



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT
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CESAM-PD-E

**U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT
NOTICE OF AVAILABILITY FOR THE
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE LAKE SEMINOLE
PROJECT MASTER PLAN
APALACHICOLA-CHATTAHOOCHEE-FLINT RIVERS
GADSEN AND JACKSON COUNTIES,
FLORIDA**

TO ALL INTERESTED PARTIES:

The U.S. Army Corps of Engineers (USACE), Mobile District requests your review and comment on the proposed Programmatic Environmental Assessment (PEA) for the Lake Seminole Project Master Plan. Copies of the PEA and Master Plan are located on the following website: <https://www.sam.usace.army.mil/Missions/Planning-Environmental/EnvironmentalAssessments/>. The document is being circulated to resource agencies and interested members of the public for a 30-day comment period. Correspondence concerning this Master Plan and PEA should be directed via email to Ms. Jennifer L. Jacobson via email at Jennifer.L.Jacobson@usace.army.mil or via mail to U.S. Army Corps of Engineers, Mobile District, CESAM-PD-E, Attention: Ms. Jennifer L. Jacobson, Post Office Box 2288, Mobile, Alabama 36628. Comments must be received within 30 days of date of this notice.

Sincerely,

ENCLS

JEREMY M. LADART
Chief, Planning and Environmental
Division

ENCLOSURE

**PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
FOR
LAKE SEMINOLE PROJECT MASTER PLAN
APALACHICOLA-CHATTAHOOCHEE-FLINT RIVERS
SEMINOLE AND DECATUR COUNTIES, Georgia
GADSEN AND JACKSON COUNTIES, Florida**

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FOR
LAKE SEMINOLE PROJECT MASTER PLAN
APALACHICOLA-CHATTAHOOCHEE-FLINT RIVERS
SEMINOLE AND DECATUR COUNTIES, Georgia
GADSEN AND JACKSON COUNTIES, Florida**

Prepared by

U.S. Army Corps of Engineers, Mobile District
Planning and Environmental Division
Environment and Resources Branch
Inland Environment Team

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ACRONYM	MEANING
ABA	Architectural Barriers Act
ACF	Apalachicola-Chattahoochee-Flint
AQI	Air Quality Index
BGEPA	Bald and Golden Eagle Protection Act
BMPs	best management practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
EO	Executive Order
dB	decibels
DNL	Day-Night Sound Level
EP	Engineer Pamphlet
ER	Engineer Regulations
ESA	Endangered Species Act of 1973
°F	Fahrenheit
FDEP	Florida Department of Environmental Protection
FL FWC	Florida Fish and Wildlife Conservation Commission
FL DNR	Florida Division of Historical Resources
GADNR	Georgia Department of Natural Resources
GAEPD	Georgia Environmental Protection Division
HTRW	Hazardous, toxic, or radioactive waste
ICRMP	Integrated Cultural Resources Management Plan
MBTA	Migratory Bird Treaty Act

MP	Master Plan
MSL	mean sea level
NHPA	National Historic Preservation Act
NOAA	National Oceanic Atmospheric Administration
NRHP	National Register of Historic Places
OMP	Operational Management Plan
NAA	No Action Alternative
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
SHPO	State Historic Preservation Officer
sq. mi.	square miles
TMDLs	Total Maximum Daily Loads
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WMA	Wildlife management areas

1.0 INTRODUCTION

The Master Plan (MP) is the strategic land use management document that guides the comprehensive management and development of all project recreational, natural, and cultural resources throughout the life of the water resource project. A MP is required for each civil works project and all fee-owned lands for which the U.S. Army Corps of Engineers (USACE) has administrative responsibility. The MP guides the efficient and cost-effective management, development, and use of project lands.

