DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
ROBERT A. YOUNG BUILDING - 1222 SPRUCE ST.
ST. LOUIS, MISSOURI 63103-2833

15 February 2018

Reply to:
U.S. Army Corps of Engineers
St. Louis District
Environmental Compliance Section (PD-C)
1222 Spruce Street
St. Louis, MO 63103-2833

Dear Sir or Madam:

The St. Louis District of the U.S. Army Corps of Engineers has prepared a Draft Supplemental Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI) for a proposed land management interchange at Wappapello Lake, Wayne and Butler Counties, Missouri. The EA and FONSI are available for public review. The electronic version of these documents is available online at: http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/SUPPLEMENTALEAUSACEUSFSLandInterchangePublicReview.pdf or you may request a copy of the EA and FONSI be mailed to you. The FONSI summarizes the anticipated effects of the project on the environment. The FONSI is unsigned and will be signed only after comments received as a result of this public review have been considered.

The St. Louis District of the U.S. Army Corps of Engineers is proposing to participate in a land management interchange with the U.S. Forest Service. Specifically, USACE Wappapello Lake Project and U.S. Forest Service Mark Twain Forest, are proposing to interchange a total of 317 acres of inholding parcels. This Environmental Assessment is a supplement to "Environmental Assessment with Finding of No Significant Impact- Acquisition of Inholding Land Parcels, Wappapello Lake Project" signed 15 July 2016. The Supplemental Environmental Assessment evaluates alternatives for additional inholdings land parcels that were not evaluated in the 2016 Environmental Assessment.

Please provide any comments you may have regarding this project. For questions, comments, or to request a printed copy, please contact: Dr. Alison Anderson of the Environmental Compliance Section, **telephone** 314-331-8458 or **e-mail** at Alison.M.Anderson@usace.army.mil. Written comments may be sent to the address above, ATTN: Environmental and Planning Branch (PD-C, Anderson). Please respond by close of business on Monday, 19 March 2018.

Sincerely,

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

DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
WITH
UNSIGNED FINDING OF NO SIGNIFICANT IMPACT

U.S. Army Corps of Engineers and U.S. Forest Service Land Interchange
Lake Wappapello Project
Wayne and Butler Counties, Missouri

U.S. Army Corps of Engineers
St. Louis District
Regional Planning & Environmental Division North (CEMVS-PD-C)
1222 Spruce Street
St. Louis, Missouri 63103-2833
Telephone Number: (314) 331-8458

February 2018

Table of Contents

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

U.S. Army Corps of Engineers and USDA Forest Service Land Interchange
Lake Wappapello Project
Wayne and Butler Counties, Missouri

Note

This document constitutes the District's Environmental Assessment, which supplements the Environmental Assessment with Finding of No Significant Impact for the acquisition of inholding land parcels for the Lake Wappapello Project dated July 2016. The Finding of No Significant Impact was signed on 15 July 2016. The actions that were proposed in the original Environmental Assessment are described in the following introduction.

1. Introduction

On 15 July 2016, a Finding of No Significant Impact (FONSI) for the Environmental Assessment (EA) entitles "Acquisition of Inholding Land Parcels, Wappapello Lake Project" with was signed. The EA assessed the No Action Alternative as well as the acquisition of inholding land parcels from federal and private landowners within the Wappapello Lake Project boundary (USACE 2016). The July 2016 EA evaluated the acquisition of 81 separate parcels of land which were either within or border the boundaries of the U.S. government lands being managed by the U.S. Army Corps of Engineers (USACE), Wappapello Lake Project. These 81 parcels totaled 631 acres of land owned by 58 private owners and 1 public owner (U.S. Forest Service).

Three of the original 81 parcels evaluated under the July 2016 EA are currently managed by the U.S. Forest Service (USFS; Table 1). However, during the acquisition process five additional inholding parcels that are currently managed by the U.S. Forest Service were identified within the USACE Wappapello Lake Project boundary (8 total parcels). Furthermore, two inholding parcels currently managed by USACE were identified within the Mark Twain National Forest, which is managed by the USFS. This Supplemental Environmental Assessment evaluates the interchange of lands and management responsibilities between the Department of the Army, U.S. Army Corps of Engineers, Wappapello Lake Project (2 parcels), and the U.S. Department of Agriculture, U.S. Forest Service, Mark Twain National Forest (8 parcels; Table 1).

1.1 Project Location

Wappapello Lake is located in southeast Missouri in Wayne and Butler counties and is within the St. Francis River Basin (Figure 1). The eight parcels are situated along the southern side of the reservoir and are scattered from the dam to the upstream end (Figure 1).

