Appendix A

Soils

Soil Map—Richland County, South Carolina
(Weston Lake)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Richland County, South Carolina
Survey Area Data: Version 21, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 27, 2013—Dec 15, 2017

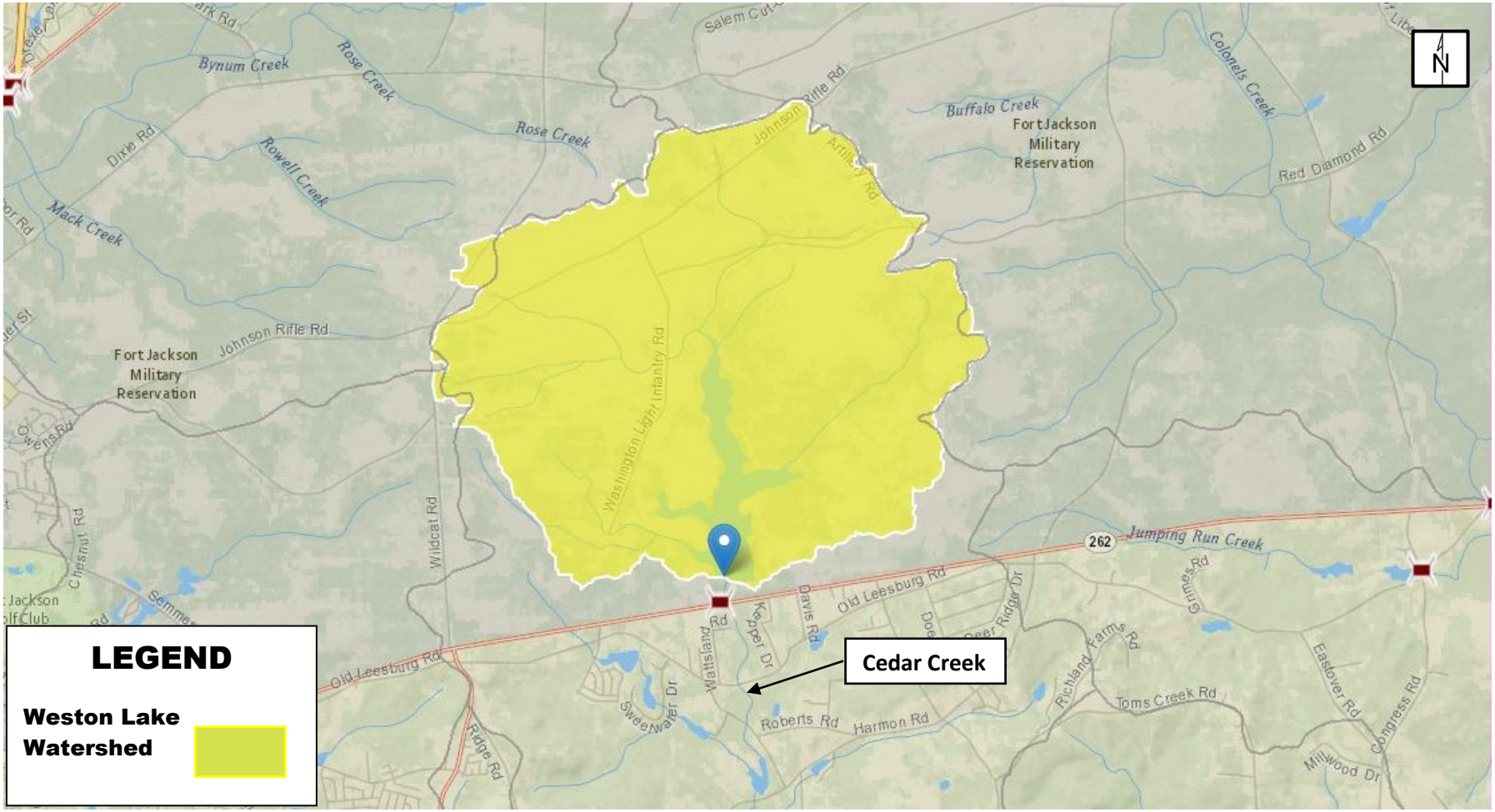
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AeC	Ailey loamy sand, 2 to 10 percent slopes	371.9	26.3%
BaB	Blanton sand, 0 to 6 percent slopes	98.7	7.0%
Jo	Johnston loam	22.2	1.6%
LaB	Lakeland sand, 2 to 6 percent slopes	403.3	28.5%
LaD	Lakeland sand, 10 to 15 percent slopes	66.8	4.7%
PeB	Pelion loamy sand, 2 to 6 percent slopes	18.5	1.3%
TrB	Troup sand, 0 to 6 percent slopes, Carolina and Georgia Sand Hills	90.3	6.4%
VaC	Vaucluse loamy sand, 6 to 10 percent slopes	26.3	1.9%
VaD	Vaucluse loamy sand, 10 to 15 percent slopes	150.0	10.6%
W	Water	167.1	11.8%
Totals for Area of Interest		**1,415.1**	**100.0%**

Appendix B

Cedar Creek Watershed



WESTON LAKE WATERSHED BOUNDARY

Appendix C

Floodplain Data and FONPA

EO 11988 Evaluation

WESTON LAKE DAM REPAIRS

Ft. Jackson, South Carolina

February 2020

Below is the eight-step process that agencies should carry out as part of their decision-making on projects that have potential impacts to or within the floodplain. The eight steps reflect the decision-making process required in Section 2(a) of the Order.

1. Determine if a proposed action is in the base floodplain (that area which has a one percent or greater chance of flooding in any given year).

The preferred alternative and all other evaluated alternatives are within a floodplain.

2. Conduct early public review, including public notice.

I The public will be notified of the upcoming availability of the draft EA.

3. Identify and evaluate practicable alternatives to locating in the base floodplain, including alternative sites outside of the floodplain.

As all action alternatives consist of measures to address instability of existing structures located in the floodplain, no non-floodplain alternatives exist.

4. Identify impacts of the proposed action.

The proposed action will ensure that the infrastructure associated with Weston Lake will appropriately minimize the potential for flooding and stormwater impacts to structures existing in the floodplain.

5. If impacts cannot be avoided, develop measures to minimize the impacts and restore and preserve the floodplain, as appropriate.

Construction activities within the floodplain will be minimized to only that which is necessary to construct the permanent project and the staging area will be located outside the floodplain. Additionally, construction will follow Best Practices and the requirements of the Stormwater Pollution Prevention Plan. The proposed action would generally use the existing infrastructure configuration and footprint to improve the Weston Lake dam to reduce dam safety concerns. Downstream water levels will not be impacted by the project.

6. Reevaluate alternatives.

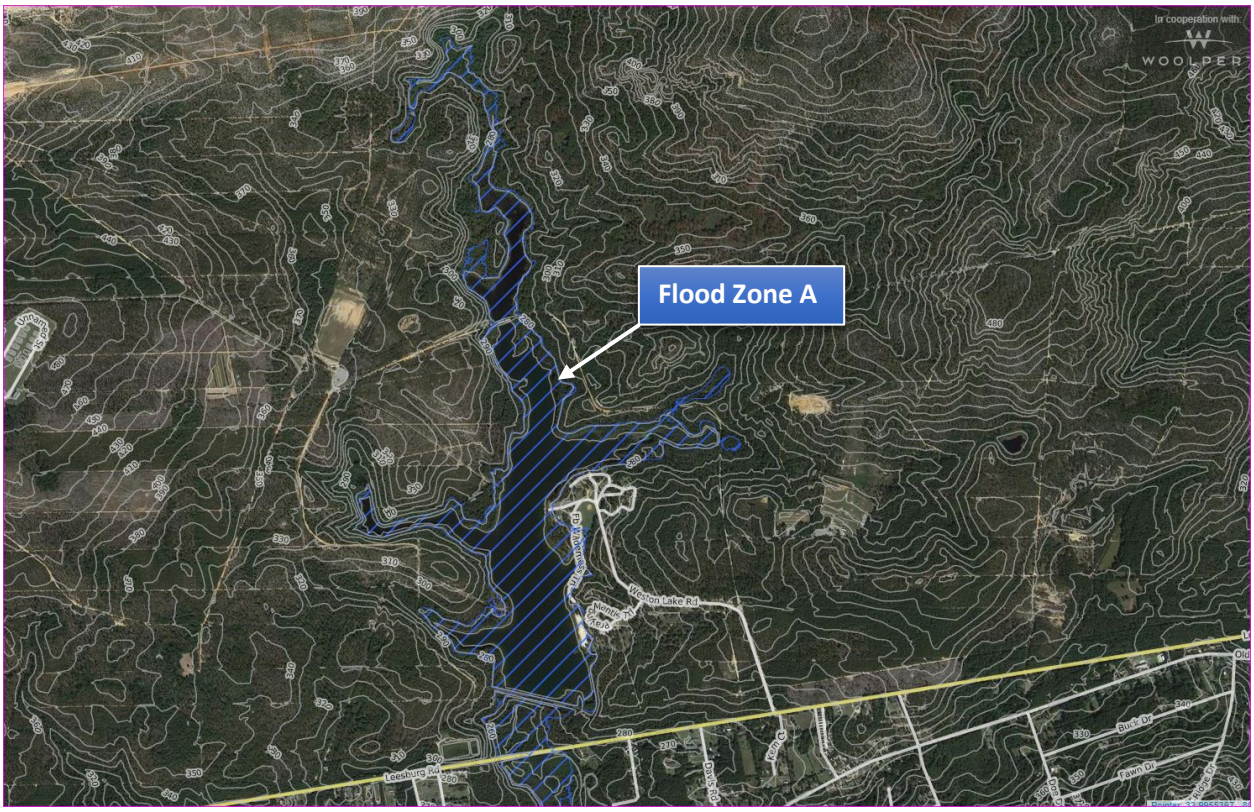
No non-floodplain alternative exists.