The MP guides and articulates USACE responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources. The MP is a dynamic operational document projecting what could and should happen over the life of the project, and it is flexible based upon changing conditions. The MP deals in concepts, not details, of design and administration. Detailed management and administration functions are addressed in the Operational Management Plan (OMP), which implements the concepts of the MP into operational actions. It is the policy of USACE that MPs and OMPs be developed and implemented for each USACE civil works project. MPs and OMPs are intended to work in tandem. MPs shall be developed and kept current for all civil works projects and other fee-owned lands for which the USACE has administrative responsibility for management.

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulation (CFR), 1500-1517), and the USACE implementing regulation, Policy and Procedures for Implementing NEPA, Engineer Regulation (ER) 200-2-2 (1988), Federal actions (e.g., approval of Master Plans and modifications of Master Plans) require the preparation of documentation in order to evaluate the potential impacts to health and the human environment of the proposed action.

On December 18, 2014, CEQ issued guidance for Federal agencies on effective use of programmatic NEPA reviews. Programmatic analyses have value by setting out the broad view of environmental impacts and benefits for a proposed decision. The term “programmatic” describes any broad or high-level NEPA review. Programmatic NEPA reviews assess the environmental impacts of proposed policies, plans, programs, or projects for which subsequent actions will be implemented either based on the programmatic EA or programmatic environmental impact statement or based on subsequent NEPA reviews tiered to the programmatic review (e.g., a site- or project-specific document). In geographic settings where several Federal actions are likely to have effects on the same environmental resources it may be advisable for the lead Federal agencies to provide historical or other baseline information relating to the resources. This can be done through a programmatic NEPA analysis. Programmatic NEPA reviews address the general environmental issues relating to broad decisions, such as those establishing policies, plans, programs, or suite of projects, and can effectively frame the scope of subsequent site- and project-specific Federal actions.

This programmatic environmental assessment (EA) was prepared utilizing a systematic, interdisciplinary approach. The proposed action and its alternatives are evaluated in multiple contexts for short-term and long-term effects and for adverse and beneficial effects. This assessment indicates the effects on the human environment are well known and do not involve unique or unknown risk. It is not anticipated that this is a precedent-setting action, nor does it represent a decision in principle about any future consideration.

Individual implementation plans will need to be evaluated on a case-by-case basis to ensure those proposed action(s) identified for construction have not been modified from that described in this programmatic EA. Should proposed action(s) be consistent with those identified impacts in this programmatic EA, no additional NEPA would be necessary; however additional coordination pertaining to protected species and cultural resources may be necessary at the time of project implementation. Additional NEPA analysis would be necessary should those proposed action(s) exceed the scope of the identified activities described in this programmatic EA.

1.1 Location

Operated by the USACE, the Lake Seminole Project (“Lake Seminole”) is located at the confluence of the Chattahoochee and Flint Rivers, approximately 21 miles south of Bainbridge, Georgia, and 40 miles northwest of Tallahassee, Florida, in Decatur and Seminole Counties, Georgia, and Gadsden and Jackson Counties, Florida. These rivers join to form the Apalachicola River, which empties into Apalachicola Bay approximately 70 miles due south (or about 100 miles by road). The Jim Woodruff Lock and Dam crosses the Florida/Georgia State line with the structure’s most western end in Jackson County, Florida, its midpoint in Gadsden County, Florida and its eastern most end in Decatur County, Georgia. U.S. Highway 90 crosses the Apalachicola River about 0.6 miles below the dam. The location of the dam and lake is shown in its regional context on Figure 1. The Lake Seminole Project lies within Seminole and Decatur Counties in Georgia, and Gadsden and Jackson Counties in Florida.

The project’s shoreline stretches approximately 376 miles at the 77.5 feet above mean sea level (MSL) pool elevation and contains 37,500 acres of water surface area (USACE 1989; USACE 2021). Lake Seminole is operated at a relatively constant level for navigation with some fluctuation during flood periods; however, there is no storage for flood control.

The total project acreage (71,109 acres) includes 14,759 acres of flowage easement up to an 87 foot above MSL buffer around the lake. The lake’s total water storage capacity is 367,318 acre-feet at 77.0 feet above MSL (USACE 2021).