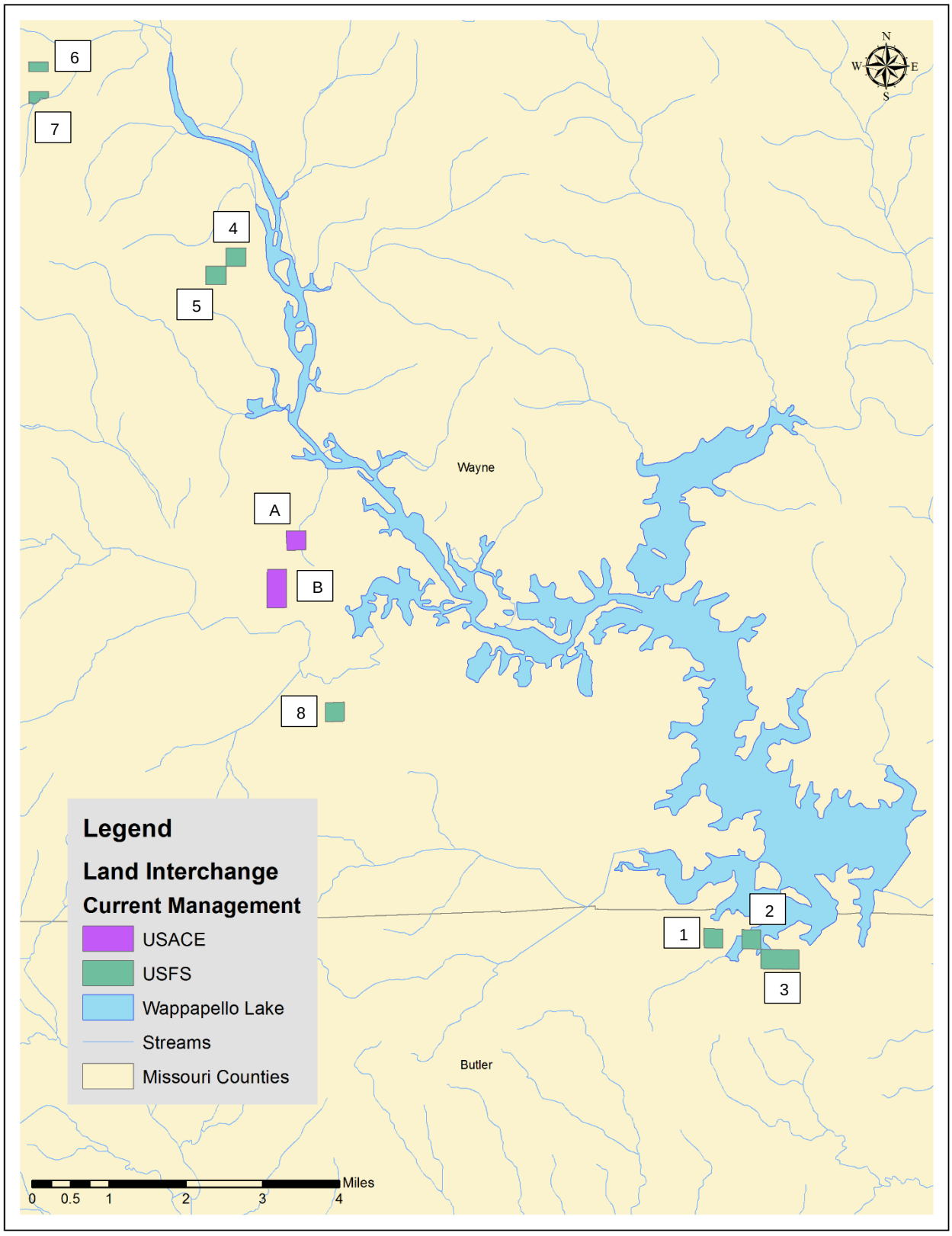

Figure 1. Location of Wappapello Lake and all parcels in the land interchange between U.S. Forest Service and U.S. Army Corps of Engineers.

1.2 Project Need

The interchange of inholding parcels between the U.S. Forest Service and U.S. Army Corps of Engineers would facilitate efficient land management and would provide maximum use of federal lands for authorized purposes for both parties.

1.3 Project Description

The land interchange includes the transfer of approximately 120 acres, within two parcels, under the jurisdiction of the Department of the Army to the Department of Agriculture for management and administration by the USFS, and withdraw these lands from Wappapello Lake Project management (Table 1). A designated flowage easement would be retained by the Department of the Army on these lands below the 405 foot elevation. The Department of Agriculture would transfer approximately 317 acres of land, within eight parcels, currently under USFS management to the Department of the Army for management and administration by USACE, Wappapello Lake Project (Table 1). The USFS managed acreage to be transferred to the Department of the Army is within the boundary of Wappapello Lake and the U.S. Army Corps of Engineer managed acreage to be transferred to the U.S. Forest Service is within the boundary of the Mark Twain National Forest.

Table 1. Description of all parcels involved in the land interchange.

Current Management	Parcel	County	Site Area (acres)	Area Below Elevation 405 (acres)
U.S. Army Corps of Engineers	A	Wayne	40	4.4
	B	Wayne	80	27.9
TOTAL			120	32.3
USDA Forest Service	1[1]	Butler	39.25	
	2[2]	Butler	39.25	
	3	Butler	80	
	4	Wayne	40	
	5	Wayne	20	
	6	Wayne	20	
	7	Wayne	40	
	8[3]	Wayne	38.5	
TOTAL			317	

[1] Also known as Gum Hollow/Springs I; Included in previous EA (USACE 2016)
[2] Also known as Gum Hollow/Spring II; Included in previous EA (USACE 2016)
[3] Also known as Mink Creek; Included in previous EA (USACE 2016)

1.4 Project Authorization

Title 16 U.S.C. Sections 505a and 505b authorize the Secretary of Agriculture, with respect to National Forest System Lands, and the Secretary of the Army to interchange certain lands without reimbursement or transfer of funds, whenever they determine that the interchange would facilitate land management and would provide maximum use of federal lands that are

within, or adjacent to, the exterior boundary of a unit of the National Forest System, for authorized purposes.

2.0 Alternatives Considered

Due to the nature of the proposed action, the only alternatives considered in this Supplemental Environmental Assessment include the No Action Alternative and the Tentatively Selected Plan.

2.1 No Action Alternative:

The No Action Alternative assumes that the land interchange between the U.S. Army Corps of Engineers and the U.S. Forest Service would not be realized. Under this alternative, the parcels that are currently managed by the U.S. Army Corps of Engineers would continue to be managed by the U.S. Army Corps of Engineers, and the same is true for lands currently managed by the U.S. Forest Service.

2.2 Tentatively Selected Plan:

Under this alternative, the USACE and USFS would interchange the identified parcels, placing management and administrative responsibilities in the appropriate jurisdictions. This interchange would improve facility land management and would provide for the maximum use of lands for both parties.

3.0 Affected Environment

3.1 Socioeconomics and Land Cover

All 10 parcels are within federally managed lands and with a few exceptions, are moderately to heavily wooded (Figure 2; Table 2). Specifically, the two parcels currently managed by the U.S. Army Corps of Engineers are approximately 100% forested and 0% open water habitats (Table 2). The eight parcels currently managed by the U.S. Forest Service are mostly forested with small areas of grasslands, wetlands, pasture, and low levels of anthropogenic alterations (e.g., placement of rip-rap along a stream bank in Parcel 7) (Table 2). However, two USFS parcels contain large areas of open water habitat (i.e., Wappapello Lake); in fact, one parcel is nearly 100% aquatic.