7. Present the findings and a public explanation.

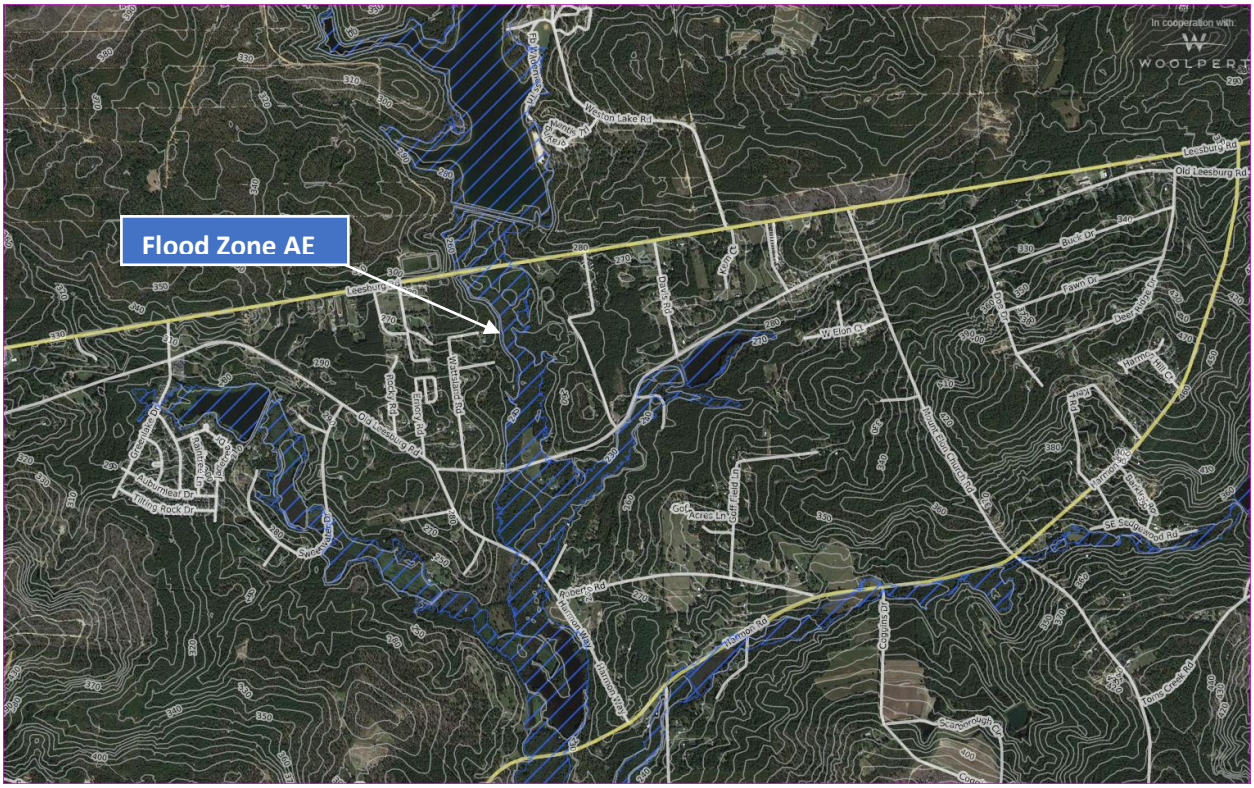
Ft. Jackson has determined that there is no practicable alternative for locating the project out of the flood zone. This is due to the location of Weston Dam within the floodplain. Details of the proposed action are available to the public in the draft EA.

8. Implement the action

The proposed project cannot be implement until the NEPA process is complete and funding is available. However, once an action is initiated Ft. Jackson will also take an active role in monitoring the construction process to ensure no unnecessary impacts occur nor unnecessary risks are taken.



FEMA FLOOD MAP WESTON LAKE



FEMA FLOOD MAP WESTON DAM AND BELOW SC HIGHWAY 262

DEPARTMENT OF DEFENSE
UNITED STATES ARMY

FINDING OF NO PRACTICABLE ALTERNATIVE FOR IMPROVEMENTS OF WESTON LAKE DAM FORT JACKSON, SC

1.0 Introduction

The Department of the Army (Army) proposes to improve infrastructure associated with Weston Lake at Fort Jackson, South Carolina. Because the embankments of the Weston Lake dam are located within the 100-year floodplain, the proposed action must be located within the 100-year floodplain. Pursuant to Section 2(a)(2) of Executive Order (EO) 11988, *Floodplain Management*, the Army must evaluate whether there is a practicable alternative to locating the proposed action in a floodplain. The practicability of a given alternative is evaluated by determining whether it is available and capable of being done after considering pertinent factors, such as community welfare, environmental impact, statutory authority, legality, cost, technology, and engineering within the context of the project purpose. If the only practicable alternative requires siting in a floodplain, the Army must design or modify its action to minimize harm to or within the floodplain. Thereafter, the Army must prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain. This Finding of No Practicable Alternative incorporates the analysis and conclusions of the Weston Lake Environmental Assessment (including Appendix C, EO 11988 Evaluation).

2.0 Notice of Floodplain Involvement

Executive Order 11988 requires Federal agencies to first determine whether a proposed action would occur within a floodplain. "Floodplain" is defined in the EO as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." The 100-year floodplain represents those areas that could be inundated in the event of high flood water levels expected to occur once every 100 years from the combination of heavy rainfall, high tides, and storm surges. Based on existing Federal Emergency Management Agency Flood Insurance Rate Maps and an engineering-level analysis, it was concluded that the proposed action is within the 100-year floodplain.

3.0 Description of the Proposed Action, Floodplain Impacts, and Minimization

Fort Jackson is proposing to improve the Weston Lake dam. This is alternative 4 from the EA. This alternative would maintain the stormwater detention capacity based on its existing design. No modifications are proposed that would alter the existing designed dam and spillway crests nor how controlled discharge is made through the dam. The dam embankment and foundation is to be protected from backward erosion piping and the emergency spillway protected from erosion during large flood events where the lake overtops the spillway.

The toe berm improvements consist of (1) construction of a toe berm that extends approximately 190 feet from the dam crest centerline, (2) associated trench drain and toe drain collection system within the toe berm footprint, (3) modification and extension of primary spillway conduit, and (4) reconstruction of the plunge pool area. The toe berm footprint starts at elevation 275 feet NAVD88 on the downstream slope and follows the existing surface, extending downstream a horizontal distance of roughly 190 feet from the dam crest centerline. The general length of the berm is 450 feet and is aligned on top of the existing toe berm. The proposed berm consists of sand filter material with an average thickness of 3 feet covered with 2 feet of fill. The trench drain and toe drain system will be located a horizontal distance of roughly 170 feet from the dam crest centerline. The trench drain will extend approximately 10 feet below the existing ground surface. The toe drain collection system will consist of perforated HDPE pipe generally aligned parallel to the dam crest centerline. Manholes will be constructed along the toe drain with two having solid HDPE pipe outfalling to the plunge pool. The downstream extents of the redesigned plunge pool area will be about 70 feet downstream of the existing plunge pool to accommodate the proposed toe berm.

The emergency spillway improvements consist of (1) construction of a gravel access roadway, (2) construction of a downstream riprap trench, (3) installation of a diversion berm that directs water towards the natural streambed, and (4) installation of turf reinforcing mat and vegetation on the entire length of the emergency spillway. The emergency spillway would have a level control section elevation of 279.2 feet, North American Vertical Datum 1988 (NAVD88) and a consistent bottom channel width of 200 feet along approximately 800 linear feet. The riprap trench would be 35 feet long by 200 feet wide at the bottom of the emergency spillway channel. The diversion berm would be approximately 6 feet tall with an 8-foot crest width and 3Horizontal:1Vertical (3H:1V) sideslopes. The berm would run parallel to the left bank (looking downstream) of the emergency spillway for approximately 600 of the 800-foot spillway length. The turf reinforcing mat would be placed within the footprint of the spillway channel bottom as well as extend up the channel banks. The mat would be keyed into the gravel access road at the emergency spillway crest and keyed into the riprap trench at the bottom.

The Weston Lake dam is located within the 100 year floodplain and wetlands. Thus, any alternative repair action will have to be conducted in the floodplain and wetlands, in order to meet the repair need. The preferred alternative would result in the permanent loss of 0.46 acre of wetlands (all other options would result in greater loss). Under the preferred alternative, the dam and spillway crest elevation would not change, thus there would be no change in flood elevations. Moreover, this alternative would correct the existing embankment seepage and spillway erosion while minimizing wetland loss to the maximum extent practicable.

Construction activities associated with the preferred alternative will follow best management practices and the requirements of the Stormwater Pollution Prevention Plan. In addition, the proposed action would generally use the existing infrastructure configuration and footprint to improve the Weston Lake dam to reduce dam safety concerns. [NOTE: Authorization under Section 404 of the CWA would require a Nationwide Permit (NWP) and may require mitigation for the loss of 0.46 acre of wetlands.] The proposed action will adhere to all Section 404 permit requirements.

Assessment of Direct Impact to 100-Year Floodplain

Under the proposed action at Weston Lake, the toe berm portion of the project would occur within the 100-year floodplain (the Weston Lake dam, and the downstream portions of Cedar Creek are physically located within the 100-year floodplain). The portion of the project associated with the emergency spillway does not encroach into the 100-year floodplain. The Army has evaluated the proposed action pursuant to EO 11988 and determined that there are no practicable alternatives outside of the floodplain that will meet the project purpose. The purpose of the project is to improve the Weston Lake dam to address the most significant dam safety concerns and to continue to manage stormwater flows to minimize downstream impacts. Because the dam footprint is situated in the floodplain, and because the management of stormwater has an impact on conditions in the floodplain, the proposed action related to the toe berm and all of the evaluated action alternatives are necessarily within the floodplain. The proposed action will ensure that the infrastructure associated with Weston Lake will appropriately minimize the potential for flooding and stormwater impacts to structures existing in the floodplain. The proposed action would maintain the floodplains in the project area to essentially pre-project conditions once construction activities are completed. An alternate toe berm design would require a 120-foot extension beyond the existing berm, or about 250 feet from the dam crest centerline, which increases the footprint within the floodplain. This alternate toe berm design would result in the permanent loss of 1.25 acres of wetlands associated with the placement of fill; whereas, implementation of the proposed action would limit the loss of wetlands to 0.46 acre. The cost and engineering required to craft an alternative somehow situated wholly outside of the floodplain would be excessive (and no such alternatives were identified). Such an alternative would not be technically feasible, would not meet the needs of the community downstream in terms of structural safety and stormwater management, would involve substantial environmental impact, and would fail to meet the purpose of the project.

Minimization of Impact from the Proposed Action

The proposed action would minimize the impacts to the floodplain, both during construction and permanently. Construction activities within the floodplain will be minimized to only that which is necessary to construct the permanent project and the staging area will be outside the floodplain. Additionally, construction will follow Best Management Practices and adhere to all Section 404 permit requirements and the requirements of the Stormwater Pollution Prevention Plan. The proposed action would generally use the existing infrastructure configuration and footprint to improve the Weston Lake dam to reduce dam safety concerns and water levels downstream will not be impacted by the project. Improving Weston Lake Dam to address the most significant dam safety concerns, will benefit downstream interests, which include residents and public infrastructure off post, subject to stormwater impacts. Once completed, the proposed action will ensure that the current management of downstream flows and stormwater reliably continues.

4.0 Finding

Following an evaluation of the impacts associated with the proposed action and the impacts of alternatives to implement the proposed action, I find that there is no practicable alternative to the proposed action located outside of the floodplain. Furthermore, pursuant to EO 11988, and as described above, the Army will take all practicable measures to minimize impacts associated with the proposed action to and within the floodplain environment.