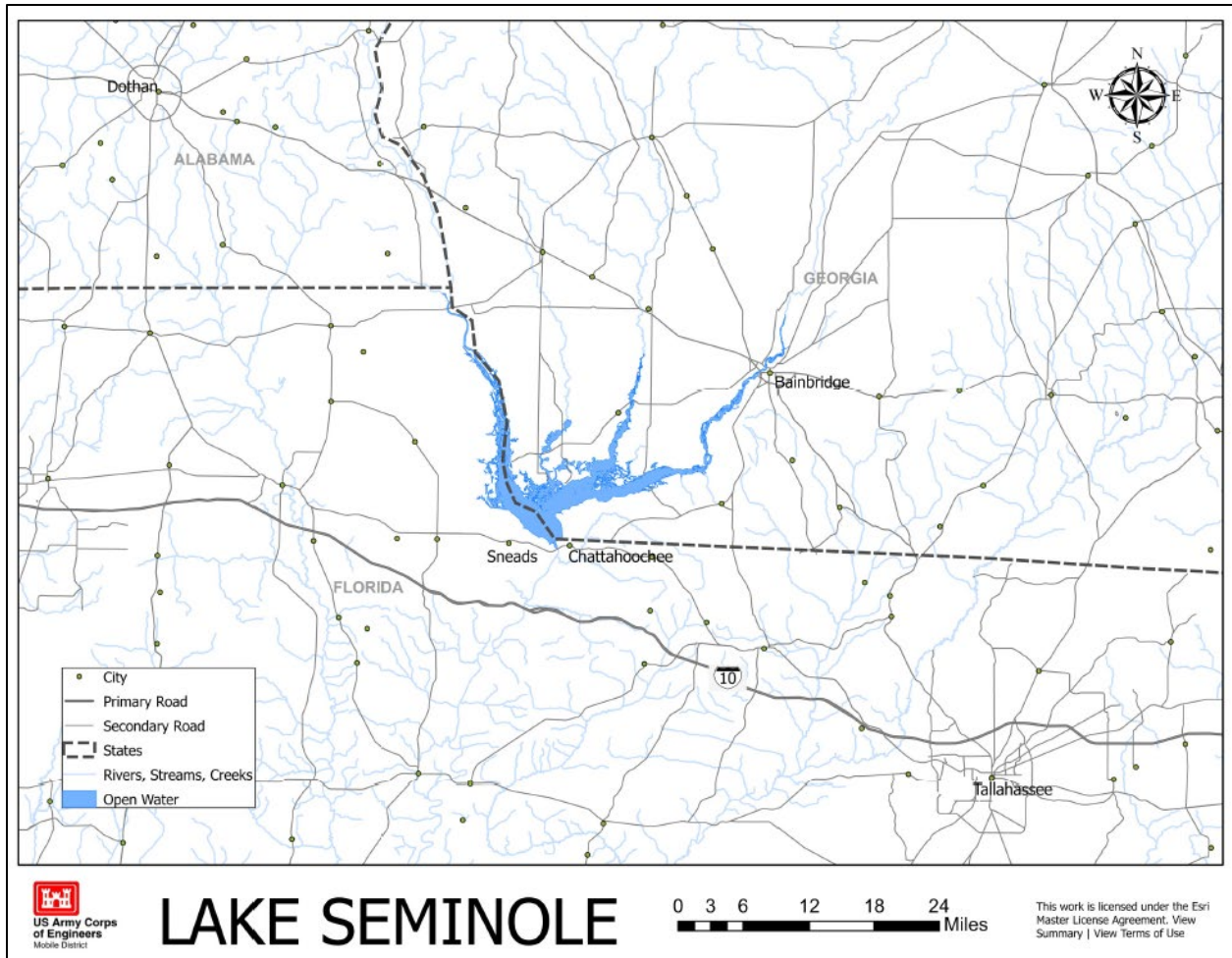


Figure 1: Lake Seminole Vicinity Map

1.2 Proposed Action

The proposed MP revision involves updating and documenting changes to land classifications to meet authorized project purposes, natural resource management objectives, and recreation management objectives. In addition to updating the land classifications, the proposed action includes documenting the development at the Lake Seminole Project that has occurred since 1989 and adding development features at various public use recreation parks. Section 3.2 of this programmatic EA contains information regarding each public use/recreational site located at the Lake Seminole Project and the proposed development features/improvements within them. Appendix E of the revised MP contains associated plate maps of each recreational area and approximate location of the existing and proposed project improvements (also referred to as development features or amenities).

1.3 Purpose and Need

The intent of the proposed Lake Seminole Master Plan revision (hereinafter referred as to the “revised MP”) is to document existing improvements that have taken place since the 1989 MP, to classify and/or reclassify project lands, which documents the current stewardship of natural resources in the project area, and to update the operation of

public use recreation areas and lease sites in compliance with NEPA. The need for development at each park is based on the ability to continue to provide a justified level of service to the public (which includes updating and upgrading aging facilities and facility infrastructure in the future, as needed) to improve operational efficiencies and to better meet visitor needs, including improved accessibility, per the Architectural Barriers Act (ABA) Standards.

The revised MP is based on responses to regional and local needs, as well as resource capabilities and suitability consistent with authorized project purposes and pertinent legislation and regulations. It provides a District-level policy consistent with national objectives and other State and regional goals and programs. The revised MP is distinct from the project-level implementation emphasis of the OMP. Policies in the revised MP are guidelines implemented through provisions of the OMP, specific Design Memoranda, and the Annual Management Plans. The broad intent of the revised MP includes: 1) determining appropriate uses and levels of development of project resources, 2) providing a framework through which the OMP and Annual Management Plans are developed and implemented, and 3) establishing a basis by which outgrants and recreational development proposals may be evaluated. The revised MP is not intended to address the specifics of regional water quality, shoreline management, or water level management; these areas are covered in a project's shoreline management plan or water control manual.