The rural nature of the project area and the lands already existing under federal management, has resulted in little economic development within the parcels proposed for interchange. Many of these tracts are either land locked by other federal lands or are being inundated by the lake at various times throughout the year. All of the parcels are located in areas which lack public water and sanitary sewers. Electricity and telephone service is readily available for some of the parcels, but most of the parcels proposed to be interchanged lack those services. In addition, there have been no improvements (e.g., structures) on any of the parcels.

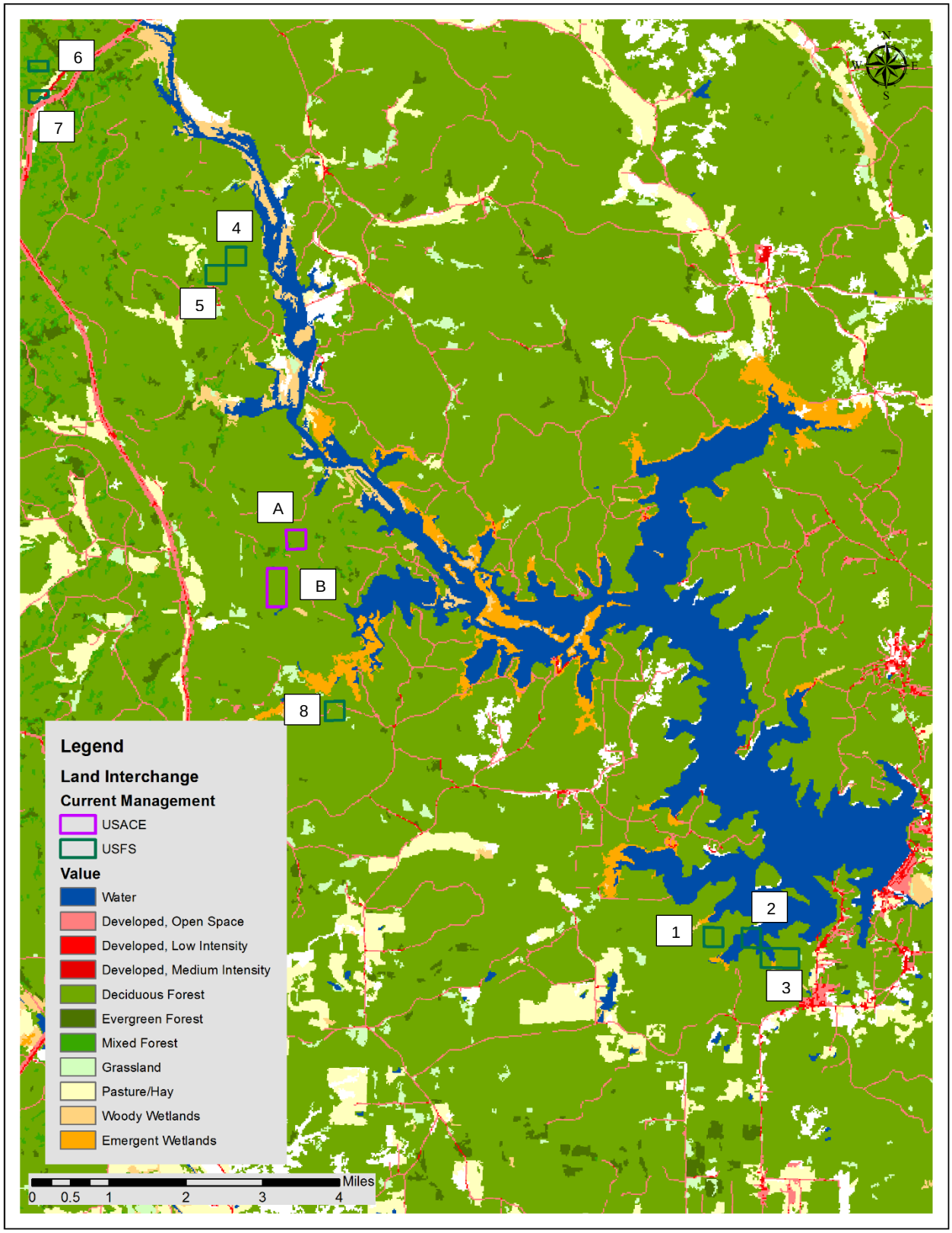

Figure 2. Current land cover/land use (NLCD 2011) for the area around Wappapello Lake and all land interchange parcels.

Table 2. Estimation of land use/land cover (NLCD 2011) in acres for all land interchange parcels.

Current Management	Parcel	County	Open Water	Developed, Open Space	Developed, Low Intensity	Developed, Med. Intensity	Deciduous Forest	Evergreen Forest	Mixed Forest	Grassland	Pasture /Hay	Forested Wetland	Emergent Wetland	Total
U.S. Army Corps of Engineers	A	Wayne	0.0	0.0	0.0	0.0	39	0.0	1	0.0	0.0	0.0	0.0	40
	B	Wayne	0.2	0.0	0.0	0.0	79	0.0	0.5	0.0	0.0	0.0	0.0	79.7
Total			**0.2**	**0**	**0**	**0**	**118**	**0**	**1.5**	**0**	**0**	**0**	**0**	**119.7**
U.S. Forest Service	1	Butler	0.0	0.0	0.0	0.0	40	0.0	0.0	0.0	0.0	0.0	0.0	40
	2	Butler	33	0.0	0.0	0.0	7	0.0	0.0	0.0	0.0	0.0	0.0	40
	3	Butler	13	0.0	0.0	0.0	63	0.0	0.0	0.0	0.0	4	0.0	80
	4	Wayne	0.0	0.0	0.0	0.0	40	0.0	0.0	0.0	0.0	0.0	0.0	40
	5	Wayne	0.0	0.0	0.0	0.0	15	1	5	0.0	0.0	0.0	0.0	21
	6	Wayne	0.0	0.0	0.5	1	14	0.0	0.0	1	2	0.0	2	20.5
	7	Wayne	0.0	2	0.0	0.0	37	0.0	0.0	0.0	0.0	0.0	0.0	39
	8	Wayne	0.0	0.0	0.0	0.0	37	0.0	0.0	2	0.0	0.0	0.0	39
Total			**46**	**2**	**0.5**	**1**	**253**	**1**	**5**	**3**	**2**	**4**	**2**	**319.5**