Date	Mr. Paul D. Cramer Deputy Assistant Secretary of the Army Installations, Housing & Partnerships

Appendix D

Threatened and Endangered Species for Richland County, South Carolina

RICHLAND COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Amphibians	Chamberlain's dwarf salamander (ARS)	*Eurycea chamberlaini*	Spring/Fall surveys	Breeding survey: November to February
Birds	American wood stork (T)	*Mycteria americana*	February 15-September 1	Nesting season
	Bald eagle (BGEPA)	*Haliaeetus leucocephalus*	October 1-May 15	Nesting season
	Red-cockaded woodpecker (E)	*Picoides borealis*	March 1-July 31	Nesting season
Crustaceans	Broad River spiny crayfish (ARS)	*Cambarus spicatus*	November-April	
Fishes	Robust redhorse (ARS)	*Moxostoma robustum*	Late April-early May	Temperature dependent: 16-24°C
	Shortnose sturgeon* (E)	*Acipenser brevirostrum**	February 1-April 30	Spawning migration
Insects	Monarch butterfly (ARS)	*Danaus plexippus*	August-December	Overwinter population departs: March-April
Mammals	Little brown bat (ARS)	*Myotis lucifugus*	Year round	Found in trees, rock crevices, and under bridges
	Tri-colored bat (ARS)	*Perimyotis subflavus*	Year round	Found in mines and caves in the winter
Mollusks	None Found			
Plants	Bog spicebush (ARS)	*Lindera subcoriacea*	March-August	
	Canby's dropwort (E)	*Oxpolis canbyi*	Mid-July-September	
	Carolina-birds-in-a-nest (ARS)	*Macbridea caroliniana*	July-November	
	Ciliate-leaf tickseed (ARS)	*Coreopsis integrifolia*	August-November	
	Georgia aster (ARS*)	*Symphyotrichum georgianum*	Early October-mid November	
	Purple balduina (ARS)	*Balduina atropurpurea*	August-November	
	Rough-leaved loosestrife (E)	*Lysimachia asperulaefolia*	Mid May-September	
	Smooth coneflower (E)	*Echinacea laevigata*	Late May-October	
Reptiles	Southern hognose snake (ARS)	*Heterodon simus*	Most of the year	

*	Contact National Marine Fisheries Service (NMFS) for more information on this species.
**	The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species.
ARS	Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.
ARS*	Species that are either former Candidate Species or are emerging conservation priority species.
BGEPA	Federally protected under the Bald and Golden Eagle Protection Act
C	FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species.
CH	Critical Habitat
E	Federally Endangered
P or P – CH	Proposed for listing or critical habitat in the Federal Register
S/A	Federally protected due to similarity of appearance to a listed species
T	Federally Threatened

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit https://www.dnr.sc.gov/species/index.html.

Appendix E

Biological Assessment

Evaluation of the Biological Impacts to Endangered Species
2020 Weston Lake Dam Repairs
Fort Jackson, Richland County, South Carolina

Introduction

The purpose of this document is to provide information on the presence or absence of federally listed threatened and endangered species and their habitat within the area of disturbance associated with the proposed Weston Lake dam repairs. It also assesses the anticipated impacts to these species from this proposed action.

On 19 March 2020 Fort Jackson Environmental Division staff had a phone conference with U.S. Fish and Wildlife Service (USFWS) staff regarding the Weston Lake Dam repair project being proposed on Fort Jackson, SC. Details of the project and impacts to Red-cockaded Woodpecker (RCW) foraging habitat and habitat management unit (HMU) were discussed. The results of the phone conference determined that Fort Jackson staff should provide the USFWS the following information as an informal biological assessment.

Background

Weston Lake Dam is a high hazard dam located north of S.C. Highway 262, east of the Ft. Jackson cantonment area and west of its intersection with Weston Pond Road, in Richland County, South Carolina (Latitude 34.0076˚, Longitude -80.8313˚) (Fig. 1). The lake is located completely within the boundaries of Fort Jackson's Military Reservation, and as such, is owned by the Federal Government.

Weston Lake is located in the headwaters of Cedar Creek. The dam is registered in the National Inventory of Dams (NID) as #SC00233 and is classified as a large and high hazard dam due to potential loss of life and property damage downstream. During a 2017 periodic inspection, erosion, pin-sized boils, and surficial slope instability were observed. Additional flowing seepage was identified in 2018 and a risk assessment indicated that spillway erosion failure was the highest risk Potential Failure Mode (PFM). Additional risk factors involve Backward Erosion Piping (BEP) through the embankment and foundation soils. Temporary emergency repairs completed in 2019 include the placement of inverted filters in the embankment seepage areas, and clearing and grubbing of the emergency spillway. Ongoing embankment seepage and the loss of highly erodible soils in the earthen emergency spillway during large flood events have compromised the integrity of the structure. This proposed action is the repairs to Weston Lake dam and associated earthen emergency spillway.

Figure 1

Description of Proposed Action and Action Area

An Environmental Assessment (EA) is being prepared to evaluate the environmental impacts of alternatives to address deficiencies of the Weston Lake Dam. The proposed Preferred Alternative identified in the draft EA would consist of constructing a short length toe berm over and below the existing embankment with a toe drain collection system, and armoring of the emergency spillway. Repair of the dam and spillway could require permanent removal of up to 0.86 acres of mostly forested lands containing pine and hardwood tree species (reference light blue solid shaded area in Figure 2).

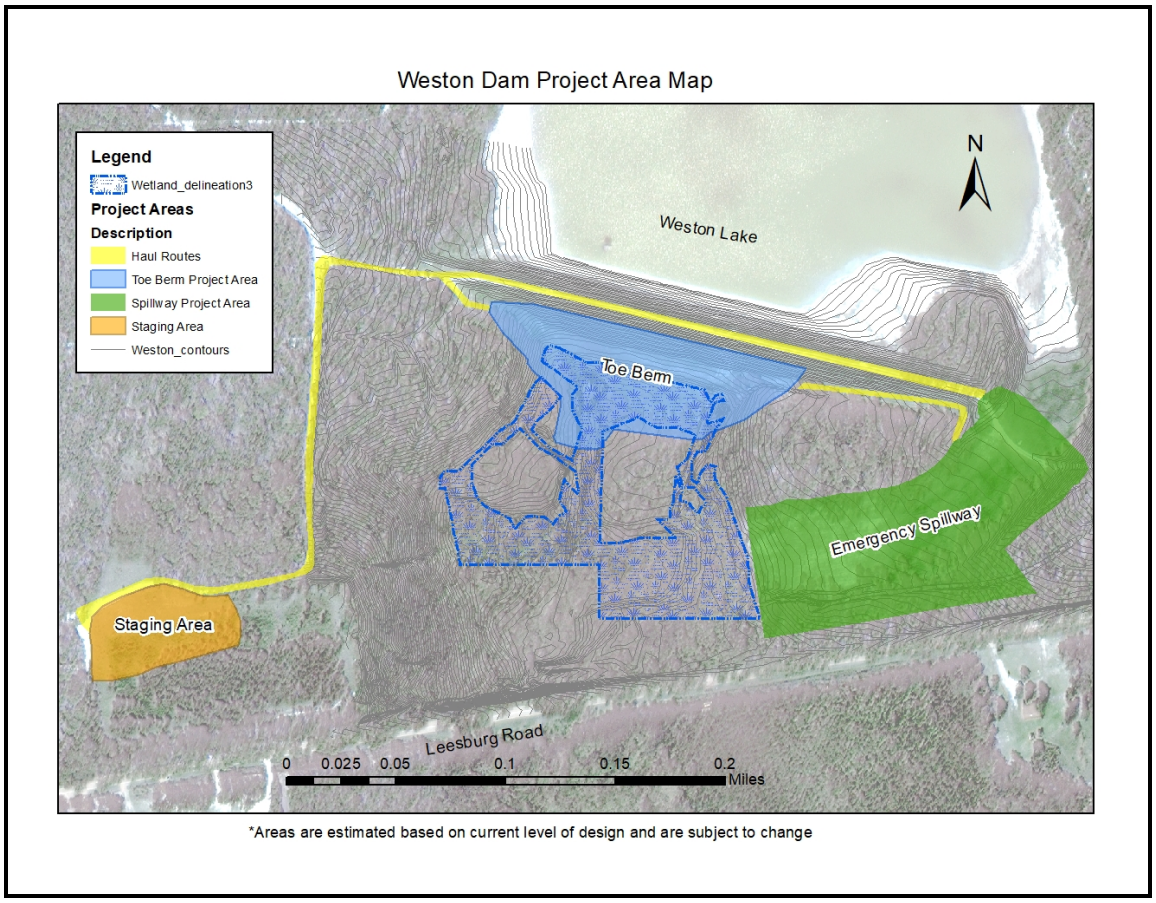


Figure 2

Species Considered

The following are species listed as threatened or endangered for Richland County, S.C. as of September 9, 2019. The species considered in this evaluation include: Shortnose sturgeon, Bald eagle, American wood stork, Rough-leaved loosestrife, Smooth coneflower, Canby's dropwort, and Red-cockaded woodpecker.

Analysis of Effects

Shortnose sturgeon (*Acipenser brevirostrum*)

The endangered Shortnose sturgeon has never been documented on Fort Jackson. The proposed repairs to Weston Lake dam will not impact stream flow, water quality, or alter aquatic habitat conditions of Cedar Creek. Cedar Creek flows from Weston Lake and exits Fort Jackson at Leesburg Road. After exiting the post it passes through four privately owned ponds, eventually emptying into the Congaree River. The downstream dams that form ponds between Weston Lake and the Congaree River severely impedes the passage of any anadromous fish further upstream.

In 1997, Fort Jackson prepared a Biological Assessment (BA) of Fort Jackson's potential effects on the Shortnose sturgeon pursuant to Section 7 of the Endangered Species Act of 1993.

The U.S. Department of Commerce reviewed this document and by letter dated January 13, 1997, concurred with the BA's determination that populations of endangered or threatened species under their purview would not be adversely affected by actions occurring on Fort Jackson. This concurrence was based on the fact that Shortnose sturgeons are extremely unlikely to occur on, or in the vicinity of Fort Jackson.

It is anticipated that there would be no effect on this species as a result of the proposed Weston Lake dam repairs.

Bald eagle (*Haliaeetus leucocephalus*)

The Bald eagle, which is protected by the Bald and Golden Eagle Protection Act, is found on Fort Jackson. The closest Bald Eagle nest is located on Fort Jackson approximately 6 ½ miles north of the Weston Lake dam. Repairs to Weston Lake dam will not alter habitat of the Bald Eagle, thus we anticipate no effect.

American wood stork (*Mycteria americana*)

The American wood stork, a Federally-listed threatened bird species, has been documented on Fort Jackson during its migrations. No nests have been documented on the installation. The proposed repairs to Weston Lake dam may temporarily disrupt foraging near the dam, but this is not likely to adversely affect this species.

Rough-leaved Loosestrife *(Lysimachia asperulaefolia)*

Fort Jackson has conducted multiple endangered species surveys for listed flora and fauna in the early and mid-1990's, 2010, and 2016. The only population of Rough-leaved loosestrife found on Fort Jackson is located approximately 4.25 miles northeast of the Weston Lake dam. The proposed dam repairs will have no effect on this population.

Smooth Coneflower *(Echinacea laevigata)*

Fort Jackson's survey efforts as described above have documented one population of Smooth coneflower on Fort Jackson. This population is located approximately 6.25 miles northeast of the Weston Lake dam. The proposed dam repairs will have no effect on this population.

Canby's dropwort (*Oxpolis canbyi*)

The floristic surveys performed on Fort Jackson have failed to document the presence of this species. Botanists have stated that suitable habitat for this species likely does not exist on Fort Jackson, as it is typically found in pond-cypress savannahs in Carolina Bay formations dominated by grasses and sedges or ditches next to bays. These habitats are not present on Fort Jackson. The proposed dam repairs will have no effect on this species.

Red-cockaded woodpecker (*Picoides borealis*)

Fort Jackson actively manages an increasing population of red-cockaded woodpeckers as described in the Integrated Natural Resources Management Plan (U.S. Army 2017). Monitoring 100% of our population documented 50 active clusters that contained 45 potential breeding groups in 2019. Weston dam is located within the ½ mile foraging partitions of two active red-cockaded woodpecker (RCW) clusters. These are designated as clusters REC-A and REC-B.

Of the 0.86 acres to be cleared (toe berm footprint), only 0.2 acres meets the definition of contiguous, suitable or potentially suitable RCW habitat within ½ mile of a RCW cluster. This 0.2 acres located within forest stand 9133 (Figures 5) is associated with RCW cluster REC-A, and is part of the RCW HMU.