The revised MP provides a programmatic approach for the responsible stewardship of Lake Seminole Project resources to benefit present and future generations. All actions by USACE and granted leases to project lands must be consistent with the MP; therefore, the MP should be kept current to provide effective guidance in USACE decision-making.

1.4 Authority

Section 4 of the Flood Control Act of 1944, P.L. 58 Stat. 889, as amended (16 USCA 460d) authorizes the use of water resource development project lands for public recreation by specifically allowing "...to contract, maintain and operate public parks and recreational facilities at water resource development projects under the Secretary of the Army, to permit the construction of such facilities by local interest...." Additional authorization of development of public recreation at power, flood control and navigation projects is included in the Land and Water Conservation Fund Act of 1965, P.L. 88-578, 78 Stat. 897, as amended (54 U.S.C. 200302). *Water Resources Policies and Authorities: Digest of Water Resources Policies and Authorities* (Engineer Pamphlet (EP) 165-2-1) identifies legislation applicable to USACE Civil Works projects.

The River and Harbor Act of 1946, P.L. 79-525, 60 Stat. 634 and a resolution adopted in 1953 by the House Committee on Public Works modified the comprehensive plan for development of the Apalachicola-Chattahoochee-Flint River Basin.

Construction of Lake Seminole and the Jim Woodruff Dam project began in 1947 and was substantially completed in 1957. During initial development, USACE constructed roads, parking spaces, launching ramps, picnicking facilities, and camping areas. Utilities were provided where considered necessary.

2.0 ENVIRONMENTAL SETTING WITHOUT THE PROJECT

Jim Woodruff Lock and Dam was the first of three locks and dams constructed to provide a 9-foot-deep channel from the Gulf Intracoastal Waterway via the Apalachicola and the Chattahoochee Rivers to Columbus, Georgia, and via the Flint River to Bainbridge, Georgia. It is a multipurpose project for navigation, hydroelectric power production, and related uses. Impounded by the dam, Lake Seminole's relatively constant operating pool elevation is 77.5 feet above MSL. While there is some fluctuation for power production, no storage for flood risk management is provided.