3.2 Topography and Geology

Wappapello dam is located at the edge of the Ozark Plateau and the Gulf Coastal Plain. Thus, Wappapello Lake lies in the hill lands of the Ozark Plateau. The bedrock in this region consists of limestone, dolomite, and sandstone. The soil and sub-soil have developed from the weathering of bedrock formations and together are typically 20 to 80 feet thick. The St. Francis River, which feeds into Wappapello Lake, has cut a wide valley some 300-500 feet below the dissected uplands.

3.3 Air Quality

The EPA has set National Ambient Air Quality Standards for six principal pollutants with set standards aimed at providing public health protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. The six principal pollutants and their corresponding standards are listed in Table 3. Wayne and Butler counties (Missouri) are currently in attainment for all six principal pollutants (USEPA 2017).

Table 3. List of six principal pollutants and their corresponding measurement form and criteria as published by the U.S. EPA.

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^3	Not to be exceeded
Nitrogen dioxide	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	1 year	53 ppb	Annual Mean
Ozone	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution ($PM_{2.5}$)	1 year	12.0 µg/m^3	Annual mean, averaged over 3 years
	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
Sulfur dioxide	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years

3.4 Surface Water and Surface Water Quality

Wappapello Lake is a shallow, clear lake that becomes stratified in the summer, resulting in low dissolved oxygen levels in the shallows and elevated levels of soluble iron and manganese.

3.5 Groundwater and Groundwater Quality

The limestone, dolomite, and sandstone bedrock in this region yields high quality ground water and enough volume to adequately supply urban, industrial, and other needs. The subsoil has moderate to high infiltration rates, which contributes to the recharge of groundwater supplies. Because of the high infiltration rates, groundwater contamination risks are moderate to high.

3.6 Hazardous, Toxic, and Radioactive Wastes

USACE regulations (ER 1165-2-132 and ER 200-2-3), and 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 resources studies or projects by conducting HTRW Initial Hazard Assessments (IHA). USACE specifies that these assessments follow the process/standard practices for conducting Phase I Environmental Site Assessments published by the American Society for Testing and Materials (ASTM). This assessment was prepared using the following ASTM Standards:

- E1527-13: Standard Practice for Environmental Site Assessments – Phase I Environmental Site Assessment process
- E1528-06: Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (interview questionnaires)
- E2247-08 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

The purpose of a Phase I Environmental Site Assessment is to identify, to the extent feasible in the absence of sampling and analysis, the range of contaminants (i.e. RECs) within the scope of the U.S. Environmental Protection Agency's (USEPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products.

A Phase I Environmental Site Assessment was completed on 28 September 2017 by the U.S. Army Corps of Engineers, St. Louis District. This assessment revealed no RECs in connection with this project and indicated that a Phase II Environmental Site Assessment was not warranted.

3.7 Hydrologic Conditions

Wappapello Dam and Lake regulates the runoff from 1,310 square miles of drainage area within St. Francis River Basin. Wappapello Lake contains a relatively small amount of storage at low lake elevations, particularly between the bottom of the flood control pool (elevation 354.74 feet) and recreation pool (elevation 359.74 feet). A flowage easement would be retained on high water impacted lands up to 405 feet elevation.

3.8 Recreation and Aesthetics

Wappapello Lake and Mark Twain National Forest are both federally managed lands with areas designated for recreation. Mark Twain National Forest and Wappapello Lake have ample recreational opportunities including birding, hiking, camping, boating/canoeing, and fishing. The parcels in the interchange are either inundated by the lake or surrounded by USACE, or USFS, lands which limits continuous land management and uses.

3.9 Historic Properties

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). All of the parcels in this land management interchange have been surveyed and are clear of historic sites except for the parcels USACE is exchanging. Two historic properties are located within the boundaries of the parcels currently under management of USACE Wappapello Lake Project. Since these properties are in federal ownership, all historic properties are currently, and will remain, subject to the National Historic Preservation Act of 1966, as amended (NHPA).

3.10 Tribal Consultation

In addition to the consultation with Missouri State Historic Preservation Office, consultation with Native American tribal nations would also be required to ensure compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. St. Louis District has previously established consultation agreements with 28 tribal organizations that have ties to, or an interest in, the District's region.

3.11 Biological Resources

3.11.1 Aquatic Resources. The area has several forested tributary waterways flowing to Wappapello Lake: Three Forks Creek, Crane Creek, Happy Hollow Creek, Little Lake Creek, Hickory Flat Creek, East and West Forks of Lost Creek, Big Lake Creek, and Holliday Creek. These are either permanent or intermittent streams with gravel/cobble substrate and slow to small riffle flow.

Wappapello Lake is home to many fishes that are typical of Midwestern waters. Major recreational species include: white and black crappie; bluegill; green sunfish; red ear sunfish; long ear sunfish; largemouth bass; white bass; channel, blue, and flathead catfishes; gizzard shad; and a variety of other fish species. In order to improve reproductive success for the gizzard shad, the Wappapello Lake Fishery Management Plan recommends that the lake be maintained at a stable, or rising, elevation if possible during the shad spawning period.

3.11.2 Wetlands. Intermittent forested streams act as tributaries to Wappapello Lake. The area surrounding these streams are either emergent or forested wetlands. The 2011 National Land Cover Database classifies approximately 2 acres of forested wetland and 3 acres of emergent wetland (5 acres total wetland) for all land interchange parcels (Table 2).