The rest of the area in the toe berm footprint to be cleared (0.66 acres) will not affect the RCW clusters within ½ mile, due to:

1) it does not meet the definition of suitable or potentially suitable RCW habitat,

2) is non-contiguous with other foraging habitat, or

3) is beyond the ½ mile of any RCW clusters.

The Staging Area (Figure 2) is a previously cleared opening (demolished waste water treatment plant) that is not currently suitable RCW habitat, and is not currently included in the RCW HMU.

The clearing associated with the Emergency Spillway (Figure 2) will occur outside the ½ mile partition for cluster Rec-B, and only affect non-contiguous habitat within the ½ mile foraging partition of cluster REC-A (Figure 3).

The clearing of forested RCW habitat associated with the proposed repairs to Weston Lake dam will not result in the removal of any foraging habitat within ½ mile of cluster REC-B. Therefore, the proposed action may affect but is not likely to adversely affect RCW cluster REC-B.

The proposed action will result in the removal of 0.2 acres of contiguous foraging habitat within ½ mile of RCW cluster REC-A. This removal will be a permanent loss of habitat, as the cleared area will be maintained as a mowed grass area in perpetuity. The analysis of impacts to cluster REC-A from this loss of foraging habitat is described below.

We are providing a RCW partition map, reproductive information for cluster Rec-A, a copy of the 2012 RCW foraging habitat analysis for cluster Rec-A, and details of habitat improvements that have been performed in the partition since 2012.

In the entire removal footprint of 0.2 acres, 13 pine trees greater than 10 inches diameter at breast height (DBH), or 15.41 square feet of pines will be removed (Table 1, Figure 3, Figure 4).

Table 1 Trees to be removed by DBH (inches) from the 0.2 acre RCW HMU section associated with the Weston Lake dam repair project

Pine species	DBH (inches)									Total All sizes	Total >10"
	4-5.9	6-7.9	8-9.9	10-11.9	12-13.9	14-15.9	16-17.9	18-19.9	20-21.9		
Loblolly pine	4	2			2			2		10	4
Longleaf pine	38	10	2	3	3		2		1	59	9
Basal Area (square feet)				1.98	4.33		2.97	3.94	2.18		15.41

Figure 3 HMU removal, Weston lake dam in background, photo taken facing East. Photo of area to be clearcut, most of the large trees to be removed are flagged pink. The midstory is small diameter pine with ~25% hardwood stems.

Figure 4 HMU removal bounded by pink flagged trees on left and right side of photo. Photo taken from on top Weston Lake dam facing south.

The ½ mile foraging partition for RCW cluster Rec-A crosses over the southern boundary of Fort Jackson and overlaps private property (Figure 5). From the aerial photo there is only a small stand on the east side of that private property that might be pine forest of suitable RCW forage habitat. In historic monitoring of RCWs associated with cluster Rec-A, we have witnessed the birds foraging to the North and West within and outside their half mile partition but we have not witnessed them crossing the southern boundary.

Reference Figure 5: The forest stands that make up the HMU (striped purple) are those stands that will be managed for RCW habitat into the future. Forest stands that do not contribute to RCW foraging are left out of the HMU (e.g. hardwood stands, riparian areas, mission requirements). In the top right corner of the ½ mile foraging partition (black circle) is the footprint for the Weston Lake dam clearing (light blue). The HMU acres that will be removed for this project amount to 0.2 acres (red polygon).

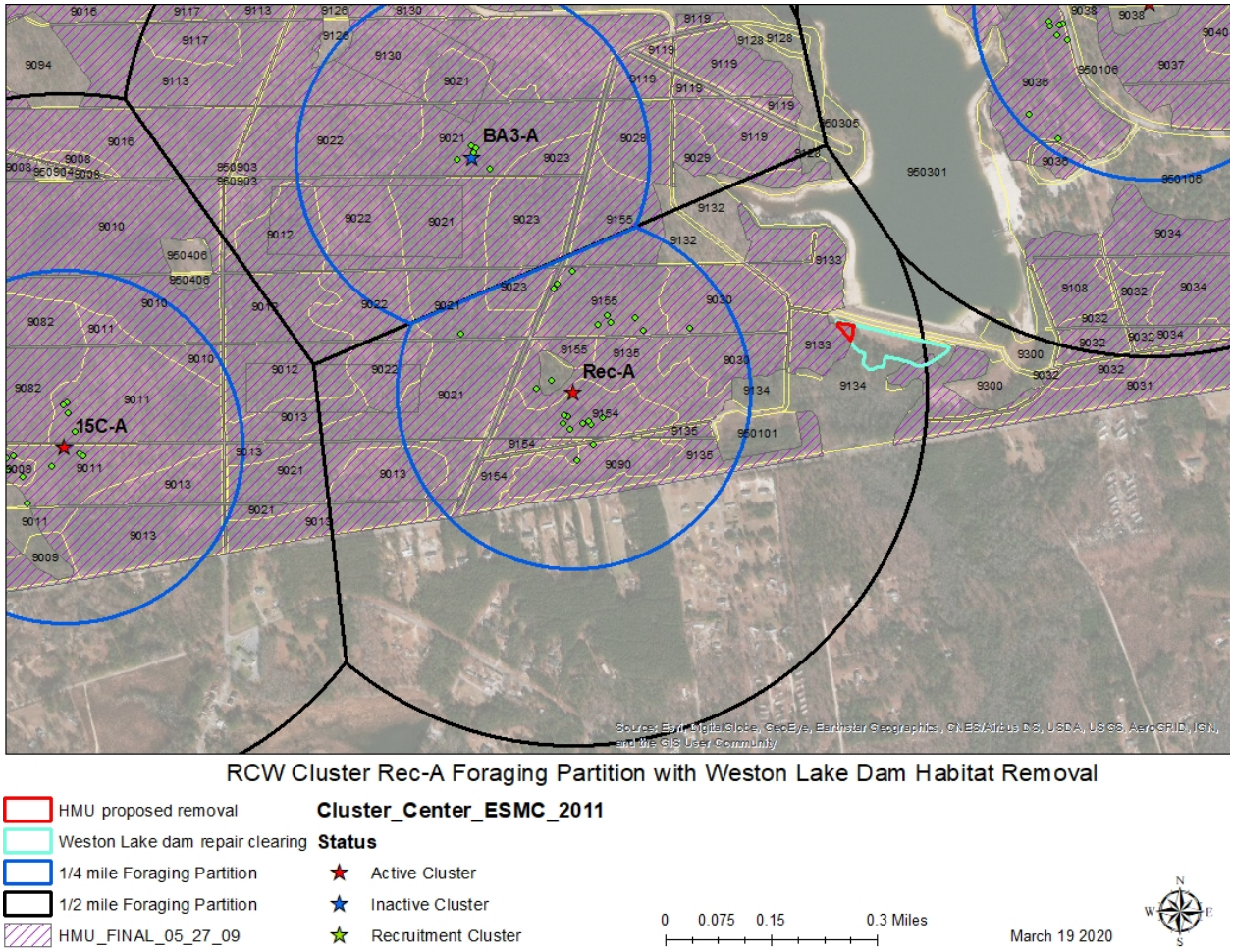


Figure 5 RCW cluster Rec-A with half mile foraging partition and 0.2 acre removal from Weston Lake dam project

2012 RCW Foraging Habitat Analysis

The RCW Matrix foraging habitat analysis was last run in 2012 (Appendix 1). On federally-owned properties, like Fort Jackson, our goal is to aim for the highest 'Recovery Standard' (RCW Recovery Plan, USFWS 2003), to provide sufficient good quality foraging habitat for each existing RCW cluster, and continue to increase the number of clusters on the landscape (U.S. Army 2017).

When reviewing small projects for their impacts on RCWs, the benchmark used is 'Managed Stability Standard' (USFWS 2005). This standard is to preserve at least 75 acres within the ¼ mile partition of each cluster post-project. A second criteria is that this ¼ mile should provide at least 3,000 square feet of pine basal area of trees ≥10'' DBH, over 30 years old, and not separated by more than 200 feet from other foraging stands.

RCW cluster Rec-A has only 65.1 acres that meet 'Managed Stability' standards pre-project, but it does provide 3295.7 square feet of pine basal area pre-project, which satisfies the second criteria (Table 2). The removal of any habitat needs to be reviewed since this cluster does not

meet 'Managed Stability Standards'. The entire 15.41 square feet removal is proposed to be removed **from outside** the ¼ mile partition, which will not reduce the 65.1 acres and 3295.7 square feet **within the** ¼ mile partition. Even though the removal of trees is not going to take place within the ¼ mile partition, because the cluster is already deficient in foraging, any removal needs to be analyzed.

The forest stand from which the trees will be removed (Stand ID 9133) does not currently contribute to the estimated foraging for cluster Rec-A, because it has an average age of 6 years (minimum to be considered is 30 years) and it does not provide enough PBA>10 (minimum 40).

We will continue to improve the habitat of Rec-A in the remaining forest stands by performing midstory treatments and prescribed fire as detailed in the next section.

Table 2 Rec-A partition stand summary

A	B	C	D	E	F
Stand ID	Age	PBA >10	Total acres in quarter mile partition	Acres in quarter mile with Column B>30 and Column C> 40	Column C x Column E =Total sq ft of pine basal area
9012	57	64.38	0		0
9021	64	46.92	20.16	20.16	945.9
9022	69	15.33	1.57		0
9023	62	50	1.83	1.83	91.5
9029	64	43.84	0		0
9030	11	15	8.63		0
9031	45	62.33	0		0
9040	41	58	0		0
9090	7	3.33	7.16		0
9119	11	10	0		0
9133	6	20	0		0
9135	82	50	16.67	16.67	833.5
9154	63	56.92	12.89	12.89	733.7
9155	64	51	13.55	13.55	691.1
		Totals:	**82.46**	**65.1**	**3295.7**

Habitat improvements in RCW cluster Rec-A since the 2012 foraging analysis

A midstory removal project (commercial whole-tree/fuel wood chipping) was completed in 30.6 acres of the Rec-A partition (Table 3). The technique removes small diameter pine and hardwood. It included reduction of midstory in the forest stand where the RCW cavity trees are located (stand 9154), as well as stand 9090, and parts of stands 9135 and 9155. Prior to the work, stand 9154 failed to meet managed stability standards by exceeding the level of trees less than 10 inches DBH (maximum allowed is 20 BA). The midstory work reduced the BA of pines in that category to 18 and the stand now passes managed stability standards.

Table 3 Midstory reduction via fuel-wood chipping in partition for RCW cluster Rec-A performed since 2012

Stand ID	Acres of midstory reduction	PBA < 10 prior to midstory reduction	PBA < 10 post-midstory reduction
9090	7.2	10.47	10
9135	4.6	16	13
9154	13.8	20.77	18
9155	5	15	13

A strong prescribed fire program has been implemented on Fort Jackson with growing season fires and a goal of 2- to 3-year rotation for the pine stands. Most of the stands including 127 acres in the Rec-A half mile partition have been burned within the last three years; 19 acres have been burned in the non-growing season and 103 acres have been burned in the growing season. Only 7 acres were burned longer than 3 years ago, they were last burned in 2015 and they include difficult-to-burn stands along the southern boundary and adjacent to an important travel and commuting corridor (Leesburg Rd).