The 17,164-square mile (sq. mi.) drainage area above Jim Woodruff Dam is almost equally divided between the Chattahoochee and Flint Rivers; the drainage area from the Chattahoochee River is 8,708 sq. mi. and the drainage area from the Flint River is 8,456 sq. mi. The Chattahoochee River, which rises on the southern slope of the Blue Ridge Mountains in northern Georgia, flows southwesterly to the Coastal Plains at Columbus and then southerly to its confluence with the Flint River. The Flint River rises just south of Atlanta, Georgia, and flows generally south in an easterly arc, partly in the Piedmont and partly across the Coastal Plain to its confluence with the Chattahoochee River

2.1 Topography

The shoreline topography of Lake Seminole varies from flat to gently rolling except for a short stretch in the southwest quadrant of the lake where steep banks up to an elevation of 125 feet occur. Lake Seminole lies within the *Southeastern Floodplains and Low Terraces* Level IV ecoregions in Florida and Georgia, with project lands extending into the *Dougherty Plain* and *Tifton Upland* ecoregions of both states (USEPA 2021). The *Dougherty Plain* ecoregion makes up the majority of the western and northeastern areas of the lake project lands, while small areas on the south/southeastern part of the project lands are within the *Tifton Upland* ecoregion (USEPA 2021).

Of the Level IV ecoregions, the *Southeastern Floodplains and Low Terraces* comprise a riverine ecoregion of large sluggish rivers and backwaters that include ponds, swamps, and oxbow lakes. The *Dougherty Plain* ecoregion is mostly flat to gently rolling and is greatly influenced by the near-surface limestone. The karst topography contains sinkholes, springs, and fewer streams in the flatter part of the plain. The *Tifton Upland* of Georgia has more rolling, hilly topography compared to the *Dougherty Plain* topography, with a mosaic of agriculture, pasture, and some mixed pine/hardwood forests (USEPA 2021).

Many lime sink-sand depressions were within and adjacent to the lake site before impoundment causing the shoreline to be indented with depression areas and lime sinks varying in depth from 2.0 to 10.0 feet. The shoreline topography of Lake

Seminole varies from flat to gently rolling, except for a short stretch in the southeast quadrant of the lake where steep banks occur. The degree of steepness of the various landforms plays a significant role in the development of recreational facilities as well as other land uses (USACE 1989).

2.2 Geology and Soils

Lake Seminole project is located within the East Gulf Coastal Plain Section of the Coastal Plain physiographic province near the junction of the states of Alabama, Florida, and Georgia. This belted coastal plain, known as the *Dougherty Plain* (see previous section 2.1), is nearly level and slopes from the northwest to southeast. The dam is founded on the Tampa Limestone with its right abutment in Florida and its left abutment in Georgia. Most of the lake is underlain by the Ocala Limestone of the late Eocene age which is a pure, soft, white fossiliferous and homogenous limestone with a gentle southeasterly dip. A thin, narrow band of Holocene age alluvium occurs parallel and adjacent to the run of the streams in the area. The collapse of caverns underlying the Dougherty Plain has resulted in nearly circular, flat bottomed sink holes with gently sloping sides. The depressions range from 100 feet in diameter to many acres across (USACE 1989).

The most distinctive soils on the *Dougherty Plain* ecoregion are black clay loams derived from the underlying limestone, and orange/red gravel, sand and clay containing chunks of fossiliferous chert (USACE 1989). The soils of *Tifton Upland* ecoregion are well-drained, brownish, and loamy, often with iron-rich or plinthic layers (USEPA 2021).