3.11.3 Terrestrial Resources. The original flora of Wappapello Lake consisted of woodlands that were part of the eastern temperate deciduous forest formation composed primarily of oak-hickory. Over 80 percent of the 20,172 acres of woodland found on public lands at Wappapello Lake are of this type. Major species include white oak, black oak, shagbark hickory, and mockernut hickory. The drier ridgetops are dominated by pignut hickory and post oak. Where a

sandstone soil base exists, shortleaf pine and pine-oak mixture stands are found. Eastern red cedar may be locally abundant where limestone is close to the surface. Toward the ravines and lower elevations the oak-hickory association grades into stands possessing more mesic species such as red oak and chinquapin oak, white ash, green ash, basswood, black walnut, and bitternut hickory. Persimmon, blackgum, butternut, and sugar maple occur here also. On the low, poorly drained bottomland, sycamore, sweetgum, cottonwood, and river birch predominate. Understory trees of the uplands include redbud, flowering dogwood, and shadbush.

The extensive deciduous forest and woodland-aquatic edge habitat creates a diverse landscape that supports numerous wildlife species. Otters and beavers are found along the St. Francis River and Wappapello Lake, as well as game species such as eastern cottontails, bobwhite quail, and squirrels. Deer and wild turkey are abundant as are migratory waterfowl, which use the lake for resting and feeding during the fall and winter months.

3.12 Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) was contacted via USFWS Information for Planning and Consultation (IPaC) website on 06 February 2018, for a list of Federal threatened, endangered and candidate species that could potentially be located in the project areas (Consultation Code: 03E14000-2017-SLI-2703 and Event Code: 03E14000-2017-E-01847). Table 4 lists the species for Wayne and Butler Counties.

Table 4. Federally Endangered and Threatened Species and identified Critical Habitats within Wayne and Butler Counties, Missouri.

Common Name	Scientific Name	Listing Status	Habitat
Gray Bat	*Myotis grisescens*	Endangered	Limestone karst caves along rivers
Indiana Bat	*Myotis sodalis*	Endangered	Caves and mines (hibernacula); small stream corridors with well-developed riparian woods, upland forests (foraging)
Northern Long-eared Bat	*Myotic septentrionalis*	Threatened	Caves and mines (hibernacula); small stream corridors with well-developed riparian woods, upland forests (foraging)
Curtis' Pearlymussel	*Epioblasma florentina curtisii*	Endangered	Riffles within transitional zones of clean stream and rivers; sand or gravel substrate in shallow water (<30 inches deep)
Pink Mucket	*Lampsilis abrupta*	Endangered	Major rivers and tributaries; mud and sand and in shallow riffles and shoals free of silt
Rabbitsfoot	*Quadrula cylindrica cylindrica*	Threatened	Small to medium- sized streams and some larger rivers; shallow areas along the bank and adjacent

			runs and riffles with gravel and sand substrates where water velocity is reduced
Snuffbox Mussel	*Epioblasma triquetra*	Endangered	Small- to medium-sized creeks in areas with a swift current; sand, gravel, or cobble substrates
Pondberry	*Lindera melissifolia*	Endangered	Low, wet woods
Critical Habitat Designated			
Hine's Emerald Drangonfly	*Somatochlora hineana*	Endangered	5 acres of critical habitat Final designated (2010)
Rabbitsfoot	*Quadrula cylindrica cylindrica*	Threatened	40 RM of critical habitat Final designated (2015)

Gray Bat- Gray Bats have unicolored fur on their backs and their wing membrane connects to its ankle instead of the tow, where it is connect in other *Myotis* species. Gray Bats roost in caves, or mines, year-round and use water features and forested riparian corridors for foraging and travel. They occupy a limited geographic range in limestone karst areas of southeastern United States; mainly in Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee. Many important cave habitats were flooded or submerged during the creation of reservoir systems, while other caves are in danger of natural flooding.

Indiana Bat- Indiana Bats hibernate in caves, or mines, only during the winter months. In Missouri, hibernation season is from 1 October to 31 March. During the active season (1 April to 30 September), they roost in forest and woodland habitats. A wide variety of summer habitats are suitable for Indiana Bats such as forested/wooded habitat and non-forested habitats such as emergent wetlands, adjacent edges of agricultural fields, old fields, and pastures. Roosting habitats for this species include live and/or snags at least 5 inches diameter at breast height (DBH) and have exfoliating bark, cracks, crevices, and/or hollows. Tree species used as roosts often include, but are not limited to, shagbark hickory, white oak, cottonwood, and maple trees.

Northern Long-eared Bat- Northern Long-eared Bats hibernate in caves, or mines, only during the winter months. In Missouri, hibernation season is from 1 October to 31 March. During the active season (1 April to 30 September), they roost in forest and woodland habitats. A wide variety of summer habitats are suitable for Northern Long-eared Bats such as forested/wooded habitat and non-forested habitats such as emergent wetlands, adjacent edges of agricultural fields, old fields, and pastures. Roosting habitats for this species include live and/or snags at least 3 inches DBH and have exfoliating bark, cracks, crevices, and/or hollows. Tree species used as roosts often include, but are not limited to, shagbark hickory, white oak, cottonwood, and maple trees. Northern Long-eared Bats have also been observed roosting in human-made structures such as buildings, barns, bridges, and bat houses.

Curtis' Pearlymussel- This mussel prefers riffle habitats within transitional zones of clean stream and rivers where is buries itself in sand or gravel in shallow waters (less than 30 inches deep). Reproduction for this species requires a stable, undisturbed habitat with ample fish hosts. Since

this mussel requires clear, fast-flowing waters, it has suffered from habitat alterations due to gravel dredging and impoundments. Dams and reservoirs have flooded much of the habitat suitable for this species.

Pink Mucket- This mussel is found in major rivers and tributaries in mud and sand substrates as well as in shallow riffles and shoals free of silt. Reproduction for this species requires a stable, undisturbed habitat with ample fish hosts. Dams and reservoirs have flooded much of the habitat suitable for this species and reducing its gravel and sand habitat and possibly affecting the distribution of fish hosts. Heavy erosion adds silt to many rivers, which can clog the mussel's feeding siphons and even bury it completely.