There are 8 acres of pine habitat that were previously left out of the HMU that we will include in our next HMU update which will increase the potential good quality foraging habitat in the partition of Rec-A in the future. This includes 3.8 acres of stand 9134 which can be added back in (it was described at hickory/pine dominant, but ground-truthing has showed this stand to be one in which RCWs would forage). There are 2.9 acres of stand 960101 (south of a previous waste water treatment plant which was demolished) that will be added to the HMU and managed for future RCW habitat. There are an additional 1.3 acres in stand 9135 which was left out of HMU for unknown reasons that will be added.

Reproductive history of Cluster Rec-A

Cluster Rec-A has had some level of RCW Activity since 2001. In a majority of years it has had a potential breeding group and nesting was attempted. Nesting success, as determined by whether fledglings were produced each year, has been spotty. In half the years (8 of 16 years of known nesting) at least one fledgling was produced (Table 4).

Table 4 RCW cluster Rec-A reproductive history

Year	Cluster status	Group Size	Nestlings banded	Fledged
2019	PBG	3	2	1
2018	PBG	2	3	1
2017	PBG	2	0	0
2016	PBG	2	0	0
2015	PBG	3	0	0
2014	PBG	3	2	0
2013	PBG	3	2	2
2012	PBG	2	2	2
2011	PBG	2	0	0
2010	PBG	3	0	0

2009	PBG	4	2	1
2008	PBG	5	1	1
2007	PBG	3	3	3
2006	Unknown	2		
2005	Unknown	?		
2004	PBG	≥ 2	2	0
2003	PBG	≥ 2	2	1
2002	PBG	≥ 2		0
2001	Single	1		

The RCW cluster to the north of Rec-A is designated BA3-A. This recruitment cluster has only been active one year out of the last 13 years, and in that year, it was captured by Rec-A group.

We suspect that Rec-A forages in the partition of BA3-A, and will continue to do so until BA3-A retains a PBG that can defend that territory. We have recently replaced inserts in BA3-A to make it more attractive to dispersing RCWs.

Conclusions

Based on the information provided in this assessment, we determine:

1. The effects of this project are discountable and 'may affect, but are not likely to adversely affect' the RCW.

2. The proposed project may affect, but is not likely to adversely affect the American wood stork.

3. There will be no effect to the other threatened and endangered animal or plant species listed in Richland County, South Carolina.

The concurrence of the U.S. Fish and Wildlife Service with the findings of this assessment is requested.

Literature Cited

U.S Fish and Wildlife Service, Atlanta, GA. 2003. Recovery plan for the red-cockaded woodpecker (Picoides borealis): second revision, 296 pp.

U.S Fish and Wildlife Service, Atlanta, GA. 2005. Policy memo entitled 'Implementation Procedures for Use of Foraging Habitat Guidelines and Analysis of Project Impacts under the Red-cockaded Woodpecker (*Picoides borealis*) Recovery Plan: Second Revision', 12 pp.

U.S Army Garrison, Fort Jackson. 2017. Integrated Natural Resources Management Plan 2017-2021. Fort Jackson, SC.

Appendix 1: RCW Matrix results 2012 Rec-A

Appendix F

Agency and Public Correspondence

SCOPING CORRESPONDENCE

SHPO & TRIBAL CORRESPONDENCE

-----Original Message-----
From: Poppen, Andrew G CIV USARMY ID-TRAINING (USA)
Sent: Wednesday, July 22, 2020 3:21 PM
To: kschroer@scdah.sc.gov
Cc: Morrow, Douglas M CIV USARMY ID-TRAINING (USA)
<douglas.m.morrow.civ@mail.mil>; Funk, Paul S CTR (USA)
<paul.s.funk.ctr@mail.mil>; Smith, Sarah E CIV USARMY IMCOM (USA)
<sarah.e.smith347.civ@maii.mii>
Subject: Notice of Proposed Project at Fort Jackson (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Dear Keely,

The purpose of this email is to notify you that Fort Jackson is proposing to perform repairs to Weston Lake Dam, an action which requires the development of an Environmental Assessment (EA). This email serves as initiation of consultation under Section 106 of the National Historic Preservation Act of 1966 and 36 Code of Federal Regulations, Part 800. The attached letter describes the action, and our assessment of potential impacts to cultural resources.

If you have any questions or need more information please contact Chan Funk at (803) 751-7153 or paul.s.funk.ctr@mail.mil, or myself.

Thanks/Danke/Gracias/Grazie/Merci

Andy Poppen, EIT., LEED AP
Environmental Engineer
Chief, Environmental Div.
2563 Essayons Way
Ft. Jackson, SC
Desk (803) 751-7702
DSN: 734-7702
Gov't Cell/ telework #: (803) 319-1690

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
DIRECTORATE OF PUBLIC WORKS
2562 ESSAYONS WAY
FORT JACKSON SC 29207-5608

22 July 2020

SUBJECT: Section 106 Consultation; Weston Lake Dam, Fort Jackson, South Carolina

Ms. Keely Lewis-Schroer
South Carolina Department of Archives and History
8301 Parklane Road
Columbia, SC 29223

Dear Ms. Lewis-Schroer:

Fort Jackson proposes to perform repairs to Weston Lake Dam located on Fort Jackson. It has been determined that an environmental assessment (EA) is required for this action, and one will be prepared for the undertaking. Any comments you choose to provide will be included both in the draft and the final EA.

Weston Lake Dam is a high hazard dam located north of S.C. Highway 262, east of the Fort Jackson cantonment area and west of its intersection with Weston Lake Road, in Richland County, South Carolina (Latitude 34.0076˚, Longitude -80.8313˚) (Figures 1 and 2). The lake is located completely within the boundaries of Fort Jackson, and is owned by the Federal Government.

Weston Lake is located in the headwaters of Cedar Creek. The dam is registered in the National Inventory of Dams (NID) as #SC00233, and is classified as a large and high hazard dam due to potential loss of life and property damage downstream. During a 2017 periodic inspection, erosion, pin-sized boils, and surficial slope instability were observed. Additional flowing seepage was identified in 2018 and a risk assessment indicated that spillway erosion failure was the highest risk Potential Failure Mode (PFM). Additional risk factors involve Backward Erosion Piping (BEP) through the embankment and foundation soils. Temporary emergency repairs completed in 2019 include the placement of inverted filters in the embankment seepage areas, and clearing and grubbing of the emergency spillway. Ongoing embankment seepage and the loss of highly erodible soils in the earthen emergency spillway during large flood events have compromised the integrity of the structure. This proposed action is the repairs to Weston Lake dam and associated earthen emergency spillway, both constructed in 1971.

The undertaking involves constructing a short length toe berm over and below the existing embankment with a toe drain collection system, and armoring of the emergency spillway (Figure 3). The areas of disturbance are estimated to total approximately 15.5 acres, including approximately 4.5 acres for the toe berm and 11 acres associated with

the emergency spillway. Repair of the dam and spillway could require permanent removal of up to 0.86 acres of forested lands containing pine and hardwood tree species (Figure 3). After construction, the area will be revegetated and maintained in grasses.

The area of potential effects (APE) is on the downstream slope of the man-made embankment, an area immediately below the embankment, and an area within and adjacent to a previously disturbed, earlier constructed emergency spillway. Construction would not involve work in the lake bed.

The cultural resource survey completed in 1991, which included the APE, resulted in negative findings. However, the recent drawdown of the lake during 2019 exposed several pre-contact artifact clusters located approximately 1/2 mile north of the dam. None of these clusters are located within the APE of this project. One of these clusters, the Clawson site, located approximately 1/2 mile north of the Weston Lake dam, is part of a 2019-20 effort to evaluate 5 late-discoveries located across the installation. This site appears potentially eligible for listing on the NRHP based on initial evaluation. The draft report is due in August, and will be coordinated with the SHPO and THPOs. However, this project is expected to have no adverse effects to the Clawson site or any other cultural resources.

Based on this information, Fort Jackson seeks any comments you choose to provide on the undertaking, the APE, or our determination that no historic properties will be affected by the proposed undertaking. Please indicate in your response if you would like to review the draft or final EA when completed. We would sincerely appreciate any comments within 30 days of this letter to facilitate the process of making these repairs.

For additional information contact Doug Morrow at (803) 751-4793 or douglas.m.morrow.civ@mail.mil or Chan Funk at (803) 751-7153 or paul.s.funk.ctr@mail.mil.

