-0-0-2-0.00    | 0.18          | COPELAND AMANDA                                                        | ALFORD LOIS L & ROGER D                |                 |                     |                                               | 7/28/22                                                                                                      |
| 9  | Wayne  | 21-5-0-11-0-0-3-0.15   | 0.01          | Arthur & Mary Sue Dye                                                  |                                        | DACW43-9-22-133 | 6/3/22              | 70150640000478775038                          | 6/23/22                                                                                                      |
| 68 | Wayne  | 3-8-2-25-0-0-3-0.00    | 34.18         | BENNETT BOBBIE O JR LE                                                 |                                        | DACW43-9-22-138 | 6/9/22              | 7001036000209401620                           | 6/23/22                                                                                                      |
| 68 | Wayne  | 3-8-2-23-0-0-3-0.00    | 24.63         | BENNETT BOBBIE O JR LE                                                 |                                        |                 | 6/3/22              | 7001036000209401681                           | 6/23/22                                                                                                      |
| 19 | Wayne  | 24-1-0-1-0-0-1-0.00    | 0.9           | BOMAR BILLIE ETAL                                                      | BOMAR BILLIE ETAL                      | DACW43-9-22-143 | 6/9/2022            | 7001036000209401681                           | 7/28/22                                                                                                      |
| 64 | Wayne  | 20-2-1-3-0-0-5-0.01    | 3.87          | BURCHARD JUNIOR C & DONITA                                             |                                        | DACW43-9-22-147 | 6/3/22              | 70212720000047312886                          | 9/27/22                                                                                                      |
| 49 | Wayne  | 8-3-0-8-0-0-20-0.00    | 0.66          | COBB JANE                                                              | Cross, Ramona J.; Mell, Raymond S      | DACW43-9-22-155 | 6/9/2022<br>6/3/22  | 70190140000043308884<br>70212720000047312886  | 9/20/22                                                                                                      |
| 49 | Wayne  | 8-3-0-8-0-0-20-0.00    | 0.23          | COBB JANE                                                              | Cross, Ramona J.; Mell, Raymond S      |                 |                     |                                               | 9/20/22                                                                                                      |
| 49 | Wayne  | 8-3-0-8-0-0-19-0.00    | 0.33          | COBB JANE                                                              | Cross, Ramona J.; Mell, Raymond S      |                 |                     |                                               | 9/20/22                                                                                                      |
| 50 | Wayne  | 8-4-0-17-0-0-2-0.01    | 1.3           | COBB JANE                                                              | Cross, Ramona J.; Mell, Raymond S      |                 |                     |                                               | 9/20/22                                                                                                      |
| 9  | Wayne  | 21-4-1-7-0-0-1-39      | 0.32          | Deborah Ricks & Susan Walker                                           |                                        | DACW43-9-22-165 | 6/9/2022<br>6/3/22  | 70190140000043314236<br>7001036000209407065   | 7/14/22                                                                                                      |
| 20 | Wayne  | 21-9-0-31-0-0-2-0.00   | 1.07          | DIAMOND DANIEL L & KATHY J                                             | Lewis, Melvin Lee Jr. & Denise         | DACW43-9-22-167 | 6/9/2022<br>6/3/22  | 70190140000043314250<br>7001036000209402763   | 8/23/22                                                                                                      |
| 20 | Wayne  | 21-9-0-31-0-0-2-0.00   | 0.27          | DIAMOND DANIEL L & KATHY J                                             | Lewis, Melvin Lee Jr. & Denise         |                 |                     |                                               | 8/23/22                                                                                                      |
| 20 | Wayne  | 21-9-0-31-0-0-2-0.00   | 0.78          | DIAMOND DANIEL L & KATHY J                                             | Lewis, Melvin Lee Jr. & Denise         |                 |                     |                                               | 8/23/22                                                                                                      |
| 22 | Wayne  | 21-9-0-31-0-0-2-0.00   | 0.85          | DIAMOND DANIEL L & KATHY J                                             | Lewis, Melvin Lee Jr. & Denise         |                 |                     |                                               | 8/23/22                                                                                                      |