2.3 Climate

Within the Southeast Region of the United States, Lake Seminole is mostly located within Decatur and Seminole Counties, Georgia, with the western most portion of the project boundaries located within Jackson County, Florida, and a small portion of the southern boundary of the lake's project lands extending into the northwest part of Gadsden County Florida (Figure 1). The climate in the Southeast Region is subtropical; the area experiences hot and humid summers with an average mean temperature of 77.7 degrees Fahrenheit (°F) and mild winters with an average mean temperature of 46.6°F (NOAA 2020e). The mean annual precipitation for the region is 50.34 inches. The climate data for the state of Florida and Northwest Division of the state (where Lake Seminole is located) are comparable to the regional data; however, the mean average winter (December – February) temperature for the state is recorded at 58.7°F (NOAA 2020f) and 52.7°F for the Northwest Division of the state (NOAA 2020c), both of which are more than 5°F higher than the mean average winter temperature for the region. The climate data for the state of Georgia and Southeast Division of the state (where Lake Seminole is located) are also comparable to the regional data; however, the mean average winter temperature for the Southeast Division of the state is 51.7°F, which is also more than 5°F higher than the mean average winter temperature for the region (NOAA 2020d).

During the summer months (June – August), the mean average temperature in Decatur County, Georgia, is 80.4°F with a mean maximum temperature of 91.5°F (NOAA

2020b). The mean average temperature and maximum temperature for Seminole County, Georgia, are 80.7°F and 91.5°F, respectively (NOAA 2020b). The mean average temperature and maximum temperature for Jackson County, Florida, are 80.8°F and 91.3°F, respectively (NOAA 2020a). And the mean average temperature and maximum temperature for Gadsden County, Florida, are 80.0°F and 91.1°F, respectively (NOAA 2020a). During the winter months (December – February), the mean average temperatures are 51.9°F and 51.8°F in the Georgia counties and slightly higher at 52.2°F and 52.4°F in the Florida counties (NOAA 2020b; 2020a). The mean annual precipitation data ranges from 53.38 inches to 56.58 inches for the four counties (NOAA 2020a; 2020b).

The aforementioned climate data was obtained from the National Oceanic Atmospheric Administration (NOAA), using 1901 – 2000 as the period of record. The climate data for the regional, state, division, and counties are presented in Table 1 for Florida and Table 2 for Georgia.

Table 1: NOAA Climate Data for Regional, State, Division, and County in Florida for Lake Seminole. Period of record used is 1901 – 2000.

	Southeast Region¹	State²	Northwest Division³	Gadsden County⁴	Jackson County⁴
Mean Average Temperature Summer Months (June – Aug)	77.7°F	80.5°F	80.3°F	80.0°F	80.8°F
Mean Maximum Temperature Summer Months (June – Aug)	88.5°F	90.4°F	90.6°F	91.1°F	91.3°F
Mean Average Temperature Winter Months (Dec – Feb)	46.6°F	58.7°F	52.7°F	52.4°F	52.2°F
Mean Minimum Temperature Winter Months (Dec – Feb)	35.6°F	47.4°F	41.3°F	40.4°F	40.7°F
Mean Annual Precipitation	50.34 inches	53.65 inches	58.7 inches	56.58 inches	54.68 inches

¹(NOAA 2020e), ²(NOAA 2020f), ³(NOAA 2020c), ⁴(NOAA 2020a)

Table 2: NOAA Climate Data for Regional, State, Division, and County in Georgia for Lake Seminole. Period of record used is 1901 – 2000.

