US Army Corps
of Engineers
WILMINGTON DISTRICT

DRAFT FINDING OF NO SIGNIFICANT IMPACT
for the
DRAFT ENVIRONMENTAL ASSESSMENT
USE OF BORROW AREAS
for
ISLAND CREEK DAM REPAIR
JOHN H. KERR DAM AND RESERVOIR, MECKLENBURG COUNTY, VIRGINIA

The U.S. Army Corps of Engineers, Wilmington District (Corps), has conducted an environmental assessment in accordance with the National Environmental Policy Act of 1969, as amended. The Corps assessed the effects of the following actions in the Draft Environmental Assessment for Use of Borrow Areas for Island Creek Dam Repair, John H. Kerr Dam and Reservoir, Mecklenburg County, Virginia, February 2017. The recommended plan consists of the following:

- Use Borrow Areas A and B for approximately 13,600 cubic yards of fill material to repair Island Creek Dam.

In addition to the "no action" alternative, four alternatives with varying levels of borrow area capacity were evaluated, including the recommended plan. The Recommended Plan consists of using Borrow Areas A and B for material to repair Island Creek Dam. Any stone used for repair will come from state approved quarries. Clearing and grubbing, tree cutting and surficial clearing will need to be conducted before excavation begins at either borrow area. Upon completion of excavation, the borrow areas will be fenced, graded and seeded with native grasses to prevent siltation. The recommended plan is the environmentally preferable alternative.

All practicable means to avoid and minimize adverse environmental effects have been incorporated into the recommended plan. The recommended plan would not result in any impacts to federally-listed threatened or endangered species or their designated critical habitat.

The recommended plan would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places.

The recommended plan will not result in unavoidable impacts.

Technical, environmental, economic, and cost-effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resource Council's 1983 Economic and Environmental Principles for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in the evaluation of the alternatives. It is my determination that the recommended plan does not constitute a major federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date:_____

_____
Kevin P. Landers Sr.
Colonel, U.S. Army
District Commander

DRAFT ENVIRONMENTAL ASSESSMENT
USE OF BORROW AREAS
for
ISLAND CREEK DAM REPAIR

JOHN H. KERR DAM AND RESERVOIR, MECKLENBURG COUNTY, VIRGINIA

March 2017

US Army Corps of Engineers

Wilmington

DRAFT ENVIRONMENTAL ASSESSMENT
USE OF BORROW AREAS
for
ISLAND CREEK DAM REPAIR

JOHN H. KERR DAM AND RESERVOIR, MECKLENBURG COUNTY, VIRGINIA

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List of Acronyms

ADB	Assessment Database
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
C.R.	County Road
DHR	Department of Historic Resources
DSAC	Dam Safety Action Classification
EO	Executive Order
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
ft	Foot or Feet
HTRW	Hazardous, Toxic, and Radioactive Waste
IPaC	Information for Planning and Conservation
NAVD 88	North American Vertical Datum of 1988
NID	National Inventory of Dam
NC	North Carolina
NEPA	National Environmental Policy Act
NGVD 29	National Geodetic Vertical Datum of 1929
OMRR&R	Operation and Maintenance, Repair, Replacement, and Rehabilitation
SHPO	State Historic Preservation Office
USFWS	United States Fish and Wildlife Service
USGS	United Stated Geological Survey
VA	Virginia
VADEQ	Virginia Department of Environmental Quality
V-CRIS	Virginia Cultural Resource Information System

DRAFT ENVIRONMENTAL ASSESSMENT
USE OF BORROW AREAS
for
ISLAND CREEK DAM REPAIR

JOHN H. KERR DAM AND RESERVOIR, MECKLENBURG COUNTY, VIRGINIA

1 INTRODUCTION

Island Creek Dam is located on Island Creek, in Mecklenburg County, Virginia approximately 15 miles north of Henderson, North Carolina. The US Army Corps of Engineers (Corps) completed the construction of the dam in October 1951, and the pump station in September 1955 (Figure 1-1). The 2013 Periodic Assessment concluded that the primary risk driver potential failure mode was identified as internal erosion through the foundation. Repair and maintenance of the dam is proposed. The Island Creek Dam Repair project consists of constructing a seepage control berm, with sand filter and toe drainage system, along the downstream toe of the Island creek side embankment to collect underseepage occurring downstream of the dam. Approximately 13,600 cubic yards of fill material will be required from the proposed borrow areas.

The purpose of this Draft Environmental Assessment (EA) is to address the environmental impacts associated with excavation of borrow material from the two proposed borrow sites. According to ER 200-2-2, the dam repair will not be addressed in this EA as it is covered by the National Environmental Policy Act of 1969 (NEPA) Categorical Exclusion 9.a, which states, “Activities at completed Corps projects which carry out the authorized project purposes. Examples include routine operation and maintenance actions, general administration, equipment purchases, custodial actions, erosion control, painting, repair, rehabilitation, replacement of existing structures and facilities such as buildings, roads, levees, groins and utilities, and installation of new buildings utilities, or roadways in developed areas.”

1.1 PROJECT AUTHORITY

The purpose of this EA is to address the impacts of the excavation of the proposed borrow areas, and not the repair of Island Creek Dam. The Flood Control Act of 1944 initiated development of the Roanoke River Basin. Construction of Buggs Island Dam and Reservoir (renamed John H. Kerr in 1952) was approved on 20 May 1946, and the construction contract was awarded in May 1948. Construction of the John H. Kerr Dam was finished in 1952, and filling began in 1953. Island Creek Dam and Pumping Station are located on Island Creek, 3.2 river miles upstream of its confluence with the Roanoke River, 1.2 miles downstream from the Virginia-North Carolina state line and 15.2 miles upstream of John H. Kerr Dam. Construction of the Island Creek Dam was completed in October 1951, and the construction of the pump station was completed in

September 1955. The authorized purpose of Island Creek Dam is to prevent the pool of the John H. Kerr Reservoir from permanently flooding a substantial portion of the Hamme Tungsten District, which is a 96 hectare area that contained active tungsten mines from 1942 to 1971. There is no non-federal sponsor. This project falls under Operation and Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) responsibilities.

1.2 PROJECT LOCATION

The two proposed borrow areas addressed in this EA are located 0.3 and 0.5 miles southwest of Island Creek Dam (Figure 1-1). Borrow Area A (Figure 1-2) is located 0.30 miles south of Island Creek Park on Ivy Hill Road/C.R. 825, adjacent to the John H. Kerr Reservoir. Borrow Area B (Figure 1-3) is located 0.50 miles south of Island Creek Park, on Ivy Hill Road/C.R. 825 and is wholly just north of the Virginia/North Carolina state line. The existing access road starts in North Carolina and crosses the Virginia/North Carolina state line before arriving at Borrow Area B.