ANN P. GARNER, P.E.
Director of Public Works

Enclosures

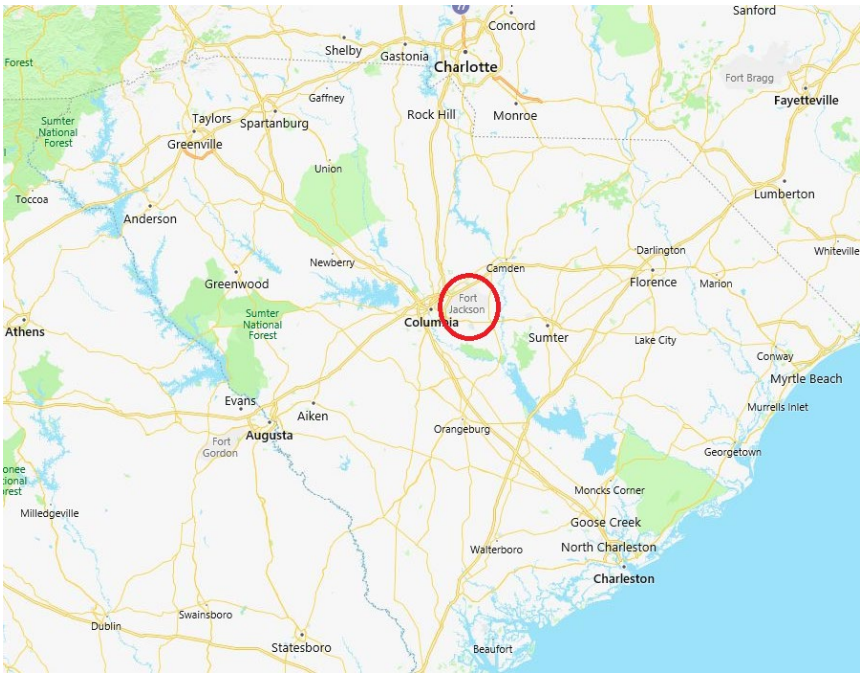


Figure 1 Fort Jackson

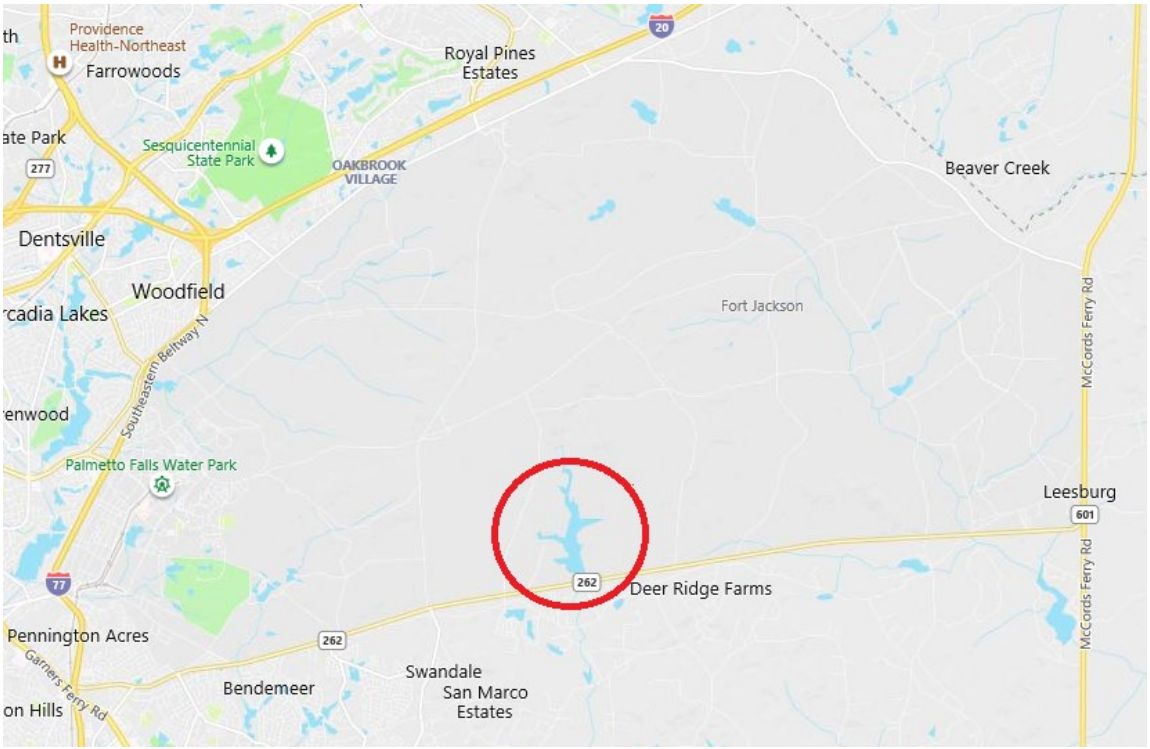


Figure 2 Weston Lake

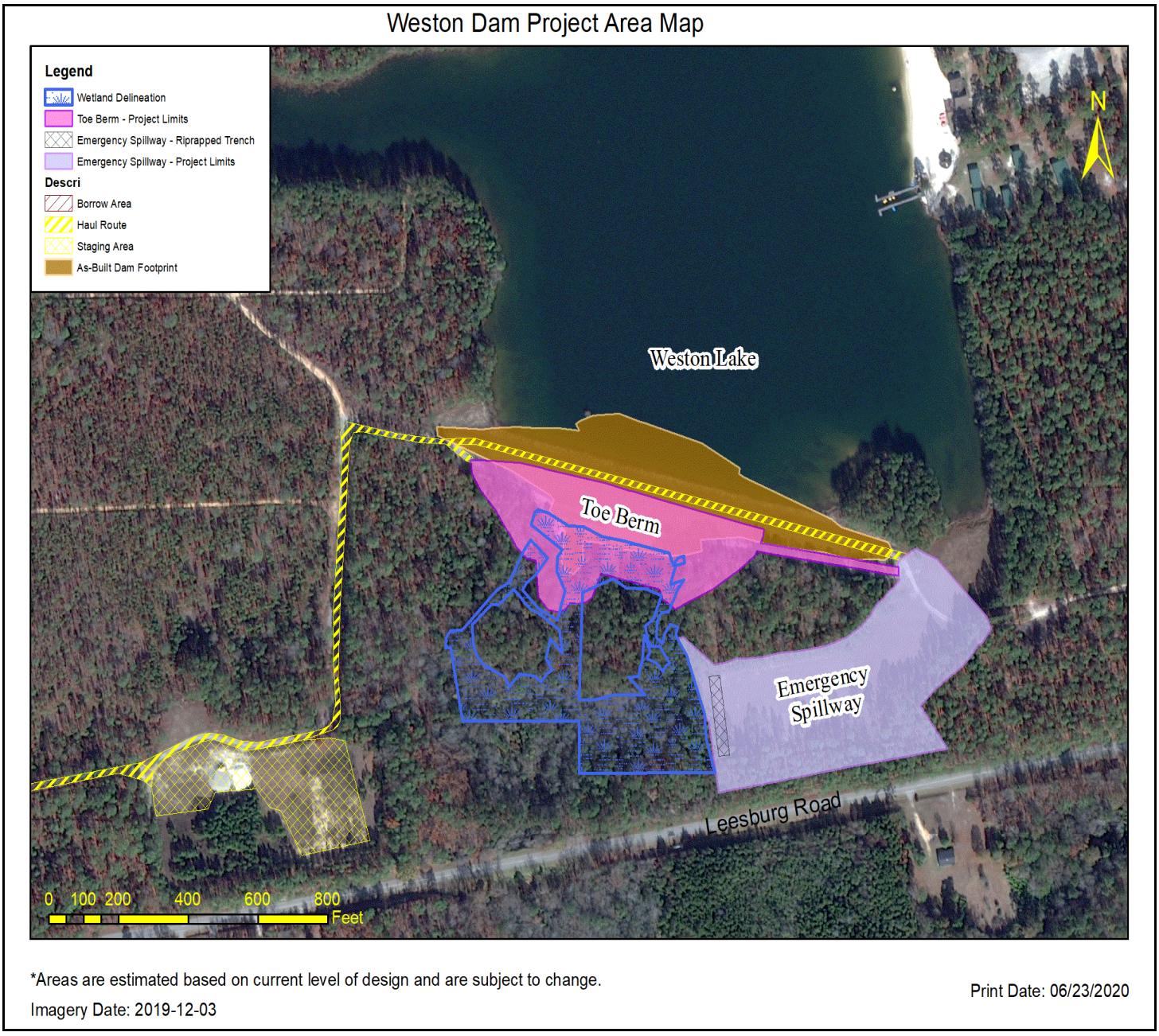

Weston Dam Project Area Map
Legend
Wetland Delineation
Toe Berm - Project Limits
Emergency Spillway - Riprapped Trench
Emergency Spillway - Project Limits
Descri
Borrow Area
Haul Route
Staging Area
As-Built Dam Footprint
N
Weston Lake
Toe Berm
Emergency Spillway
Leesburg Road
0 100 200 400 600 800
Feet
*Areas are estimated based on current level of design and are subject to change.
Imagery Date: 2019-12-03
Print Date: 06/23/2020

Figure 3 APE

SOUTH CAROLINA DEPARTMENT OF ARCHIVES & HISTORY
EST. 1905

State Historic Preservation Office

South Carolina Department of Archives and History
8301 Parklane Road | Columbia, SC | 29223
scdah.sc.gov

Section 106 Project Review Form

Section 106 of the National Historic Preservation Act, and the implementing regulations at 36 CFR 800, requires the South Carolina State Historic Preservation Office (SHPO) to review all projects/undertakings that are federally funded, licensed, permitted, or assisted. The responsibility for preparing review documentation pursuant to 36 CFR 800.11, including the identification of historic properties and the assessment of effects resulting from the undertaking, rests with the federal agency or its delegated authority (including applicants). Consultation with the SHPO is NOT a substitution for consultation with appropriate Native American tribes or other participants who are entitled to comment on the Section 106 process (per 36 CFR 800.2).
For guidance regarding this Form or the Section 106 review process, please visit our Review and Compliance Program website.

STATUS OF PROJECT (check one)

- ☐ Federal Undertaking Anticipated (You are applying for Federal assistance)
- ☑ Federal Undertaking Established (You have received Federal assistance)
- ☐ Due Diligence Project (No anticipated Federal assistance)
- ☐ Additional Information for Previous Project Submission (SHPO Project No. _____)

GENERAL INFORMATION

1. Project Name: Weston Lake Dam Repair
2. City/Town: Fort Jackson, SC 3. County: Richland
4. Federal Agency (providing funds, license, permit, or assistance): U.S. Army
5. Agency Contact Name: Doug Morrow Email: douglas.m.morrow.civ@mail.mil
   Address: DPW-ENV 2562 Essayons Way Fort Jackson, SC 29207 Phone: 803-751-4793
6. Federal Agency Delegated Authority (includes Applicants): _____
   Delegated Authority Contact Name: _____ Email: _____
   Address: _____ Phone: _____
7. Consultant for the Agency/Delegated Authority: _____
   Consultant Contact Name: _____ Email: _____
   Address: _____ Phone: _____

PROJECT DESCRIPTION

1. Indicate the type of project (☐new construction, ☐rehabilitation, ☑replacement/repair, ☐demolition, ☐relocation, ☐acquisition, ☐infrastructure, ☐other) and provide a detailed description of the proposed project, including related activities (staging areas, temporary roads, excavations, etc.), which will be carried out in conjunction with the project. Attach additional pages if necessary. If a detailed scope of work is not available yet, please explain and include all preliminary information:

The undertaking involves constructing a short length toe berm over and below the existing embankment with a toe drain collection system, and armoring of the emergency spillway (Figure 3). The areas of disturbance are estimated to total approximately 15.5 acres, including approximately 4.5 acres for the toe berm and 11 acres associated with the emergency spillway. Staging areas and installation roadways already present.

2. Describe the length, width, and depth of all proposed ground disturbing activities, as applicable (defined as any construction activity that affects the soil within a project area, including excavating, digging, trenching, drilling, augering, backfilling, clearing, or grading):

Clearing and grading existing toe berm and spillway areas along with timber clearing south of toe berm to several feet below grade and revegetation.

3. Will this project involve phases of construction? If so, please describe the work to be conducted under each phase.

Clearing and grading toe berm and spillway, timber removal, revegetation.

4. How many acres are in the project area? For building rehabilitation projects, list the building's approximate square footage.

15.5

5. Describe the current land use and conditions within and immediately adjacent to the project area (e.g. farmland, forest, developed, etc.) as well as prior land use and previous disturbances within and immediately adjacent to the project area (e.g. grading, plowing, mining, timbering, housing, commercial, industrial, road or other construction, draining, etc.).

Existing dam and spillway surrounded by timber and wetlands to the south.

DETERMINING THE AREA OF POTENTIAL EFFECTS (APE)

All projects/undertakings have an APE. The APE is the geographic area or areas within which a project/undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. These changes can be direct (physical) or indirect (visual, noise, vibration) effects. The APE varies with the project type and should factor in the setting, topography, vegetation, existing and planned development, and orientation of resources to the project. For example, if your project includes:

- Rehabilitation, demolition, or new construction then your APE might be the building or property itself and the surrounding properties with a view of the project.
- Road/Highway construction or improvements, streetscapes, etc., then the APE might be the length of the project corridor and the surrounding properties/setting with a view of the project.
- Above-ground utilities, such as water towers, pump stations, retention ponds, transmission lines, etc., then your APE might be the area of ground disturbance and the surrounding properties/setting with a view of the project.
- Underground utilities, then your APE might be the area of ground disturbance and the setting of the project.

6. Provide a written description of the Area of Potential Effect (APE).

The area of potential effect (APE) is on the downstream slope of the man-made embankment, an area immediately below the embankment, and an area within and adjacent to a previously disturbed, earlier constructed emergency spillway. Construction would not involve work in the lake bed.

IDENTIFICATION OF HISTORIC PROPERTIES

A historic property is defined as any prehistoric or historic district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP).

7. Is the project located within or adjacent to a property or historic district listed in or eligible for listing in the NRHP?

☐ YES ☑ NO If yes, provide the name of the property or district:

8. Are there any buildings or structures that are 50 years old or older within the project APE?

☐ YES ☑ NO If yes, provide approximate age:

9. Are any of the buildings or structures in Question 8 listed in or eligible for listing in the NRHP?

☐ YES ☐ NO If yes, identify the properties by name, address, or SHPO site survey number. If no, provide an explanation as to why the properties are not eligible for the NRHP.

10. List all historical societies, local governments, members of the public, Indian tribes, and any other sources consulted in addition to the SHPO to identify known and potential historic properties and note any comments received.