	Southeast Region¹	State²	Southeast Division³	Decatur County⁴	Seminole County⁴
Mean Average Temperature Summer Months (June – Aug)	77.7°F	78.7°F	80.2°F	80.4°F	80.7°F

Mean Maximum Temperature Summer Months (June – Aug)	88.5°F	89.9°F	90.9°F	91.5°F	91.5°F
Mean Average Temperature Winter Months (Dec – Feb)	46.6°F	47.3°F	51.7°F	51.9°F	51.8°F
Mean Minimum Temperature Winter Months (Dec – Feb)	35.6°F	36.0°F	39.9°F	40.0°F	40.2°F
Mean Annual Precipitation	50.34 inches	50.07 inches	49.18 inches	53.59 inches	53.38 inches

¹(NOAA 2020e), ²(NOAA 2020g), ³(NOAA 2020d), ⁴(NOAA 2020b)

2.4 Air Quality

Under the Clean Air Act (CAA), the U.S. Environmental Protection Agency (USEPA) establishes primary air quality standards to protect public health; the USEPA sets standards for the health of sensitive populations such as people with asthma, children, and older adults, and sets secondary standards to protect public welfare. This includes protecting ecosystems, including plants and animals from harm, as well as protecting against decreased visibility and damage to crops and vegetation. Under the CAA, the USEPA set National Ambient Air Quality Standard (NAAQS) for six common air pollutants: carbon monoxide, nitrogen oxides, sulfur dioxide, ozone, lead, and particulate matter. The Georgia Environmental Protection Division (GAEPD) Air Protection Branch monitors for the ambient levels of air pollutants throughout Georgia, and the Florida Department of Environmental Protection (FDEP) Division of Air Resource Management is charged with the protection and management of the state, which includes air quality monitoring (FDEP 2021b; GAEPD 2021).

GAEPD monitors the air quality at several stations throughout Georgia on a daily basis from which an Air Quality Index (AQI) is computed. The AQI converts measured pollutant concentrations in a community's air to a number on a scale ranging from 0 to 500. An AQI level in excess of 100 means that a pollutant is in the unhealthful range on a given day, while an AQI level below 100 means that a pollutant reading is in the satisfactory range. The nearest air quality monitoring stations to Lake Seminole is located at Albany, Georgia, which is approximately 50 miles northeast of the lake boundaries. The 2019 Air Quality Report details that the air quality of Albany generally occurs within a good (0-50 AQI) or moderate (51-100 AQI) range (Georgia.gov 2021).

FDEP monitors the air quality at several stations throughout Florida on a daily basis. The nearest monitoring stations to the Lake Seminole Project are located in Holmes, Bay, and Leon Counties (approximately 40 – 50 miles west, southwest, and southeast of the lake respectively). The 2012 Air Monitoring Report (most recent report) details the daily AQI for the stations are mostly within the 0-50 AQI range (FDEP 2021a).

2.5 Fishery Resources

Fishing and hunting have been major recreational activities at the Lake Seminole project area. Fishing is provided by the Chattahoochee and Flint Rivers, the tributary creeks and sloughs, and the permanently ponded lime sinks in the area (USACE 1989).

Fish species common in Lake Seminole include channel catfish (*Ictalurus punctatus*), flathead catfish (*Pylodictis olivaris*), redhorse and chub suckers (*Mosotoma* sp. and *Erimyzon* sp.), and carp (*Cyprinus carpio*). Game fishes include largemouth bass (*Micropterus salmoides*), striped bass (*Morone saxatilis*), white bass (*M. chrysops*), hybrid bass (*M. saxatilis* x *M. chrysops*), crappie (*Pomoxis* sp.), bluegills (*Lepomis macrochirus*), spotted and red ear sunfishes (*Lepomis punctatus* and *L. microlophus*), and mullet (*Mugil* sp.) (USACE 1989).

Federally protected fish and other aquatic species that may occur at the Project are presented in Section 2.9.

2.6 Wildlife Resources

Wildlife management areas (WMAs) at Lake Seminole include the 7,098-acre Lake Seminole WMA, operated by the Georgia Department of Natural Resources (GA DNR) Wildlife Resource Division, and the 7,952-acre Apalachee WMA, operated by Florida Fish and Wildlife Conservation Commission (FL FWC). These WMAs are aimed at enhancing wildlife habitat and offering recreation in the form of wildlife viewing, fishing, and hunting. Wildlife management conducted by USACE consists of habitat management by prescribed fire treatment, the planting of wildlife food plots, creating habitat for pollinators, and offering a variety of nesting boxes in various management compartments around the project.