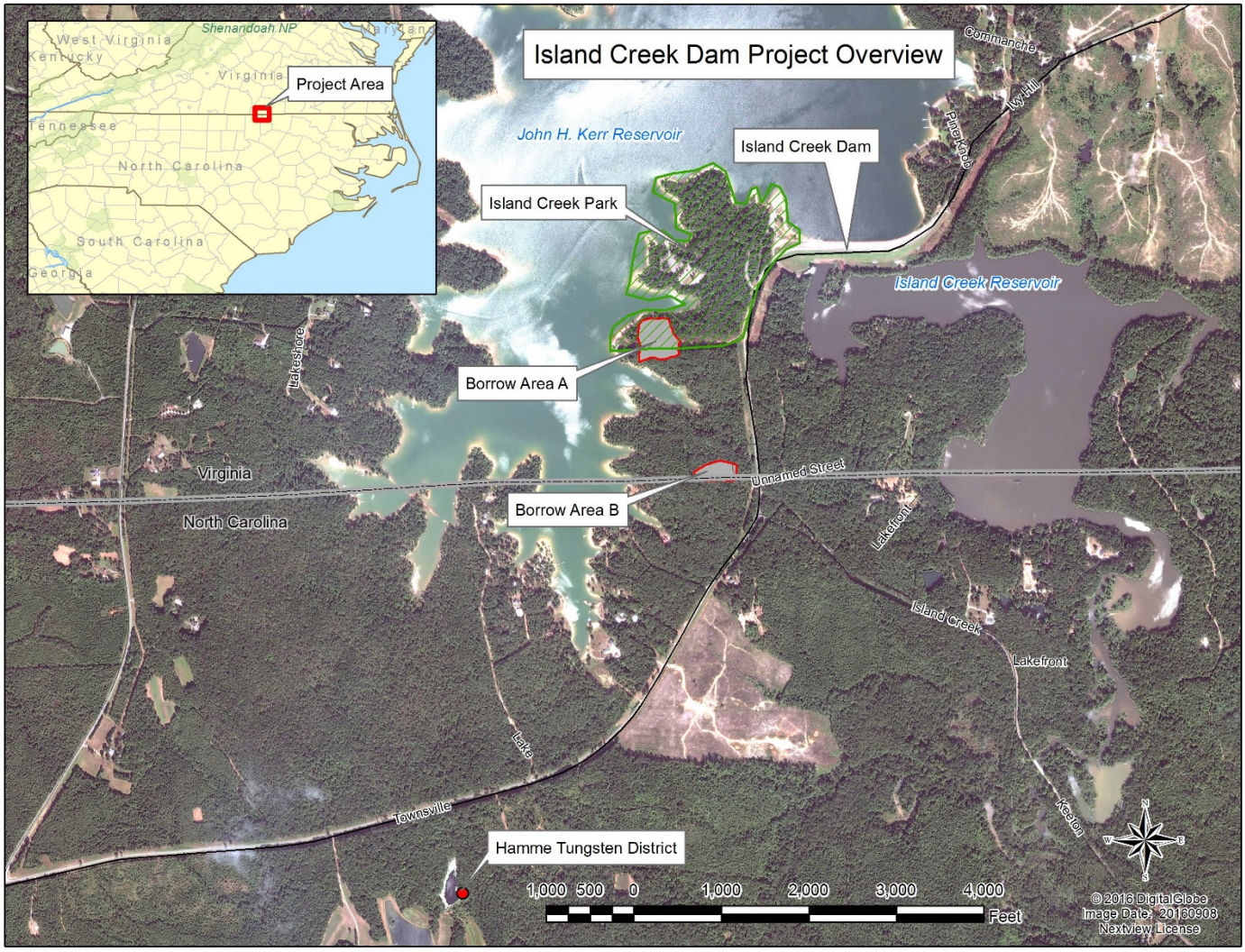

Figure 1-1: Project Overview.

1.3 PROJECT PURPOSE AND NEED

In late 2011, vegetation was cleared within 50 feet of the Island Creek Dam. During the clearing, areas of seepage and small boils were observed. A determination could not be made regarding whether any soil material was being removed and transported by the water. Weighted inverted filters were added at the Island Creek toe in December 2011 to provide protection against internal erosion. Two weirs were also added by dam personnel in late 2012 to measure the flow out of the filters. The 2013 Periodic Assessment concluded that the primary risk driver potential failure mode was identified as internal erosion through the foundation. Repair and maintenance of the dam is proposed.

The National Inventory of Dam (NID) number for Island Creek Dam is VA11702, and it is classified as a Dam Safety Action Classification (DSAC) 3 dam (Moderate Urgency). The Recommended Plan reduces the likelihood of under seepage. The lowered risk could potentially raise the DSAC to a Category 4 (Priority - Marginally Safe) from its current DSAC 3 (Moderate Urgency). The Corps uses the DSAC to manage the approximately 700 dams it operates and maintains, with life safety being the highest priority. This approach is a best practice adopted to evaluate, prioritize and justify dam safety decisions.

Approximately 13,600 cubic yards of fill material from the proposed borrow areas will be needed to repair the Island Creek Dam. Any other materials required to repair the project will be obtained from state approved quarries.

1.4 ALTERNATIVES

In order to satisfy the need for clayey soil for repairing Island Creek Dam, four Federally-owned sites were investigated to serve as potential borrow areas. The borrow areas were initially investigated because they were shown to potentially have suitable material from topographic maps, located on Corps property, and were relatively close proximity to the Island Creek Dam. The four borrow areas are referred to as Borrow Areas A, B, C and D respectively. Borrow Area A is located approximately 0.3 miles southwest of Island Creek Dam. Borrow Area B is approximately 0.5 miles southwest of Island Creek Dam and is just north of the Virginia/North Carolina state line. Borrow Area C is located approximately 9.3 miles northwest of Island Creek Dam. Borrow Area D is located approximately 2 miles northeast from the Island Creek Dam. All the borrow areas had similar habitats and were of similar environmental quality.

Borrow Area C was removed from consideration as a borrow source due to the distance from the Island Creek dam. Borrow Area D was removed from consideration due to access issues and distance from developed roadways.

Due to the close proximity of Borrow Areas A and B to Island Creek and the fact that they contain sufficient material for the repairs, use of Borrow Areas A and B is the Recommended Plan.

Figure 1-2: Borrow Area A Looking East

Access to Borrow Area A is limited to an unimproved utility service road accessed by Townsville Road. A portion of this road is on private land. A right of entry will be obtained before construction activities. The borrow area is used as a pass through to get to Kerr Lake mainly to fish from the shore. The total area of Borrow Area A is 4.26 acres. The maximum volume of fill material available from Borrow Area A, without consideration for clearing, grubbing, and site grading, is 7,720 cubic yards. With clearing, grubbing, and removal of the top foot of soil, this volume drops to 5,880 cubic yards.

Figure 1-3: General View of Borrow Area B

Access to Borrow Area B is provided by a one lane dirt road accessed by Townsville Road. A portion of this road is on private land. A right of entry will be obtained before construction activities. The borrow area does not look to be currently used, as no campgrounds or trails can be detected. The total area of Borrow Area B is 3.32 acres. The maximum volume of fill material available from Borrow Area B, without consideration for clearing, grubbing, and site grading is 25,515 cubic yards. With clearing and grubbing and removal of the top foot of soil, this volume drops to 22,200 cubic yards.

This Draft Environmental Assessment evaluates the Recommended Plan and the No Action alternative.

The Recommended Plan consists of using Borrow Areas A and B for material to repair Island Creek Dam. Any stone used for repair will come from state approved quarries. Clearing and grubbing, tree cutting and surficial clearing will need to be conducted before excavation begins at either borrow area. Upon completion of excavation, the borrow areas will be fenced, graded and seeded with native grasses to prevent siltation. Both borrow areas have access via an unimproved dirt road off of Townsend Road.

These dirt roads will be widened to 20 feet to allow travel for an excavator and dump truck.

The No Action alternative would continue addressing Island Creek Dam issues with temporary fixes, such as the current weighted inverted filters. No use of borrow areas would be expected and there would be no change to the DSAC.

2 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

This Section describes physical, biological, cultural, and socioeconomic resources in the vicinity of the borrow areas and the probable effects of to these resources caused by implementation of the recommended plan. The Recommended Plan is to repair the dam and use Borrow Areas A and B as stated in Section 1.4. Table 2-1 shows the extent of the environmental effects of the Recommended Plan.