| 22 | Wayne  | 21-9-0-30-0-0-19-0.00  | 0.55          | DIAMOND DANNY & KATHY                                                  | Morse, William Scott & Tonya R         |                 | 7/13/22             | 7001036000209402947                           | 8/23/22                                                                                                      |
| 16 | Wayne  | 19-6-0-24-0-0-12-0.00  | 0.14          | DODSON MARK & DEBRA                                                    |                                        | DACW43-9-22-169 | 6/3/22              | 70190140000043314274                          | 7/14/22                                                                                                      |
| 27 | Wayne  | 23-2-0-4-0-0-3-0.00    | 1.21          | DUNCAN KIM ETAL                                                        | DUNCAN KIM ETAL                        | DACW43-9-22-171 | 6/9/2022            | 70190140000043314268                          | 7/28/22                                                                                                      |
| 16 | Wayne  | 23-2-0-4-0-0-3-0.00    | 0.98          | DUNCAN KIM ETAL                                                        | DUNCAN KIM ETAL                        |                 | 6/6/22              | 70212720000047312671                          | 7/28/22                                                                                                      |
| 33 | Wayne  | 20-3-14-0-0-2-0.00     | 1.64          | EASTERN UNION ASSOC ETAL                                               |                                        | DACW43-9-22-174 | 6/6/22              | 70190140000043314328                          | 9/13/22                                                                                                      |
| 39 | Wayne  | 20-3-14-0-0-2-0.00     | 1.64          | EASTERN UNION ASSOC ETAL                                               |                                        |                 |                     |                                               |                                                                                                              |
| 65 | Wayne  | 20-1-2-1-0-0-5-0.00    | 0.71          | GRAMLICH GREGORY ETAL c/o Gary                                         |                                        | DACW43-9-22-186 | 6/6/22              | 70190140000043314441                          | 6/23/22                                                                                                      |
| 8  | Wayne  | 21-2-1-4-0-0-35-0.00   | 0.73          | Hickworth Farms Inc.                                                   |                                        | DACW43-9-22-189 | 6/6/22              | 70190140000043314472                          | 7/14/22                                                                                                      |
| 51 | Wayne  | 8-3-0-5-0-0-20-0.00    | 0.24          | HAND JEFFREY G                                                         |                                        | DACW43-9-22-191 | 6/9/2022<br>6/6/22  | 70190140000043314496<br>70212720000047312596  | 8/23/22                                                                                                      |
| 51 | Wayne  | 8-3-0-5-0-0-20-0.00    | 0.04          | HAND JEFFREY G                                                         |                                        |                 |                     |                                               | 8/23/22                                                                                                      |
| 51 | Wayne  | 8-3-0-5-0-0-20-0.00    | 4.63          | HAND JEFFREY G                                                         |                                        |                 |                     |                                               | 8/23/22                                                                                                      |
| 51 | Wayne  | 8-3-0-5-0-0-24-0.01    | 4.88          | WOODS HAZEL MARIE & PENROD ARNOLD                                      | Hand, Jeffrey G. & Deborah A           | DACW43-9-22-264 | 6/10/2022<br>6/7/22 | 70212720000047312732                          |                                                                                                              |
| 51 | Wayne  | 8-3-0-5-0-0-21-0.01    | 4.59          | CLAY RANDY G & KIMBERLY K                                              | HAND JEFFREY G                         | DACW43-9-22-154 | 6/3/2               |                                               |                                                                                                              |

## Scoping Recipients

|    |       |                         |       |                              |                                    |                 |        |           |                       |                                              |
|----|-------|-------------------------|-------|------------------------------|------------------------------------|-----------------|--------|-----------|-----------------------|----------------------------------------------|
| 44 | Wayne | 21-4-17-0-0-1.05        | 0.47  | Juanica Buzel                |                                    | DACW43-9-22-206 | 6/7/22 | 6/9/22    | 701901036000209401667 | 7/14/22                                      |