Tribal partners to be consulted and public notified for EA comments

11. Does the landowner know of any archaeological resources found within the APE?

☐ YES ☑ NO ☐ DO NOT KNOW If yes, please describe:

12. Has a cultural resources and/or a historic properties identification survey been conducted in the APE?

☑ YES ☐ NO ☐ DO NOT KNOW If yes, provide the title, author, and date of the report(s):

1991 Braley, Chad
Cultural Resources Survey of Selected (FY91) Timber Harvesting Areas, Fort Jackson, SC

13. Based on the information contained in questions 7 – 12, please check one finding:

☐ Historic Properties are present in the APE

☑ Historic Properties are not present in the APE

ASSESSMENT OF PROJECT EFFECT

PLEASE CHOOSE ONE DETERMINATION:

☑ No Historic Properties Affected (i.e., none are present or they are present but the project will have no effect upon them)

☐ No Adverse Effect on historic properties (i.e., historic properties are present but will not be adversely effected)

☐ Adverse Effect on historic properties (i.e., historic properties are present and will be adversely effected)

☐ Due Diligence Project (An effect determination does not apply due to no federal involvement)

Please explain the basis for you determination. If No Adverse Effect or Adverse Effect, explain why the Criteria of Adverse Effect (found at 36 CFR 800.5(a)(1) were found not applicable, or applicable, including any conditions on the project to avoid or minimize potential adverse effects, or efforts taken to avoid or minimize potential adverse effects.

Previously disturbed and negative survey area

SUBMITTAL CHECKLIST -- Did you provide the following documentation?

☑ A completed Section 106 Project Review Form:

- The Form must be completed in its entirety, as it is not the SHPO's responsibility to identify historic properties or to make a determination of effect of the undertaking on historic properties.
- The appropriate federal agency information must be indicated on the Form. Contact the federal agency requiring consultation with the SHPO for this information. For US Housing and Urban Development projects under 24 CFR 58, the local government is the federal agency/responsible entity.
- Include email contact information for all parties that are to receive our response via email. We no longer respond via mailed hard copy, unless requested.
- One (1) Project Review Form may be utilized for batching undertakings that are duplicative in scope and within geographic areas no larger than a single county.
- The Form is a fillable PDF, but you may also print and complete by hand. A double-sided print is acceptable.

☑ Map(s) indicating:

- The precise location of the project and extent of the Area of Potential Effect (APE), not too zoomed in or out in scale.
- Include a subscriber or public view SC ArchSite (GIS) map indicating the precise location of the project and extent of the APE. SC ArchSite is an online inventory of all known cultural resources in South Carolina. SC ArchSite can be directly accessed at http://www.scarchsite.org/default.aspx.
- In urban areas, a detailed city map and/or parcel map.

☑ Current, high resolution color photographs (2 photos max per page) illustrating:

- For all projects, views to and from the overall project location and extent of the Area of Potential Effect (APE), showing the relationship to adjacent buildings, structures, or sites.
- For new construction or projects including ground disturbing activities, ground and/or aerial views documenting previous ground disturbance and existing site conditions.
- For building or structure rehabilitation projects, full views of each side (if possible), views of important architectural details, and views of areas that will be affected by proposed alterations or rehabilitation work to the exterior or interior.
- Photographs must describe or label the views presented, or be keyed to a site map.
- Black and white photocopied, unclear, thumbnail, or obstructed view photographs are not acceptable.

☑ Project plans (if applicable and available) including:

- Scopes of work and/or project narratives
- Site plans or sketches (existing vs proposed)
- Project drawings and specifications for work on a historic building or structure
- Elevations

Our ability to complete a timely project review largely depends on the quality and detail of the documentation submitted. If insufficient documentation is provided we may need to request additional materials, which will prolong the review process. For complex projects, some may find it advantageous to hire a preservation professional with expertise in history, architectural history and/or archaeology.

NOTE: If the project involves the rehabilitation of a building or structure listed in or eligible for listing in the National Register of Historic Places, please complete and submit the Historic Building Supplement in addition to this Form.

When planning to submit a project for review, please remember that our office has 30 calendar days per regulations from the date of receipt to review federal projects and 45 days per SHPO policy to review due diligence projects.

Please **DO NOT** send Project Review Forms by email or fax. We recommend that you use certified mail, FedEx, or UPS to determine if your project has been delivered.

Please send this completed Form along with supporting documentation to:

Review & Compliance Program, SC Department of Archives & History, 8301 Parklane Road, Columbia, SC 29223

-----Original Message-----
From: Poppen, Andrew G CIV USARMY ID-TRAINING (USA)
Sent: Wednesday, July 22, 2020 3:13 PM
To: jlowe@alabama-quassarte.org; karen.brunso@chickasaw.net; david.cook@kialegeetribe.net; raebutler@MCN-nsn.gov; lhaikey@pci-nsn.gov; annemullins@semtribe.com; 'thpo@tttown.org'; 'syerka@nc-cherokee.com'; wwarrior@ukb-nsn.gov; wenonahh@ccppcrafts.com; 'bprintup@hetf.org'; Tonya@shawnee-tribe.com; dfrazier@astribe.com; bbarnes@estoo.net
Cc: Morrow, Douglas M CIV USARMY ID-TRAINING (USA) <douglas.m.morrow.civ@mail.mil>; Funk, Paul S CTR (USA) <paul.s.funk.ctr@mail.mil>; Smith, Sarah E CIV USARMY IMCOM (USA) <sarah.e.smith347.civ@mail.mil>
Subject: Notice of Proposed Project at Fort Jackson (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Greetings from Fort Jackson,

The purpose of this email is to notify you that Fort Jackson is proposing to perform repairs to Weston Lake Dam, an action which requires the development of an Environmental Assessment (EA). This email serves as initiation of consultation under Section 106 of the National Historic Preservation Act of 1966 and 36 Code of Federal Regulations, Part 800. The attached letter describes the action, and our assessment of potential impacts to cultural resources.

If you have any questions or need more information please contact Chan Funk at (803) 751-7153 or paul.s.funk.ctr@mail.mil, or myself.

Thank You, and I truly hope you all are well/healthy during this pandemic.

Andy Poppen, EIT., LEED AP
Environmental Engineer
Chief, Environmental Div.
2563 Essayons Way
Ft. Jackson, SC
Desk (803) 751-7702
DSN: 734-7702
Gov't Cell/ telework #: (803) 319-1690

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
DIRECTORATE OF PUBLIC WORKS
2562 ESSAYONS WAY
FORT JACKSON SC 29207-5608

22 July 2020

SUBJECT: Section 106 Consultation; Weston Lake Dam, Fort Jackson, South Carolina

Tribal Historic Preservation Officers

Greetings from Fort Jackson:

Fort Jackson proposes to perform repairs to Weston Lake Dam located on Fort Jackson. It has been determined that an environmental assessment (EA) is required for this action, and one will be prepared for the undertaking. Any comments you choose to provide will be included both in the draft and the final EA.

Weston Lake Dam is a high hazard dam located north of S.C. Highway 262, east of the Fort Jackson cantonment area and west of its intersection with Weston Lake Road, in Richland County, South Carolina (Latitude 34.0076˚, Longitude -80.8313˚) (Figures 1 and 2). The lake is located completely within the boundaries of Fort Jackson, and is owned by the Federal Government.

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The area of potential effects (APE) is on the downstream slope of the man-made embankment, an area immediately below the embankment, and an area within and adjacent to a previously disturbed, earlier constructed emergency spillway. Construction would not involve work in the lake bed.

The cultural resource survey completed in 1991, which included the APE, resulted in negative findings. However, the recent drawdown of the lake during 2019 exposed several pre-contact artifact clusters located approximately ½ mile north of the dam. None of these clusters are located within the APE of this project. One of these clusters, the Clawson site, located approximately ½ mile north of the Weston Lake dam, is part of a 2019-20 effort to evaluate 5 late-discoveries located across the installation. This site appears potentially eligible for listing on the NRHP based on initial evaluation. The draft report is due in August, and will be coordinated with the SHPO and THPOs. However, this project is expected to have no adverse effects to the Clawson site or any other cultural resources.

Based on this information, Fort Jackson seeks any comments you choose to provide on the undertaking, the APE, or our determination that no historic properties will be affected by the proposed undertaking. Please indicate in your response if you would like to review the draft or final EA when completed. We would sincerely appreciate any comments within 30 days of this letter to facilitate the planning process.

For additional information contact Doug Morrow at (803) 751-4793 or douglas.m.morrow.civ@mail.mil or Chan Funk at (803) 751-7153 or paul.s.funk.ctr@mail.mil.