In addition to the Recommended Plan, the impacts of the No Action alternative are addressed in this section. The No Action alternative involves the existing condition of the resources in the project area as well as the future without-project condition of these resources. A future without-project condition entails no changes in the current Island Creek Dam that would require use of the borrow areas. In addition, impacts of the No Action plan are compared to the Recommended Plan in Table 2-1 and are discussed in more detail in the sections following.

Table 2-1: Comparison of Environmental Effects of the No Action Alternative with the Recommended Plan

Alternate Plans		
Environmental Effect	**No Action**	**Recommended Plan (Borrow Areas A and B)**
Land Use	No change	No effect
Geology and Sediments	No change	No effect to geology and minor impact due to removal of some sediments
Water Quality	No change	No effect
Vegetation	No change	Removal of about 7.58 acres or less of vegetation and trees
Wetlands	No change	No effect
Fish and Wildlife	No change	No effect to fish; minor and temporary effects to wildlife leaving area during construction but returning following construction
Endangered Species	No change	May affect not likely to adversely affect Northern Long-Eared Bat by avoiding tree cutting during pup season (June 1-July 31)
Cultural Resources	No change	No effect
Demographics	No change	No effect
Agriculture	No change	No effect
Recreation	No change	Minor, short-term impacts to recreation during construction due to disturbance
Air Quality and Noise	No change	Temporary and minor effect to both air quality and noise associated with construction activities

Climate Change	No effect on climate; and climate change would have no effect on No Action	No effect on climate; and climate change would have no effect on the recommend plan
HTRW	No change	No effect on HTRW and no production of HTRW
Aesthetics	No change	Minor, short-term impact due to vegetation removal

2.1 PHYSICAL RESOURCES

2.1.1 LAND USE

According the John H. Kerr Dam and Reservoir Master Plan, November 2012, the borrow areas are classified as Recreation Lands. "Recreation lands are designated for intensive levels of recreational use to accommodate and support the preferences and needs of project visitors." John H. Kerr Reservoir has a total of 7,864 acres of Recreation Lands.

The northern half of Borrow Area A is located in Island Creek Park, a 43-acre site, which contains a boat ramp, courtesy dock, and a picnic site. However, there are no designated recreational facilities within or in the vicinity of the footprint of Borrow Area A.

No Action: No changes in land use would occur.

Recommended Plan: This alternative would have no effect on land use. Upon completion of excavation, the borrow areas will be fenced, graded and seeded with native grasses to prevent siltation. The borrow areas will remain categorized as Recreation Lands and will be available for use following construction activities.

2.1.2 GEOLOGY AND SEDIMENTS

Borrow Areas A and B lie within the Raleigh Belt of the Eastern Piedmont geologic province. Bedrock within the Raleigh Belt is characterized as being comprised of a complex sequence of highly deformed meta-sedimentary, meta-igneous, volcanic, and mafic rocks that are intruded by multiple Mid-Late Paleozoic aged granitic plutons. Crosscutting these rocks are several large northeast-southwest trending shear zones, the movement of which produced the predominant bedrock texture. The last major movement along these faults is believed to have occurred during the Late Paleozoic. Pervasive jointing, associated with Mississippian to Late Permian regional uplift, presently provides the primary conduit for fluid movement in the subsurface.

The terrain of the Eastern Piedmont is characterized by rolling hills of low relief and valleys of residual soils which are the product of extensive weathering and erosion. Streams of the region generally flow toward the southeast, with an exception being within the vicinity of the concrete dam. In that location, the Roanoke River flows north-northeast in response to the faulting and jointing that is preserved within the hard granite bedrock. Major streams have moderately broad flood plains and low sloping abutments. Elevations range from 200 to 400 feet above mean sea-level.

Overburden

The soils of the Roanoke River Flood Plain, in which the project lies, are comprised of unconsolidated deposits of gravel, sand, silt, and clay. The hillsides surrounding the project site are covered by a veneer of residual soil that varies from silty sand to micaceous silty clay, which in turn, overlies deeply weathered and decomposed bedrock. The alluvium, residual soils and weathered bedrock that once covered the area in the vicinity of the concrete dam and adjacent abutments, was removed prior to construction. Soil borings indicate that the wing and saddle dikes sit atop a mantle of residual soil and weathered rock that are generally divided into five zones:

Zone A. A red residual sandy clay that is relatively impervious. The thickness of this zone ranges from 0 to 10 feet.

Zone B. A brown micaceous feldspar and quartz sand and silt that ranges from semi-pervious to pervious. The thickness of this zone varies widely and in some areas exceeds 40 feet.

Zone C. A disintegrated, partially decomposed rock that is badly fractured, but retains a portion of its original hardness and strength, which is known generally as saprolite. This zone is more pervious than the overlying Zones A and B.

Zone D. A slightly weathered, badly fractured rock. The rock retains almost all of its original strength, but because of its highly fractured nature, must be considered pervious.

Zone E. A fresh sound rock which has been unaffected by weathering agents. With exception to the openings along natural joint planes, it may be considered impervious to groundwater flow.

Bedrock of Borrow Areas A and B

The bedrock beneath the borrow areas consists of a deformed and steeply dipping inter-fingered sequence of Late Proterozoic granodiorite, chlorite schist, sericite schist, and a Jurassic diabase dike. The granodiorite, which underlies the east embankment, is light gray to gray, fine to medium grained, foliated, and shows extensive shear-related textures near its western contact. Outcroppings located on the eastern Kerr Lake shoreline indicate that the rock has a north-south trending foliation, and is crosscut by at least three orthogonal joint planes, where heavily weathered, the rock decomposes to gravelly-coarse sand. West of the granodiorite, there is a north-south oriented sequence of chlorite schist, sericite schist, diabase, and more chlorite schist, which underlies the center and western embankment of the dam. The chlorite schist outcrops along both the eastern and western Kerr Lake side shoreline. The rock is tan-olive green, fine-grained, well foliated, and pervasively sheared. Mineralogy, based upon field examination, is primarily quartz, white mica + chlorite, with some decomposed garnet. Where exposed, the rock weathers to silty clay. Entrained within the chlorite schist are rotated cobble-size clasts of weathered diabase that display block in matrix

structure, indicative of pervasive ductile shearing and fault movement. A relatively thin body of sericite schist, of uncertain thickness and extent, runs through the center of the dam. This unit is only observed within the exploratory foundation borings and, based upon the presence of numerous fault zones within the area, may actually represent a more pervasively sheared (ultramylonitized) and metamorphosed portion of the chlorite schist rather than a different lithologic unit. Foundation borings and surface outcroppings on the Island Creek side of the dam indicate the presence of a narrow diabase dike between the chlorite schist and sericite schist, beneath the west-central portion of the dam. The diabase is dark-green to dark gray, fine grained, and non-foliated. Field examination of outcroppings and hand samples indicate that the rock is comprised of plagioclase, pyroxene, and minor amounts of other chemically altered ferromagnesian minerals. Where heavily weathered, the rock decomposes to form reddish brown fat clay.

Borrow Area A

US Army Corps of Engineers, Savannah District (SAS) drilled ten auger soil borings utilizing continuous Standard Penetration Test (SPT) sampling to a termination depth of 21 feet Below Ground Surface (BGS), within Borrow Area A. Groundwater was not encountered during drilling.

The predominant soil types within the site are lean clayey silts with minor amounts of fine silty sand, saprolitic rock fragments, and gravel. The upper 2-5 feet of stratum generally consists of silty to clayey sand and elastic silt; a portion of this may be lost during tree clearance and stripping operations. The remainder may be mixed with suitable borrow soils for construction use. No filter suitable sands were identified in this borrow site.