Rabbitsfoot- Rabbitsfoot is a medium to large elongated and rectangular mussel that can reach 6 inches in length. Historically, this mussel is associated with small- to medium-sized streams and some larger rivers in the Lower Great Lakes and Lower Mississippi River sub-basins. They usually occur in shallow areas along the bank and adjacent runs and riffles with gravel and sand substrates where water velocity is reduced. Rabbitsfoot are riverine-adapted species that depend upon adequate water flow and are not found in ponds or lakes.

Approximately 40 River Miles (RM) have been designated as critical habitat along St. Francis River, Madison and Wayne Counties, Missouri, with 15 of those miles being adjacent to federal lands. This habitat unit runs from the confluence of St. Francis River and Twelvemile Creek downstream to Wappapello Lake.

Snuffbox- The snuffbox is a small- to medium-sized freshwater mussel with a yellow, green, or brown shell interrupted with green rays, botches, or chevron shaped lines. This mussel is found in small- to medium-sized creeks in areas with a swift current. Adults of this species burrow in sand, gravel, or cobble substrates. Dams affect both upstream and downstream mussel populations by disrupting natural river flow patterns, scouring river bottoms, and changing water temperatures. The snuffbox depends on the logperch to complete its reproductive cycle and to transport larvae to other areas upstream.

Pondberry- Pondberry, also known as Southern Spicebush, is a colony-forming shrub that grows in low, wet woods. This plant primarily reproduces by forming stolons, or runners. This plant flowers in March-April before leaves form and produces cluster of pale yellow, fragrant flowers along the stem. From September-October, Pondberry produces somewhat elongated bright red fruits that are spicy. In Missouri, Pondberry is only found in Sand Ponds Natural area and Conservation Area in Ripley County, which is in the Missouri Lowlands Region.

Hine's Emerald Dragonfly- Critical habitat for this endangered species was identified in 2010 within Wayne County, Missouri. This small area of 5 acres is currently managed by the U.S. Forest Service. At the time of designation, this small fen located near Williamsville, was not known to be occupied. The fen provides larval habitats consisting of surface flow with adjacent cover for resting and predator avoidance. The fen and adjacent logging road has open canopy which provides habitats for foraging.

3.13 Bald and Golden Eagle Protection Act

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 U.S. Fish and Wildlife Service 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.

4.0 Environmental Consequences

4.1 Socioeconomics and Land Cover

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership and the land cover would continue to be managed under the policies of the controlling agency. No land cover alterations or economic development is expected to occur on these parcels.

Tentatively Selected Plan

The proposed land management interchange is not anticipated to impact the socioeconomic resources or land cover of the area. The parcels would remain in their current state and would continue to provide wildlife habitat. There are no anticipated adverse impacts of the land interchange to terrestrial, aquatic, or wetland resources.

4.2 Topography and Geology

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No topography or geology alterations are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

No topography or geology alterations are expected to occur on these parcels under the new management regimes.

4.3 Air Quality

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No factors influencing air quality are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

No air quality alterations are expected to occur on these parcels as a result of the land interchange.

4.4 Surface Water and Surface Water Quality

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No actions impacting surface water quality are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

No water quality alterations are expected to occur on these parcels as a result of the land interchange.

4.5 Groundwater and Groundwater Quality

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No actions impacting groundwater quality are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

No groundwater quality alterations are expected to occur on these parcels as a result of the land interchange.

4.6 Hazardous, Toxic, and Radioactive Wastes

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No actions generating hazardous, toxic, or radioactive wastes are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

Since no ground disturbing activities are taking place under this land management interchange, the Tentatively Selected Plan is not anticipated to expose or generate any hazardous, toxic, or radioactive wastes.

4.7 Hydrologic Conditions

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. A flowage easement on U.S. Forest Service managed parcels may be requesting by the U.S. Army Corps of Engineers if lake levels increase over current flowage easement levels.

Tentatively Selected Plan

The proposed land management interchange is not anticipated to impact the hydrologic conditions of the area. However, a flowage easement, up to 405 feet elevation, would be retained on lands previously managed by the U.S. Army Corps of Engineers Wappapello Lake Project.

4.8 Recreation and Aesthetics

No Action

The aesthetics and recreational potential would remain unchanged for all parcels.

Tentatively Selected Plan

The proposed land management interchange is not anticipated to impact recreational opportunities or aesthetics of the area and should result in continuous land management in both U.S. Army Corps and U.S. Forest Service jurisdictions.

4.9 Historic Properties

No Action

All lands involved in this interchange will remain in federal ownership, meaning any and all future actions would be in accordance with the National Historic Preservation Act of 1966, as amended.

Tentatively Selected Plan

Pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended), and the implementing regulation 36 CFR 800, a letter requesting concurrence with the determination of no adverse impacts was sent to the Missouri State Historic Preservation Office (MO SHPO) on 1 November, 2017. The MO SHPO concurred with the determination of no adverse impacts in a letter dated 6 November, 2017. All lands involved in this interchange would remain in federal ownership, meaning any and all future actions by federal agencies would be required to be in accordance with the National Historic Preservation Act of 1966, as amended.

4.10 Tribal Consultation

No Action

All lands involved in this interchange would remain in federal ownership. Any and all future actions would be in accordance with the National Historic Preservation Act of 1966, as amended, which would require consultation with Native American tribal nations.

Tentatively Selected Plan

It was determined that there was no need for tribal coordination/consultation under this Tentatively Selected Plan. The U.S. Forest Service and USACE agreed that since there is no ground disturbing activities/undertaking, no sites were prehistoric/contact in nature, and the properties would all be managed in the same manner, tribal consultation is not applicable. In the unlikely event that Native American artifacts or remains are discovered during the proposed interchange, activity in the immediate area would halt until the newly discovered site is evaluated.

4.11 Biological Resources

No Action

If the land interchange does not occur, the existing tracts would remain in federal government ownership. No actions disturbing biological resources are expected to occur on these parcels under the current management regimes.