| 54 | Wayne | 8-5-1-15-0-0-16.001     | 0.92  | JUMPER CHARLES LARRY         | Jumper, Charles L; Branscum, Don   | DACW43-9-22-207 | 6/7/22 | 6/9/2022  | 70190140000043314649  | 9/13/22                                      |
| 29 | Wayne | 20-4-0-18-0-0-0.000     | 0.06  | KEELIE SHIRLEY               |                                    | DACW43-9-22-208 | 6/7/22 | 7/13/2022 | 701036000209402763    | 9/13/22 9/7/22 - Per EL - will be sending in |
| 31 | Wayne | 20-4-0-17-0-0-0-0.000   | 2     | MAYBERRY GARY & SUE ETAL     |                                    | DACW43-9-22-214 | 6/7/22 | 6/9/22    | 70190140000043314856  | 7/14/22                                      |
| 2  | Wayne | 20-4-0-17-0-0-0-0.000   | 0.42  | MAYBERRY GARY & SUE ETAL     |                                    | DACW43-9-22-214 | 6/7/22 | 6/9/22    | 70190140000043314717  | 7/14/22                                      |
| 42 | Wayne | 14-6-0-14-0-0-3.000     | 2.22  | MEIER DENNIS H & BRENDA B    | MEIER DENNIS H & BRENDA B          | DACW43-9-22-216 | 6/7/22 | 6/9/2022  | 70190140000043314731  | 7/28/22                                      |
| 2  | Wayne | 12-9-0-31-0-0-9.000     | 0.01  | NELSON RICKY A               |                                    | DACW43-9-22-225 | 6/7/22 | 7/13/22   | 701036000209402718    | 6/23/22                                      |
| 34 | Wayne | 13-9-2-31-0-0-3.000     | 1     | PAGE JOHN R & JANICE E       | Bostrner, George K Revocable Trust | DACW43-9-22-227 | 6/7/22 | 6/10/22   | 70190140000043314823  | 9/13/22                                      |
| 39 | Wayne | 108-10-5-1-13-12-10.000 | 1.1   | PAGE JOHN R & JANICE E       | Bostrner, George K Revocable Trust | DACW43-9-22-227 | 6/7/22 | 6/10/22   | 70190140000043314823  | 9/13/22                                      |
| 40 | Wayne | 13-9-2-31-0-0-3.000     | 0.96  | PAGE JOHN R & JANICE E       | Bostrner, George K Revocable Trust | DACW43-9-22-227 | 6/7/22 | 7/13/22   | 70212720000047312626  | 9/13/22                                      |
| 24 | Wayne | 20-8-0-27-2-1-20.00     | 1.07  | ROBINSON MICHAEL & LINDA     | Love, Douglas                      | DACW43-9-22-238 | 6/7/22 | 6/10/2022 | 70190140000043314953  | 7/28/22                                      |
| 32 | Wayne | 20-5-0-21-0-0-2.000     | 0.4   | RUSSOSS CLARENCE JR & PAMELA | Moore, Jeffery J & Kimberly A      | DACW43-9-22-241 | 6/7/22 | 7/13/2022 | 701036000209402633    | 7/28/22                                      |
| 63 | Wayne | 13-4-1-20-0-0-0.000     | 11.09 | SHRUM CHESTER & LINDA        | SHRUM CHESTER & LINDA              | DACW43-9-22-245 | 6/7/22 | 7/13/22   | 70190140000043314984  | 8/2/22                                       |
| 63 | Wayne | 13-6-1-29-0-0-0.000     | 2.43  | SHRUM CHESTER & LINDA        | SHRUM CHESTER & LINDA              | DACW43-9-22-245 | 6/7/22 | 7/13/22   | 70212720000047312630  | 8/2/22                                       |
| 67 | Wayne | 21-3-2-27-0-0-2.002     | 0.06  | VAN HUSS HAROLD & LORNA      |                                    | DACW43-9-22-255 | 6/7/22 | 6/10/2022 | 70212720000047313050  | 8/2/22                                       |
| 67 | Wayne | 21-3-2-27-0-0-2.002     | 0.34  | VAN HUSS HAROLD & LORNA      |                                    | DACW43-9-22-255 | 6/7/22 | 6/10/22   | 70212720000047313142  | 8/2/22                                       |
| 2  | Wayne | 12-9-0-31-0-0-11.00     | 0.13  | WALTON CLINTON & CLARA       |                                    | DACW43-9-22-258 | 6/7/22 | 6/10/22   | 70212720000047313036  | 8/2/22                                       |
| 2  | Wayne | 12-9-0-31-0-0-11.00     | 0.04  | WALTON CLINTON & CLARA       |                                    | DACW43-9-22-258 | 6/7/22 | 6/10/22   | 70212720000047313036  | 8/2/22                                       |
| 51 | Wayne | 8-3-0-5-0-0-24.000      | 4.54  | WOODS HAZEL MARIE            | Perrod, James & Dorothy            | DACW43-9-22-263 | 6/7/22 | 6/10/2022 | 70212720000047313234  | 8/2/22                                       |
| 9  | Wayne | 21-4-17-0-0-1.22        | 0.18  | PHILLIPS STAN WALLACE        |                                    | DACW43-9-22-229 | 6/7/22 | 6/10/22   | 70212720000047312954  | 10/11/22                                     |
| 48 | Wayne | 8-3-0-7-0-0-33.000      | 0.87  | FEAR GERALD                  | Volz, Gary                         | DACW43-9-22-178 | 6/6/22 | 7/13/22   | 70190140000043314861  | 10/25/22                                     |
| 34 | Wayne | 13-9-2-31-0-0-4.000     | 9.76  | HAMMAK BARROW & L VICTORIA L |                                    | DACW43-9-22-190 | 6/6/22 | 6/9/22    | 70190140000043314849  | 10/25/22                                     |
| 40 | Wayne | 13-9-2-31-0-0-4.000     | 9.76  | HAMMAK BARROW & L VICTORIA L |                                    | DACW43-9-22-190 | 6/6/22 | 6/9/22    | 70212720000047313166  | 10/25/22                                     |
| 9  | Wayne | 21-4-17-0-0-0.20        | 1.12  | Charles L. Vert, Jr.         | Charles L. Vert, Jr.               | DACW43-9-22-151 | 6/3/22 | 7/13/22   | 701036000209402824    | 4/12/23                                      |
| 9  | Wayne | 21-4-17-0-0-0.14        | 1.21  | Charles L. Vert, Jr.         | Charles L. Vert, Jr.               | DACW43-9-22-151 | 6/3/22 | 7/13/22   | 701036000209402824    | 4/12/23                                      |

192.42  
767.896