The total area of Borrow Area A is 4.26 acres. The maximum volume of fill material available from Borrow Area A, without consideration for clearing, grubbing and site grading is 7,720 cubic yards. With clearing and grubbing and removal of the top foot of soil, this volume drops to 5,880 cubic yards. For a working borrow site, the floor of the excavation is typically graded to encourage drainage and to provide a stable working surface. This volume is less than what is required, but may be considered as a secondary fill source.

Borrow Area B

SAS drilled five auger soil borings utilizing continuous SPT sampling to a termination depth of 21 feet BGS, or SPT refusal (which ever was first encountered) within Borrow Area B. Groundwater was not encountered during drilling.

The predominant soil types within the site are lean clayey silts with minor amounts of elastic silt, fine silty to clayey sand, and saprolitic rock fragments. The upper 2-5 feet of stratum generally consists of silty to clayey sand and elastic silt; a portion of this may be lost during tree clearance and stripping operations. The remainder may be mixed with suitable borrow soils for construction use. As in Borrow Area A, no filter suitable sands were identified in Borrow Area B.

The total area of Borrow Area B is 3.32 acres. The maximum volume of fill material available from Borrow Area B, without consideration for clearing, grubbing and site grading is 25,515 cubic yards. With clearing and grubbing and removal of the top foot of soil, this volume drops to 22,200 cubic yards. If the top 2 feet are removed (clearing/grubbing) then the volume is 20,100 c.y. This volume is sufficient for the proposed construction; therefore Borrow Area B should be considered the primary source of fill material.

No Action: No changes in geology or sedimentation would occur.

Recommended Plan: This alternative will not have an effect on the geology. Due to the removal of sediments from borrow area, this plan will have a minor impact to the local sediments.

2.2 WATER RESOURCES

2.2.1 WATER QUALITY

The 2014 Integrated List is a general list of all assessed surface waters in Virginia derived from the U.S. Environmental Protection Agency (EPA) database, known as the Assessment Database (ADB). Virginia Department of Environmental Quality (VADEQ) draft guidance, describing the various assessment methodologies, was released in January 2014, revised in response to EPA and public comment, and finalized in April 2014. The 2014 305(b)/303(d) Water Quality Assessment Guidance Manual can be found on the VADEQ water quality website:

http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityAssessments/2014305(b)303(d)IntegratedReport.aspx

Island Creek and tributaries (ID: VAS-N14R_ISL01A12) and Kerr Reservoir (ID: VAC-L75L_ROA05L98) are listed as Category 5A. Category 5A means a water quality standard is not attained. The water is impaired or threatened for one or more designated uses by a pollutant(s) and requires a Total Maximum Daily Load (303d list).

No surface water is located in the borrow areas. The borrow areas are located near, but upland of John H. Kerr Reservoir. Construction specifications state that the contractor will not allow sheeting action from surface water or soil erosion to be discharged into the waters of the United States. Upon completion of excavation, the borrow areas will be fenced, graded and seeded with native grasses to prevent siltation.

No Action: No change in water resources would be expected.

Recommended Plan: Due to the implementation of erosion control measures, no effect to water quality is expected.

2.3 **BIOLOGICAL RESOURCES**

2.3.1 VEGETATION

Land area around the project area is mostly forested. Stand types include bottomland hardwoods, pine plantations, and recently logged forest and upland forests. Bottomland hardwoods around the project area include seasonally and temporarily flooded floodplains, stream terraces, and stream bank forests. Throughout much of the Island Creek floodplain, beaver activity has created a diverse assemblage of open water, scrub/shrub, and swamps.

Forests in upper stream reaches and streamside slopes grading into uplands are characterized by sweetgum, red maple, sugar maple, American holly, beech, sycamore, white oak, pignut hickory, shagbark hickory, American elm, scarlet oak, red oak, black oak, black cherry, common persimmon, tulip poplar, eastern redcedar, black walnut, and flowering dogwood (USFWS, 1992).

The United States Geological Survey (USGS) designates Borrow Area A as deciduous forest. Deciduous forests are defined as areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change (USGS http://www.mrlc.gov/nlcd11_leg.php).

Borrow Area B is designated as a mix of deciduous forest and evergreen forest (USGS http://www.mrlc.gov/nlcd11_leg.php). Evergreen forests are defined as areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.

Site access road improvement, tree cutting and surficial clearing will be conducted before excavation begins for both borrow areas. Preparing the site access for Borrow Area A is not expected to impact any trees. The 20-foot wide site access road for Borrow Area B will require improvement of approximately 200 feet of the dirt access road. Some trees may need to be removed to provide the 20-foot wide access road.

No Action: No change in vegetation resources would be expected.

Recommended Plan: The Recommended Plan would remove up to a total of 7.58 acres or less of trees, 4.26 acres from Borrow Area A and 3.32 acres from Borrow Area B. To minimize impacts, the borrow areas will be graded and planted with native grasses following excavation. Although the trees would be removed, the impact of the Recommended Plan would be minor due to the large amount of similar vegetation in the area and the trees are expected to regrow over time.

2.3.2 WETLANDS

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do

support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 C.F.R. § 328.3). Wetlands possess three essential characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology.

No wetlands are located in the borrow areas.

No Action: No change in wetland resources would be expected.

Recommended Plan: This alternative would have no effect on wetlands due to their absence from the borrow areas.

2.3.3 FISH AND WILDLIFE

The John H. Kerr Reservoir system provides a high-quality habitat for fish and wildlife. John H. Kerr Reservoir is an attraction for bald eagles, osprey, and numerous species of seagulls, great blue herons, and waterfowl. Game species include white tailed deer, wild turkey, northern bobwhite quail, mourning dove, northern gray squirrel, eastern cottontail rabbit, bobcat, grey and red fox, and raccoon. Resident waterfowl species include wood duck, black duck, mallard, and Canada goose.

There are 16 birds protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that may be in the project area (Table 2-2).

No Action: This alternative would result in no change to fish and wildlife resources.

Recommended Plan: No impacts to fish. Minor temporary impacts are expected to wildlife. Animals and birds are likely to leave the area during the approximate 1-year construction schedule. After the construction is over, both are expected to return to the area depending on the quality and species composition of the resultant vegetation and its suitability to the life requisite requirements of the various wildlife and bird species.

Table 2-2: Birds protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that may be in the project area (USFWS IPaC, 2016).

Common Name	Latin Name
American Bittern	*(Botaurus lentiginosus)*
Bald Eagle	*(Haliaeetus leucocephalus)*
Brown-headed Nuthatch	*(Sitta pusilla)*
Fox Sparrow	*(Passerella iliaca)*
Kentucky Warbler	*(Oporornis formosus)*
Least Bittern	*(Ixobrychus exilis)*
Loggerhead Shrike	*(Lanius lidovicianus)*
Peregrine Falcon	*(Falco peregrinus)*
Pied-billed Grebe	*(Podilymbus podiceps)*
Prairie Warbler	*(Dendroica discolor)*
Prothonotary Warbler	*(Protonotaria citrea)*
Red-headed Woodpecker	*(Melanerpes erythrocephalus)*

Rusty Blackbird	*(Euphagus carolinus)*
Short-eared Owl	*(Asio flammeus)*
Wood Thrush	*(Hylocichla mustelina)*
Worm Eating Warbler	*(Helmitheros vermivorum)*

2.3.4 ENDANGERED SPECIES

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Trust Resources website was used to identify endangered and threatened species (as well as Federal Species of Concern and candidate species) that might be present within the study area based on species information, maps of species distributions, species occurrences, and geographic search areas (https://ecos.fws.gov/ipac/). Threatened and endangered species that may be present in Virginia around the project area include harperella (*Ptilimnium nodosum*) and the Northern Long-Eared Bat (USFWS IPaC, 2016) (Appendix B).