Tentatively Selected Plan

Since no aquatic or ground disturbing activities are taking place under this land management interchange, the Tentatively Selected Plan is not anticipated to impact any biological resources of the area.

4.12 Threatened and Endangered Species

No Action Plan

The status of threatened and endangered species that may occur within the project area is expected to remain the same, including their listing designations. All parcels are federally owned and would remain subject to the Endangered Species Act.

Tentatively Selected Plan

Gray Bat- The proposed action would not include any ground disturbing activity, including tree clearing. The proposed action also would not affect any known Gray Bat habitat. Therefore, the proposed action would have *"no effect"* on the Gray Bat.

Indiana Bat- The proposed action would not include any ground disturbing activity, including tree clearing. The proposed action also would not affect any known Indiana Bat habitat. Therefore, the proposed action would have *"no effect"* on the Indiana Bat.

Northern Long-eared Bat- The proposed action would not include any ground disturbing activity, including tree clearing. The proposed action also would not affect any known Northern Long-eared Bat habitat. Therefore, the proposed action would have *"no effect"* on the Northern Long-eared Bat.

Curtis' Pearlymussel- The proposed action would not include any ground disturbing activity, including those actions that would directly, or indirectly, affect water quality and quantity. *Curtis'* Pearlymussel are riverine-adapted species that depend upon adequate water flow and are not

found in ponds of lakes, which includes Wappapello Lake. Therefore, the proposed action would have *"no effect"* on the Curtis' Pearlymussel.

Pink Mucket- The proposed action would not include any ground disturbing activity, including those actions that would directly, or indirectly, affect water quality and quantity. Therefore, the proposed action would have *"no effect"* on the Pink Mucket.

Rabbitsfoot- The proposed action would not include any ground disturbing activity, including those actions that would directly, or indirectly, affect water quality and quantity. Rabbitsfoot mussels are riverine-adapted species that depend upon adequate water flow and are not found in ponds of lakes, which includes Wappapello Lake. Therefore, the proposed action would have *"no effect"* on the Rabbitsfoot and would have *"no effect"* on the Rabbitsfoot mussel critical habitat.

Snuffbox- The proposed action would not include any ground disturbing activity, including those actions that would directly, or indirectly, affect water quality and quantity. Snuffbox mussels are riverine-adapted species that depend upon adequate water flow and are not found in ponds of lakes, which includes Wappapello Lake. Therefore, the proposed action would have *"no effect"* on the Snuffbox mussel.

Pondberry- The proposed action would not include any ground disturbing activity, including tree or landscape clearing. The proposed action also would not affect any known Pondberry habitat. Therefore, the proposed action would have *"no effect"* on the Pondberry.

Hine's Emerald Dragonfly- Critical habitat for this endangered species was identified in 2010 within Wayne County, Missouri. This small area of 5 acres is currently managed by the U.S. Forest Service. At the time of designation, this small fen located near Williamsville, was not known to be occupied. The proposed action would not include any ground disturbing activity and the 5 acres of Hine's Emerald Dragonfly critical habitat it not involved in this land interchange. Therefore, the proposed action would have *"no effect"* on the Hine's Emerald Dragonfly critical habitat.

4.13 Bald and Golden Eagle Protection Act

The proposed action is expected to be completed in a short period of time and with no ground disturbing activities or machinery. There is the potential for conditions to change along the reservoir over time with regard to potential nest trees, so the District would continue to evaluate locations of Bald Eagle nests and would continue to coordinate in this regard with the U.S. Fish and Wildlife Service.

4.14 Environmental Justice

Environmental justice refers to fair treatment of all races, cultures and income levels with respect to development, implementation and enforcement of environmental laws, policies and actions. Environmental justice analysis was developed following the requirements of:

- Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations," 1994)

- "Department of Defense's Strategy on Environmental Justice" (March 24, 1995).

Following the above directives, the methodology to accomplish this includes identifying minority and low-income populations within the study area by demographic analysis.

According to 2010 census data for Wayne County, Missouri, racial composition is approximately 97 percent white; while in Butler County, Missouri, the racial composition is approximately 91% white.

According to 2016 American Community Survey 5-Year Estimates, the percentage of families whose income in the past 12 months was below the poverty level in Wayne County, Missouri was 15.8%, while in Butler County, Missouri, it was 16.2%. Neither of these estimates of poverty level reach the 20 percent threshold. Thus, the proposed land interchange would not disproportionately affect low income or minority populations.

4.15 Relationship of the Proposed Project to Land-use Plans

All parcels involved in this proposed land management interchange are federally owned and any, and all, future actions on these parcels would be subject to subsequent environmental compliance. In addition, the parcels obtained by the U.S. Army Corps would fall under existing management practices conducted by the Wappapello Lake Project. Any future work to be done at these specific sites would require full environmental compliance.

4.16 Cumulative Impacts

Although there is considerable land management ongoing at Wappapello Lake Project for fish and wildlife and flood control purposes, the impacts of the proposed land transfer are considered to be minor and would have no adverse impacts that could be considered additive to existing management practices. The incorporation of these parcels in the Wappapello Lake's fish and wildlife management would be a positive impact; however, the impacts would be minimal. In summary, this action would not have any major cumulative impacts when the parcels are included in existing management practices.

5.0 Relationship of Tentatively Selected Plan to Environmental Requirements

Guidance	Degree of Compliance
Federal Statutes	
Archaeological and Historic Preservation Act, as Amended, 16 U.S.C. 469, et seq.	PC[1]
Clean Air Act, as Amended, 42 U.S.C. 7609	FC
Clean Water Act, as Amended 33 U.S.C. 466 et seq.	FC
Endangered Species Act, as Amended, 16 U.S.C. 1531. et seq.	FC
Farmland Protection Policy Act, 7 U.S.C. 4201, et seq.	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. 4601, et seq.	PC[2]
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, et seq.	PC[3]
National Historic Preservation Act, as Amended, 16 U.S. C. 470a, et seq.	PC[1]
Executive Orders	
Flood Plain 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
Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA, CEQ Memorandum, August 11, 1980.	FC

FC = Full Compliance, PC = Partial Compliance.