ANN P. GARNER, P.E.
Director of Public Works

Enclosures

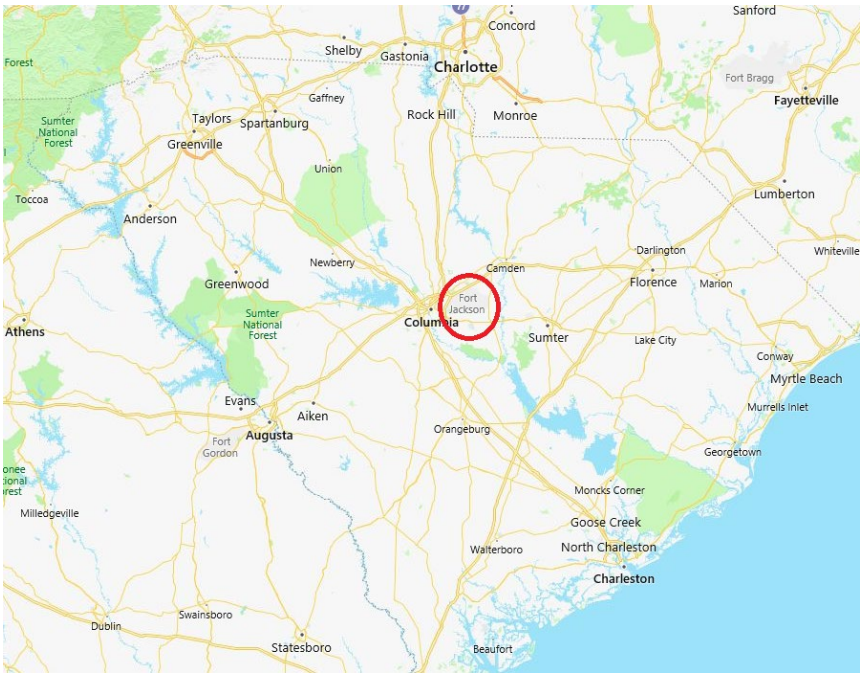


Figure 1 Fort Jackson

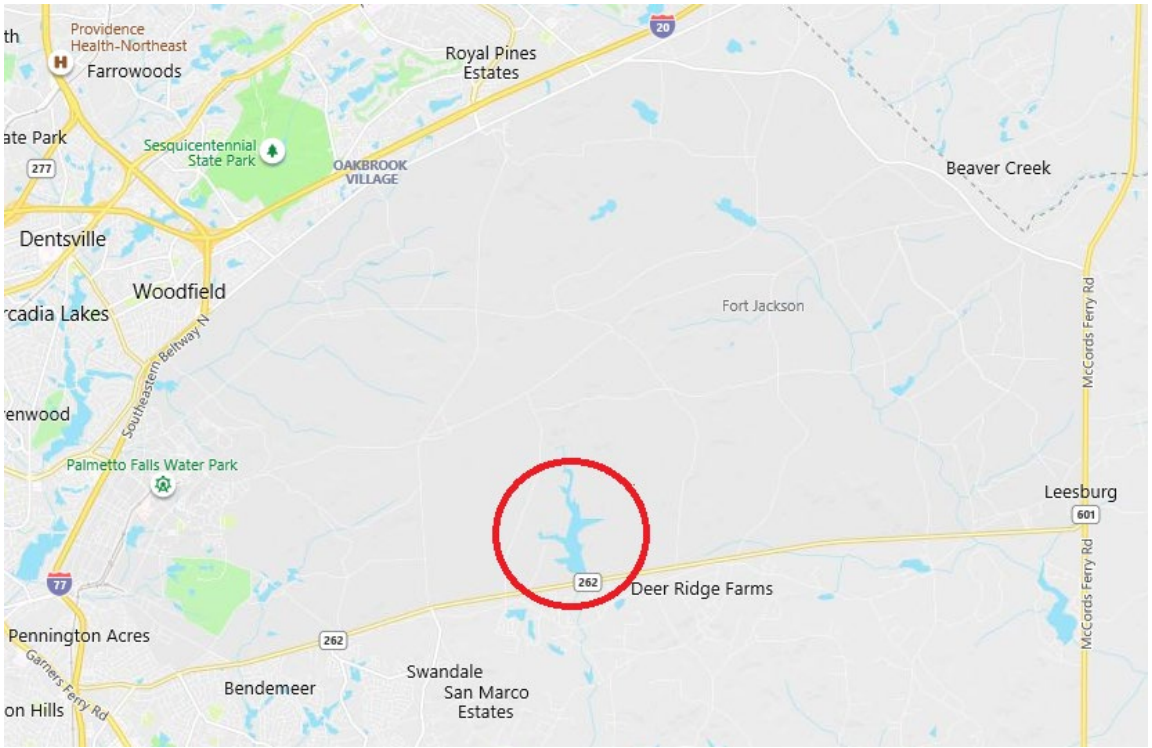


Figure 2 Weston Lake

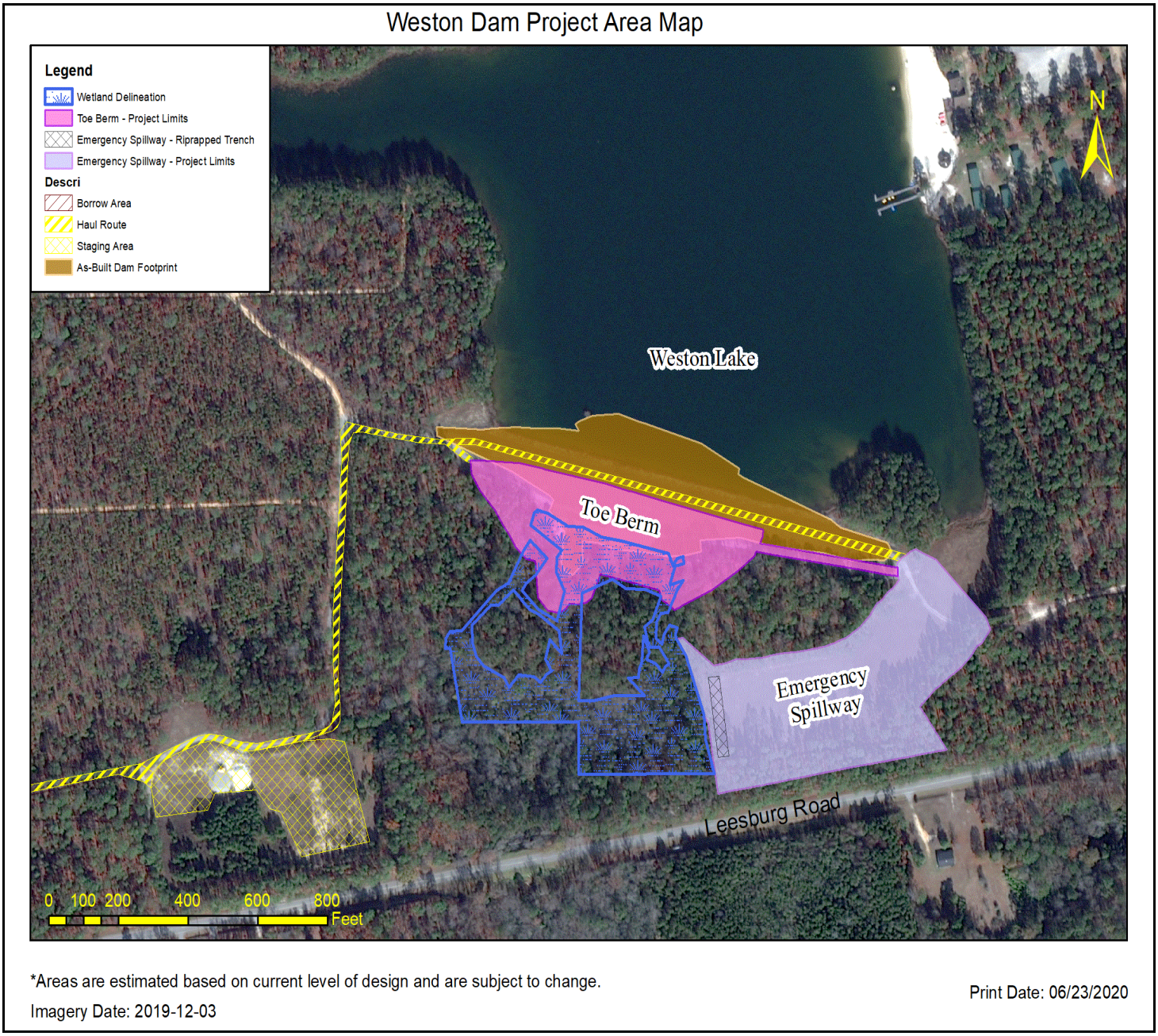

Weston Dam Project Area Map
Legend
Wetland Delineation
Toe Berm - Project Limits
Emergency Spillway - Riprapped Trench
Emergency Spillway - Project Limits
Descri
Borrow Area
Haul Route
Staging Area
As-Built Dam Footprint
N
Weston Lake
Toe Berm
Emergency Spillway
Leesburg Road
0 100 200 400 600 800
Feet
*Areas are estimated based on current level of design and are subject to change.
Imagery Date: 2019-12-03
Print Date: 06/23/2020

Figure 3 APE

PUBLIC AND AGENCY COMMENTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

March 31, 2020

Mr. Douglas M. Morrow, Chief, Wildlife Branch
Fort Jackson Army Training Base Building 2563
Fort Jackson, South Carolina 29207

Re: Evaluation of Biological Impacts to Threatened and Endangered Species on the Weston Lake Dam Repairs
Fort Jackson Army Training Base, South Carolina
FWS Log No. 2020-I-0728

Dear Mr. Morrow:

The U.S. Fish and Wildlife Service (Service) received all the necessary documentation dated March 30, 2020, regarding the evaluation of the biological impacts to threatened and endangered species on the Weston Lake Dam repair located on Fort Jackson Army Installation in Richland County, South Carolina. The following comments are provided in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq*.).

Weston Lake Dam is a high hazard dam located north of S.C. Highway 262, east of the Ft. Jackson cantonment area and west of its intersection with Weston Pond Road, in Richland County, South Carolina (Latitude 34.0076˚, Longitude -80.8313˚). The lake is located completely within the boundaries of Fort Jackson's Military Reservation, and as such, is owned by the Federal Government. Weston Lake is located in the headwaters of Cedar Creek. The dam is registered in the National Inventory of Dams as #SC00233 and is classified as a large and high hazard dam due to potential loss of life and property damage downstream. During a 2017 periodic inspection, erosion, pin-sized boils, and surficial slope instability were observed. Additional flowing seepage was identified in 2018 and a risk assessment indicated that spillway erosion failure was the highest risk Potential Failure Mode. Additional risk factors involve Backward Erosion Piping through the embankment and foundation soils. Temporary emergency repairs completed in 2019 include the placement of inverted filters in the embankment seepage areas, and clearing and grubbing of the emergency spillway. Ongoing embankment seepage and the loss of highly erodible soils in the earthen emergency spillway during large flood events have compromised the integrity of the structure. This proposed action is the repairs to Weston Lake dam and associated earthen emergency spillway.

On March 20, 2020, Fort Jackson Environmental Division staff had a phone conference with Service staff regarding the Weston Lake Dam repair project being proposed on Fort Jackson, South Carolina. Details of the project and impacts to Red-cockaded Woodpecker (RCW) foraging habitat and habitat management unit were discussed. The results of the phone

conference determined that Fort Jackson staff should provide the Service an evaluation of the biological impacts to threatened and endangered species, regarding the Weston Lake Dam repairs.

An Environmental Assessment (EA) was submitted on March 30, 2020, that evaluated the environmental impacts of alternatives to address deficiencies of the Weston Lake Dam repairs. The proposed Preferred Alternative identified in the draft EA would consist of constructing a short length toe berm over and below the existing embankment with a toe drain collection system, and armoring of the emergency spillway. Repair of the dam and spillway could require permanent removal of up to 0.86 acres of mostly forested lands containing pine and hardwood tree species. You determined that there would be "*no effect"* on the following federally listed or protected species: shortnose sturgeon, bald eagle, rough leaved loosestrife, smooth coneflower, and Canby's dropwort. However, you determined *"may affect, but not likely to adversely affect"* the American wood stork and the RCW.

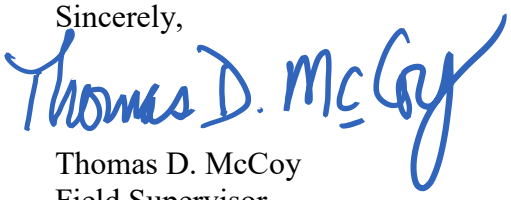
In August 2007, the bald eagle was removed from the threatened or endangered species list because of successful recovery efforts, therefore consultation is not required under section 7 of the ESA. Further, you must consult with the National Oceanic and Atmospheric Administration – National Marine Fisheries Service for potential impacts to the shortnose or Atlantic sturgeon. With your determination of *"no effect"* upon the rough leaved loosestrife, smooth coneflower, and Canby's dropwort, no further consultation is necessary, as section 7 of the ESA does not require consultation when there is no impacts to species.

The Service concurs with your determination of *"may affect, but not likely to adversely affect"* for the American wood stork and the RCW. However, the location of the of the project's staging area (Stand 950101) must not have any suitable or potential RCW habitat removed. The staging area must be marked in the field with instructions to contractors to not otherwise store or operate equipment outside the staging site in the adjacent Rec-A foraging partition where RCW suitable habitat occurs.

The requirements of Section 7 of the ESA have been fulfilled relative to the proposed action, and no further consultation is necessary at this time. However, obligations under Section 7 of the ESA must be reconsidered if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

If you have any questions or comments or require additional information regarding this letter, please contact myself at thomas_mccoy@fws.gov or (843) 727-4707 ext. 227 or Mr. Mark A. Caldwell at mark_caldwell@fws.gov or (843) 727-4707 ext. 215, and reference FWS Log No. 2020-I-0728.

Sincerely,



Thomas D. McCoy
Field Supervisor

TDM/MAC

EC: Mr. Will McDearman, RCW Coordinator, U.S. Fish and Wildlife Service, Jackson, MS
Ms. Amy Tegeler, South Carolina. Department of Natural Resources, Columbia, SC