Ptilimnium nodosum is a small member of the carrot family (Apiaceae) and consists of 13 known populations in seven southeastern states. The plant is threatened by small population sizes and hydrological manipulations of the habitat. This species was listed as endangered in September of 1988. *P. nodosum* is a rare plant native to seasonally flooded rocky streams and coastal plains ponds. In both its riverine and pond environments, the plant occurs only in a narrow range of water depths. It is intolerant of deep water or conditions that are too dry. The riverine form is found in microsites that are sheltered from rapidly moving water (USFWS, 1990). No critical habitat has been designated for this species.

Effective May 4, 2015, the USFWS listed the Northern Long-Eared Bat (*Myotis septentrionalis*) as a threatened species, with an interim special rule under Section 4(d) of the Endangered Species Act (ESA). A Conservation Measure included in the interim 4(d) rule states that incidental take from forest clearing activities will not be prohibited if the activity is conducted in a manner that avoids cutting or destroying known, occupied maternity roost trees during the pup season (June 1-July 31). During the summer, Northern Long-Eared Bats typically roost singly or in colonies in a wide-variety of forested habitats, underneath bark, or in cavities/crevices of both live trees and snags. Northern long-eared bats have also been documented roosting in man-made structures (i.e., buildings, barns, etc.) during the summer. Northern Long-Eared Bats predominately winter in hibernacula that include caves, abandoned mine portals, and potentially large boulder areas. It should be noted that the general habitat types described above may not be all-inclusive, and additional habitat types may be identified as new information is obtained. The U.S. Army Corps of Engineers is aware of the potential presence of the Northern Long-Eared Bat, and if additional consultation becomes necessary, the Corps will adopt necessary measures to implement our ESA responsibilities, to the extent of the Corps' legal authorities, consistent with the Corps' missions and responsibilities, and feasible from both a technological and economic point of view.

No Action: This alternative would result in no change to endangered species.

Recommended Plan: There are no seasonally flooded rocky streams or coastal plains ponds in the project area; therefore, use of the borrow areas will have no effect on harperella. The Northern Long-Eared Bat may be in the area. The Corps will avoid cutting or destroying known, occupied maternity roost trees or hibernaculae, and all clearing activity will be scheduled to avoid the pup season of June 1-July 31. The project may affect, but is not likely to adversely affect, the Northern Long-Eared Bat (Appendix A).

2.4 CULTURAL RESOURCES

The Virginia Department of Historic Resources' (DHR) Cultural Resource Information System (V-CRIS) service was queried to identify known cultural resources in and near borrow areas associated with the Recommended Plan (Virginia Department of Historic Resources 2016). This V-CRIS service provides information such as areas in which cultural resources surveys have been conducted, locations of identified cultural resources, historic district properties, and related data useful in considering potential impacts to cultural resources. No cultural resources are known to exist in or in close proximity to borrow areas associated with the Recommended Plan (Figure 2-1).

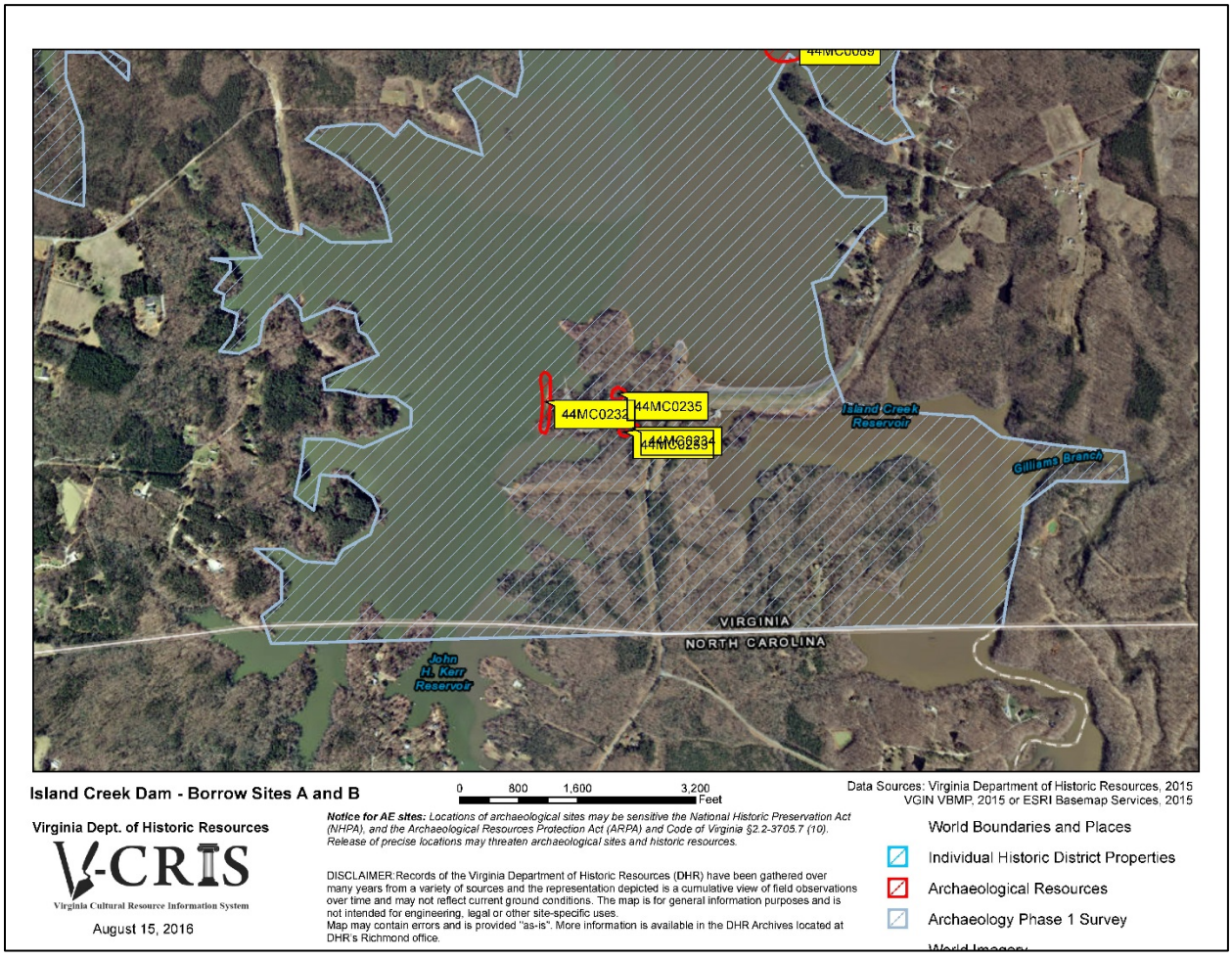

Figure 2-1: Cultural Resource Survey around Island Creek Dam, Borrow Area A and Borrow Area B.

The Recommended Plan will excavate material from two areas to construct an earthen berm at the toe of the existing Island Creek Dam to remedy seepage and stability concerns. Borrow areas A and B are located less than 1 mile to the southwest of Island Creek Dam, and west of Townsville Road (Figure 1-1). Vehicle and equipment access to borrow areas will be via existing roadways and previously disturbed right-of-ways to the extent practicable. Current access roads will require improvement, these access roads will also be located in areas previously surveyed and not containing cultural resources, according to the DHR's V-CRIS (Figures 2-1). By email dated October 13, 2016 (Appendix A), the DHR has been informed of the Recommended Plan, location of borrow areas, and the Corps' determination of no effect to cultural resources associated with the Recommended Plan. This communication was considered to be initiation of National Historic Preservation Act, Section 106 (Section 106) consultation with DHR. Section 106 consultation will be considered complete after DHR, applicable tribal governments, the public, and other interested parties are provided the opportunity to comment regarding information presented in this Draft Environmental Assessment. Should any cultural resources be discovered during implementation of the Recommended Plan, the DHR and the Virginia State Historic Preservation Office (SHPO) would be contacted and construction would be temporarily suspended until resources are properly assessed.