1. Full compliance will be attained after all required archaeological investigations, reports and coordination have been completed.
2. Full compliance will be attained upon completion of any permitting requirements or coordination with other agencies.
3. Full compliance will be attained upon the signing of a NEPA decision document.

6.0 Literature Cited

Council on Environmental Quality (CEQ). 2010. The 1997 Annual Report of the Council on Environmental Quality. Environmental Quality - The World Wide Web. http://ceq.hss.doe.gov/nepa/reports/1997/index.html.

Homer, C.G., J.A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N.D. Herold, J.D. Wickman, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the conterminous United States-Representing a decade of land cover change information. Photogrammetric Engineering and Remote Sensing, v. 81, no. 5, p 345-354.

U.S. Army Corps of Engineers (USACE). 2010. National Nonstructural/Flood Proofing Committee. http://www.nwo.usace.army.mil/nfpc.

U.S. Army Corps of Engineers (USACE). 2016. Environmental Assessment with Finding of No Significant Impact. Acquisition of Inholding Land Parcels. Wappapello Lake Project. Signed 15 July 2016.

U. S. Environmental Protection Agency (USEPA). 2017. Nonattainment Areas for Criteria Pollutants (Green Book). Current as of September 30, 2017. Website accessed October 1, 2017 http://www.epa.gov/air/oaqps/greenbk/ancl3.html.

U.S. Fish and Wildlife Service (USFWS). 2010. National Bald Eagle Management Guidelines. http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagement ntGuidelines.pdf.

U.S. Fish and Wildlife Service (USFWS). 2017. National Wetlands Inventory. Available at: https://www.fws.gov/wetlands/index.html.

7.0 Environmental Assessment Preparers

Table 5. List of USACE personnel involved in the creation of this Supplemental Environmental Assessment with their role and years of experience.

Name	Role	Experience
Alison Anderson, Ph.D.	Environmental Compliance Lead	3 years
Richard Archeski	HTRW	36 years
Chris Koenig	Archaeologist and Tribal Liaison	15 years
Teri Allen, Ph.D.	Environmental Compliance Supervisor	17 years
Tim Kennedy	Real Estate	9 years

8.0 Coordination, Distribution List, Public Views and Responses

Notification of this Draft Supplemental Environmental Assessment and unsigned Finding of No Significant Impact was sent to officials, agencies, organizations, and individuals for public review and comment (Table 6). Additionally, an electronic copy is available during the public review period on the St. Louis District's website at:

http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/SUPPLEMENTALEAUSACEUSFSLandInterchangePublicReview.pdf

Please note that the Finding of No Significant Impact is unsigned and will only be signed into effect after careful consideration of the comments received as a result of this 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 land interchange.

Table 6. A letter regarding the availability of a draft Supplemental Environmental Assessment and unsigned FONSI for the USACE-USFS Land Interchange was sent to the following entities

Jane Ledwin U.S. Fish and Wildlife Service Columbia Ecological Services Field Office 101 Park Deville Drive, Suite A Columbia, MO 65203	Carol Comer Director Missouri Department of Natural Resources P.O. Box 176 Jefferson City, MO 65102
Sierra Club Missouri Chapter 2818 Sutton Ave. St. Louis, MO 63143	The Nature Conservancy Missouri Office P.O. Box 440400 St. Louis, MO 63144
Claire McCaskill U.S. Senator (MO) 730 Hart Senate Office Building Washington, D.C. 20510	Roy Blunt U.S. Senator (MO) 260 Russell Senate Office Building Washington, D.C. 20510

Jason Smith U.S. Representative Missouri 8th District 1118 Longworth House Office Building Washington, D.C. 20515	Matt Vitello, P.E. Resource Science Supervisor Missouri Department of Conservation P.O. Box 180 Jefferson City, MO 65102
Steve Cookson MO Representative District 153 MO House of Representatives 201 West Capitol Avenue Room 411-A Jefferson City, MO 65101	Wayne Wallingford MO Senator District 27 201 W. Capitol Ave., Rm. 225 Jefferson City, MO 65101
Doug Libla MO Senator District 25 201 W. Capitol Ave., Rm. 219 Jefferson City, MO 65101	

FINDING OF NO SIGNIFICANT IMPACT

U.S. Army Corps of Engineers and U.S. Forest Service Land Interchange
Lake Wappapello Project
Wayne and Butler Counties, Missouri

1. In accordance with the National Environmental Policy Act, I have reviewed and evaluated the documents relevant to the land management interchange. As part of this evaluation, I have considered the following project alternatives:

    a. Land Management Interchange (Tentatively Selected Plan) - USACE would transfer land management responsibilities for 2 parcels to the U.S. Forest Service. The U.S. Forest Service would also transfer land management responsibilities for 8 parcels to USACE.
    b. No Action Alternative- Under this alternative, the parcels of land proposed in the interchange would remain publically owned and land management responsibilities would remain unchanged.

2. The possible consequences of the two alternatives have been studied for physical, environmental, cultural, social, economic, aesthetic, and recreational effects. Significant factors evaluated as part of my review include:

    a. No adverse impacts to federally threatened or endangered species are anticipated.
    b. The proposed land management interchanged would have no adverse impact upon archaeological remains or historic properties.
    c. No significant impacts to natural resources are anticipated, including fish and wildlife resources and wetlands. The proposed interchange would have no adverse impacts to the physical environment (e.g., air and water quality) nor would the project adversely impact low-income or minority populations, or socioeconomic resources.
    d. The land management interchange would not require the placement of any fill material below ordinary high water.

3. Based on my analysis and evaluation of the alternative courses of action presented in the Supplemental Environmental Assessment, I have determined that the implementation of the Tentatively Selected Plan would not have significant effects on the quality of the environment. Therefore, an Environmental Impact Statement would not be prepared prior to proceeding with this action.

_____
(Date)

_____
Bryan K. Sizemore
Colonel, U.S. Army
District Commander