No Action: The No Action alternative would result in no change to cultural resources.

Recommended Plan: The Recommended Plan will have no effect on cultural resources due to the lack of cultural resources in the project area.

2.5 SOCIO-ECONOMIC RESOURCES

2.5.1 DEMOGRAPHICS

Island Creek Dam is located in Mecklenburg County, VA on federal land owned by the Corps. Clarksville, VA is the closest incorporated municipality to the project site, being located approximately 7 miles northeast of the existing project area. According to the U.S. Census Bureau, in 2010, total populations of 1,139 (2015 estimates are 1,204) people were living in the Town of Clarksville. Of this population, 71.8% of the individuals are Caucasian, 26.8% African American, less than 1% Asian, and less than 1% American Indian and Alaska Native. Industries of note in the Town of Clarksville include education, management/business, sales and office, health technologies and services, construction, hospitality, wholesale and retail trade, real-estate, and management (U.S. Census Bureau 2010).

No Action: Under the No Action alternative, no change to socioeconomic resources would occur.

Recommended Plan: The proposed action is not anticipated to adversely impact the makeup of the local population or their current income levels. Given the relatively minor

scale of the proposed project, no measureable adverse impacts to facilities, services, or nearby communities are anticipated.

2.5.2 AGRICULTURE

Agricultural development is extensive throughout the upstream and downstream counties near the project area. Much of the area is currently prime farmland. Major crops are soybeans, corn, peanuts, wheat, hay, cotton, and some remaining tobacco. There is no farmed crops at the Island Creek Dam or within borrow areas.

No Action: This alternative would have no change to agriculture.

Recommended Plan: This alternative would have no effect on agriculture due to the proposed project having little to no impacts to the surrounding land.

2.5.3 RECREATION

Both borrow areas are on land classified by the John H. Kerr Master Plan as Recreation Lands. Although there are no constructed facilities at either borrow area, recreational opportunities include sightseeing, camping, picnicking, fishing, hunting and hiking. Due to the relative remoteness of the borrow areas, these areas are infrequently visited.

No Action: Under the No Action alternative, no change to recreation would occur.

Recommended Plan: This alternative would likely have minor, short-term impacts to recreation due to construction activities.

2.5.4 AIR QUALITY AND NOISE

According to the Virginia Office of Air Quality (VAOAQ 2011), Mecklenburg County is in attainment for ozone and particulates. Areas of the country where air pollution levels persistently exceed the national ambient air quality standards may be designated as “non-attainment.” There are no known air quality problems in the study area.

There is noise associated with highway traffic and boat traffic year round, and boat traffic is higher in the warmer months due to fishing, skiing, and other activities. Also, there is hunting activity during the fall and early winter. Otherwise, there are no regular noise disturbances.

No Action: This alternative would result in no change to air quality or noise.

Recommended Plan: This alternative will have a temporary and minor effect to both air quality and noise associated with construction activities during the approximate 1-year project construction.

2.5.5 CLIMATE

The project area generally has mild winters and warm, humid summers. Average summertime highs are in the upper 80’s and winter time lows average in the low 30’s.

Precipitation is fairly well distributed throughout the year and average annual rainfall is around 40 inches.

Based on review of several reports on global warming, the consensus appears to be that the trend in the 21st century for the southeastern United States, will be an increase in the average temperature and an increase in the amount of rainfall, (EC 1165-2-212).

No Action: No Action would result in no effect on climate and climate change would have no effects on No Action.

Recommended Plan: This alternative is expected to have no effect on climate and climate change would have no effect on the Recommended Plan.

2.5.6 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTES (HTRW)

The potential hazardous substances associated with the borrow area watershed relate to the former tungsten mining operations that the Island Creek project was constructed to protect. Ore bearing rock was lifted to the mill on the surface where tungsten ore was removed in a process called beneficiation. A slurry of pulverized rock from the milling was disposed in a tailings pond where fines settled out of the liquid. There is a concern that lead and other metals in the tailings represent a potential pollution threat to Island Creek Reservoir and, in turn, to John H. Kerr Reservoir. It is not known whether, and at what rate, contaminants are entering the two reservoirs from the tailings (USACE, 1997).

Mecklenburg County confirmed that there are no known HTRW issues in the borrow areas (Robert Hendrick email December 16, 2016).

No Action: No Action would result in no change to HTRW and would not result in the production of HTRW.

Recommended Plan: This alternative is expected to have no effect on HTRW and would not result in the production of HTRW.

2.5.7 AESTHETICS

The aesthetic environment around the borrow areas is dominated by trees. Both areas are shaded by a tree canopy with little undergrowth.

No Action: No Action would result in no change to aesthetics.

Recommended Plan: This alternative would have a minor effect to aesthetics due to the removal of trees. The trees are expected to regrow over time. To minimize impacts, the borrow areas will be graded and planted with native grasses following excavation.

2.6 CUMULATIVE IMPACTS

The CEQ regulations (40 CFR 1508.7) require assessments of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

The point of a cumulative impact analysis is to determine if the proposed project, along with other past, present, and reasonably foreseeable projects conducted by the Corps or other parties contribute to more adverse effects on important resources. Cumulative impacts can be either adverse or beneficial.

Past, present and reasonably foreseeable future actions have and continue to contribute to the cumulative impacts in and around Kerr Reservoir. Past actions include the construction and operation of the reservoir, the recreation sites surrounding the reservoir, as well as residential, commercial and industrial facilities throughout the region. Existing and future actions include the operation of project facilities, the construction and operation of future recreational sites, the development of recreational sites, as well as residential, commercial and industrial development throughout the region. Continued project operations would result in the sustained maintenance and development of recreational facilities.

The Recommended Plan would result in tree and vegetation removal from the borrow areas, along with the material being used to repair the Island Creek Dam. This tree and vegetation removal will have a negligible cumulative impact on environmental resources due to such a small area being disturbed, in comparison to the surrounding area. To prevent further impacts, the borrow areas will be graded and seeded after the work is completed. All impacts, except for a portion of the Borrow Area A and B access roads are located on Corps lands. No known foreseeable projects using similar habitat are currently planned.

2.7 EXECUTIVE ORDERS (EO)

2.7.1 EXECUTIVE ORDER (E.O.) 12898, FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW-INCOME POPULATIONS (EO 12898).

Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires the federal government to achieve environmental justice by identifying and addressing high, adverse, and disproportionate effects of its activities on minority and low-income populations. E.O. 12898, Environmental Justice, states that the proposed action would not result in adverse human health or environmental effects. Any impacts of the action would not be disproportionate towards any minority or low-income population. The activity does not (a) exclude persons from participation in, (b) deny persons the benefits of, or (c) subject

persons to discrimination because of their race, color, or national origin. The activity would not impact "subsistence consumption of fish and wildlife." It requires the analysis of information such as the race, national origin, and income level for areas expected to be impacted by environmental actions. It also requires federal agencies to identify the need to ensure the protection of populations relying on subsistence consumption of fish and wildlife, through analysis of information on such consumption patterns, and the communication of associated risks to the public.

Appropriate demographic information related to environmental justice was indicated in Section 2.5.1. No residences or public facilities would be impacted by any proposed actions. Given the remoteness of the project area from populated areas, and the relatively small size of the project, there would be no impacts to Environmental Justice. Therefore, the proposed project complies with EO 12898.

2.7.2 PROTECTION AND ENHANCEMENT OF ENVIRONMENTAL QUALITY (EO 11514)

The Federal Government shall provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life. Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals. The proposed project complies with Executive Order 11514/11991.

2.7.3 PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT (EO 11593)

The Federal Government shall provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. Federal agencies shall administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations, initiate measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the people. In consultation with the Advisory Council on Historic Preservation (16 U.S.C. 470i), federal agencies shall institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural or archaeological significance. The proposed project would have no impact on historic resources and; therefore, complies with Executive Order 11593.

2.7.4 FLOODPLAIN MANAGEMENT (EO 11988)

Executive Order 11988 requires Federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities." The proposed project complies with Executive Order 11988.

2.7.5 PROTECTION OF WETLANDS (EO 11990)

Executive Order 11990 directs all federal agencies to issue or amend existing procedures to ensure consideration of wetlands protection in decision making and to ensure the evaluation of the potential effects of any new construction proposed in a wetland. The proposed action would not require filling any wetlands and would not be expected to produce significant changes in hydrology or salinity affecting wetlands. The proposed project complies with Executive Order 11990.

3 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

In addition to the indicated public involvement, NEPA, as amended, requires consideration of the environmental impacts for major federal actions. The purpose of the draft EA for this project is to ensure that the environmental consequences of the proposed action are considered and that environmental and project information are available to the public.

This draft EA was prepared in accordance with NEPA, the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) parts 1500-1508), U.S. Army Corps of Engineers Department of the Army procedures for implementing NEPA (33 CFR parts 230), and Engineering Regulation (ER) 200-2-2.

This draft EA will undergo a 30-day public review period.

The proposed action has been coordinated with the US Fish and Wildlife Service regarding consultation under Section 7 of the under the Endangered Species Act, and coordination will continue throughout the NEPA process.

The proposed project does not require a Section 404(b)(1) analysis since it involves no discharge of dredged or fill material into waters of the U.S.

National Historic Preservation Act, Section 106 (Section 106) consultation with DHR was initiated on October 13, 2016, and will continue throughout the NEPA process. The Corps' determination was no effect to cultural resources associated with the Recommended Plan.

Table 3-1: The relationship of the proposed action to Federal Laws and Policies.

Title of Public Law	US CODE	Compliance Status
Abandoned Shipwreck Act of 1987	43 USC 2101	In-progress
Anadromous Fish Conservation Act of 1965, As Amended	16 USC 757 a et seq.	In-progress
Antiquities Act of 1906, As Amended	16 USC 431	In-progress
Archeological and Historic Preservation Act of 1974, As Amended	16 USC 469	In-progress
Archeological Resources Protection Act of 1979, As Amended	16 USC 470	In-progress
Clean Air Act of 1972, As Amended	42 USC 7401 et seq.	In-progress
Clean Water Act of 1972, As Amended	33 USC 1251 et seq.	In-progress

Title of Public Law	US CODE	Compliance Status
Coastal Zone Management Act of 1972, As Amended	16 USC 1451 et seq.	In-progress
Endangered Species Act of 1973	16 USC 1531	In-progress
Estuary Program Act of 1968	16 USC 1221 et seq.	In-progress
Equal Opportunity	42 USC 2000d	In-progress
Farmland Protection Policy Act	7 USC 4201 et seq.	In-progress
Fish and Wildlife Coordination Act of 1958, As Amended	16 USC 661	In-progress
Historic and Archeological Data Preservation	16 USC 469	In-progress
Historic Sites Act of 1935	16 USC 461	In-progress
Magnuson Fishery Conservation and Management Act – Essential Fish Habitat	16 USC 1801	Not Applicable
National Environmental Policy Act of 1969, As Amended	42 USC 4321 et seq.	In-progress
National Historic Preservation Act of 1966, As Amended	16 USC 470	In-progress
National Historic Preservation Act Amendments of 1980	16 USC 469a	In-progress
Native American Religious Freedom Act of 1978	42 USC 1996	In-progress

Executive Orders		
Protection and Enhancement of Environmental Quality	11514/11991	In-progress
Protection and Enhancement of the Cultural Environment	11593	In-progress
Floodplain Management	11988	In-progress
Protection of Wetlands	11990	In-progress
Federal Actions to Address Environmental Justice and Minority and Low-Income Populations	12898	In-progress

4 AGENCY AND PUBLIC INVOLVEMENT

The proposed action and the environmental impacts of the proposed action are addressed in this Draft EA. The EA is being made available to an extensive list of local, State and Federal regulatory agencies and the public for a 30-day review and comment period. The Draft EA has also been placed on the US Army Corps of Engineers, Wilmington District website. Comments on the Draft EA will be considered during development of the Final EA and made available to the public.

5 POINT OF CONTACT

Mr. Eric Gasch, CESAW-PE, U.S. Army Engineer District, Wilmington, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343. Telephone (910) 251-4553, email eric.k.gasch@usace.army.mil.

6 REFERENCES

U.S. Army Corps of Engineers, Wilmington District. 1997. Reconnaissance Report, Section 216, Island Creek Dam and Pumping Station.

U.S. Fish and Wildlife Service. 1990. Harperella *(Ptilimnium nodosum*) Recovery Plan. Newton Corner, Massachusetts. 60 pp.

U.S. Fish and Wildlife Service. 1992. Planning Aid Report for the Island Creek Pumping Station.

U.S. Fish and Wildlife Service. 2016. Island Creek Dam Repair IPaC Trust Resource Report generated on November 17, 2016.

VAOAQ (Virginia Office of Air Quality). 2011. Virginia Ambient Air Monitoring 2010 Data Report. Glen Allen, VA. http://www.deq.virginia.gov/export/sites/default/reports/pdf/2010/air_monitoring_Annual_Report_10.pdf.

VA DMME (Virginia Department of Mines, Minerals and Energy). Web. 22 Nov. 2016. https://www.dmme.virginia.gov/

Virginia Department of Historic Resources. *V-CRIS*. N.p., 2015. Web. 15 Aug. 2016. http://dhr.virginia.gov/vcris/vcrisHome.htm

List of Websites

US Fish and Wildlife Service, IPaC Trust Resource Report: https://ecos.fws.gov/ipac/

US Geological Survey Multi-Resolution Land Characteristics Consortium: http://www.mrlc.gov/nlcd11_leg.php

Virginia Department of Environmental Quality, Ambient Air Monitoring 2010 Data Report: http://www.deq.virginia.gov/export/sites/default/reports/pdf/2010/air_monitoring_Annual_Report_10.pdf

Virginia Department of Environmental Quality, The 2014 305(b)/303(d) Water Quality Assessment Guidance Manual: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityAssessments/2014305(b)303(d)IntegratedReport.aspx

Virginia Department of Historic Resources: http://dhr.virginia.gov/vcris/vcrisHome.htm

Virginia Department of Mines, Minerals and Energy: https://www.dmme.virginia.gov/

7 APPENDICES

Appendix A – Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: 12-21-2016

Self-Certification Letter

Project Name: Use of Borrow Areas for Island Creek Dam Repair

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

From:	Bashaw, Justin P SAW
To:	"LaBudde, Gregory (DHR)"
Cc:	Gasch, Eric K SAW
Bcc:	Bashaw, Justin P SAW
Subject:	USACE "Island Creek Remedial Berm" Project - Cultural Resources - Initiation of Section 106 Consultation
Date:	Thursday, October 13, 2016 3:34:00 PM
Attachments:	Section_106_Consultation_Figures_-_Provided_to_VADHR.pdf

Good afternoon Mr. LaBudde (Greg),

Thank you for speaking with me yesterday regarding the 'Island Creek Remedial Berm' project, and for discussing potential effects to cultural resources within the project's three proposed borrow areas. Below is a brief project summary, and reasoning for the US Army Corps of Engineers, Wilmington District's (Corps') 'no effect' determination regarding effects to cultural resources. Please consider this email to be initiation of National Historic Preservation Act, Section 106 (Section 106) consultation with Virginia Department of Historic Resources (DHR). Section 106 consultation will be considered complete after DHR is provided the opportunity to comment regarding information presented in the project's yet to be distributed Environmental Assessment, which will elaborate upon information presented here.

Island Creek Dam is an auxiliary earth dam and pumping station on Island Creek, and is a component of the John H. Kerr Dam and Reservoir. The John H. Kerr Dam is located in Mecklenburg County, Virginia, on the Roanoke River. The project extends into portions of Mecklenburg, Charlotte, and Halifax Counties in Virginia and Warren, Vance, and Granville Counties in North Carolina. The reservoir stretches approximately 39 miles upstream of the dam on the Roanoke River and 19 miles upstream on the Dan River from its confluence with the Roanoke. The reservoir is operated as a unit of a coordinated reservoir system for flood damage reduction in the Roanoke River basin and provides generation of hydroelectric power. Island Creek Dam was constructed to prevent inundation of the Tungsten Queen mine which was a critical material needed for National Defense at the time of the development of the John H. Kerr Dam and Reservoir. The pump station at Island Creek moves surface water runoff from the Island Creek drainage basin into John H. Kerr Reservoir. The station contains three pumps, each rated at 1750 HP, 89,000 gallons per minute at 48.5 total dynamic head. Dam and pump station construction was completed in September 1955. Wet areas on the downstream portion of the dam were first observed in 1978 with certain water levels in Kerr Lake. It was later noted in 1983 that when Kerr Lake pool elevation was about 307 ft msl, seeps were active and with lake level below 300 ft msl, areas were saturated or damp with no visible seepage. Later inspections spanning 1993 through 2013 listed seepage or wet areas in 3 locations. Stability analyses have been performed since 1986 but no piezometers had yet been installed to fully evaluate the phreatic surface. Later, more advanced modeling concluded that there were wide variations in the Factors of Safety depending upon the location of the phreatic surface, so additional piezometers were installed and monitored. In 2011, trees were removed from below the toe of the dam and active seepage areas were discovered. Nine additional piezometers were installed to monitor the phreatic surface and seepage. Cone Penetration Tests (CPT) were completed as well to provide more data for future analyses. Currently, temporary inverted weighted sand filters have been installed over the major seepage areas as an interim risk reduction measure. Seepage continues from these filters, but cannot be measured. The proposed project will provide permanent remedy to seepage and stability problems at Island Creek Dam. The proposed design consists of an earthen berm constructed at the toe of the existing dam incorporating an underseepage filter. Seepage will be collected and discharged on site thru v-notch weirs. The earthen berm will be constructed using materials taken from three borrow areas in relatively close proximity to Island Creek Dam.

Regarding effects to cultural resources, specifically, the DHR's Cultural Resource Information System (V-CRIS) service was queried to identify known cultural resources in and near borrow areas associated with the proposed project (please see attachment containing relevant figures). No cultural resources are known to exist in or in close proximity to borrow areas associated with this project. The proposed project will use materials taken from three borrow areas to construct an earthen berm. Borrow areas A and B are located less than 1 mile to the southwest of Island Creek Dam, and west of Townsville Road. Borrow area C is located east of and adjacent to US Highway 15, and approximately 9 miles northwest of Island Creek Dam. Vehicle and equipment access to borrow areas will be via existing roadways and previously disturbed right-of-ways to the extent practicable. Should new access roads require construction, these access roads will also be located in areas previously surveyed and not containing cultural resources, according to the DHR's V-CRIS. The Corps has determined that the proposed project will have no effect

on cultural resources; however, should any cultural resources be discovered during implementation of the proposed project, the DHR and the State Historic Preservation Office (SHPO) would be contacted and construction would be temporarily suspended until resources are properly assessed.

Respectfully,
Justin Bashaw

Biologist, Cultural Resources Manager
Environmental Resources Section
U.S. Army Corps of Engineers, Wilmington District

- 69 Darlington Avenue
  Wilmington, NC 28403-1343
- 910.251.4581 (telephone)
- 910.251.4744 (facsimile)
- justin.p.bashaw@usace.army.mil

From: LaBudde, Gregory (DHR)
To: Bashaw, Justin P CIV USARMY CESAW (US)
Subject: [EXTERNAL] Island Creek Remedial Berm Project (DHR File No. 2016-0535)
Date: Thursday, November 10, 2016 11:12:49 AM

Dear Mr. Bashaw:

The Department of Historic Resources (DHR) has received for our review and comment information regarding the Island Creek Remedial Berm Project (DHR File No. 2016-0535). Our comments are provided to the U.S. Army Corps of Engineers (Corps) as assistance in meeting its responsibilities under Section 106 of the National Historic Preservation Act.

Based on the information provided, DHR concurs with the Corps' finding that no historic properties will be affected by the undertaking. Implementation of the undertaking in accordance with the finding of no historic properties affected as documented fulfills the federal agency's responsibilities under Section 106.

If for any reason the undertaking is not or cannot be conducted as proposed in the finding, consultation under Section 106 must be reopened. In accordance with federal regulations, should unexpected archaeological resources be encountered during project implementation, all work in the immediate area should cease and our office contacted to provide guidance on the treatment of the discovery.

Thank you for your consideration of historic resources. Please contact me if you have any questions or if we may provide any further assistance.

Sincerely,

Greg LaBudde, Archaeologist

Review and Compliance Division

Department of Historic Resources

2801 Kensington Avenue

Richmond, VA 23221

phone: 804-482-6103

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gregory.labudde@dhr.virginia.gov <mailto:roger.kirchen@dhr.virginia.gov>

From: Robert Hendrick
To: Gasch, Eric K CIV CESAW CESAD (US)
Subject: [EXTERNAL] Borrow Areas
Date: Thursday, December 15, 2016 9:10:11 AM

Eric

I'm not aware of any issues in that area. I do think an Erosion and Sediment Control Plan will need to be submitted for approval and you may like to touch base with DEQ on storm water management.

Appendix B - IPaC Trust Resources Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2017-SLI-0964 December 21, 2016

Event Code: 05E2VA00-2017-E-01280

Project Name: Use of Borrow Areas for Island Creek Dam Repair, John H. Kerr Dam and Reservoir, Virginia

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required

to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Use of Borrow Areas for Island Creek Dam Repair, John H. Kerr Dam and Reservoir, Virginia

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2017-SLI-0964
Event Code: 05E2VA00-2017-E-01280

Project Type: DAM

Project Name: Use of Borrow Areas for Island Creek Dam Repair, John H. Kerr Dam and Reservoir, Virginia
Project Description: Excavation of borrow material from two proposed borrow sites.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-78.47389683796791 36.54645472582079, -78.47326726798201 36.547029456111105, -78.46967697143553 36.54590912412165, -78.46913344954373 36.5423347768652, -78.47315311431885 36.54259922916336, -78.47389683796791 36.54645472582079)))

Project Counties: Mecklenburg, VA

United States Department of Interior
Fish and Wildlife Service

Project name: Use of Borrow Areas for Island Creek Dam Repair, John H. Kerr Dam and Reservoir, Virginia

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
harperella *(Ptilimnium nodosum)* Population: Wherever found	Endangered		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)* Population: Wherever found	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.