Some wildlife species that are known to occur on Project lands include whitetail deer (*Odocoileus virginianus*), turkey (*Meleagris gallopavo*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), cottontail rabbit (*Sylvilagus floridanus*), swamp rabbits (*Sylvilagus aquaticus*), grey fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), mink (*Neogale* and/or *Mustela* spp.), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), Eastern spotted skunk (*Spilogale putorius*), and bobcats (*Lynx rufus*). Quail (*Colinus virginianus*) are known to occur in open fields and in some wooded areas and dove species (Columbidae family) are known to occur in grain fields (USACE 1989).

Waterfowl known to occur at the Project include mallard (*Anas platyrhynchos*), pintail (*Anas* spp.), baldpate (*Mareca americana*), wood duck (*Aix sponsa*), ring-necked duck (*Aythya collaris*), coot (*Fulica americana americana*), and Canada goose (*Branta Canadensis*). Numerous common songbirds, reptiles, and amphibians are found throughout the Lake Seminole Project (USACE 1989).

Wildlife species are sought by hunters and enjoyed by non-consumptive users on Lake Seminole Project lands. In the years since the project was completed, management efforts undertaken by USACE, and the State game and fish agency have contributed to

an overall improvement in wildlife habitat on project lands for both game and non-game species.

Federally protected mammal, reptile, bird, and amphibian species that may occur on Project lands are presented in Section 2.9.

2.7 Vegetation

The plant life of the area adjacent to Lake Seminole varies considerably with each sub-physiographic region; the Apalachicola River Bluffs, the Lime Sink Region, and the Altamaha Grit Region. The Apalachicola River Bluffs begin at a point in Florida on the bank of the river, approximately 25 miles south of the confluence of the Chattahoochee and Flint rivers. The bluffs are dissected by numerous ravines which open out into the river bottoms. Heavy stands of broadleaf, deciduous trees are found in the alluvial bottoms along the rivers which include swamp chestnut oak (*Quercus prinus*), water oak (*Q. nigra*), overcup oak (*Q. lyrata*), sycamore (*Platanus occidentalis*), hornbeam (*Carpinus caroliniana*), cottonwood (*Populus deltoides*), sugarberry (*Celtis laevigata*), water hickory (*Carya aquatica*), sweetgum (*Liquidambar styraciflua*), water tupelo (*Nyssa sylvatica*), and a deciduous conifer, bald cypress (*Taxodium distichum*). On the rich slopes and in the ravines, other trees such as the shortleaf pine (*Pinus echinata*), spruce pine (*P. glabra*), southern beech (*Fagus grandiflora*), and southern magnolia (*Magnolia grandiflora*) are found. The Florida torreya (*Torreya taxifolia*), is a coniferous tree found only in this region in Florida, and in one or two isolated areas north of the Georgia-Florida state line (USACE 1989).

The Lime Sink Region lies in Georgia between the Chattahoochee and Flint Rivers in the southern portion of the Dougherty Plain. The dominant trees are pines, oaks, gums, and cypress; hawthorn species are also numerous in various areas. Buttonball (*Cephalanthus occidentalis*) is found in the major portion of the ponded areas. Tree and shrub growth can be grouped into three types based on topography and water content of the soils. Generally, the high and drier land areas support longleaf pine, the intermediate areas have both longleaf and loblolly pine, and the low and wetter land areas have slash pine. Blackjack and turkey oaks are also found in high, dry areas. Laurel, water and live oaks, gums, and cypresses are also found in the lowlands of the Project. Lime sink ponds usually support dense stands of trees with the species of vegetation being influenced by annual water level fluctuations. With fluctuations that exceed 4.0 feet, pond cypress (*Taxodium ascendens*) occurs in pure stands. Slash pine occurs in stands of cypress where water does not fluctuate more than 1.0 foot. Dense growths of evergreen trees, shrubs and vines are also found; these include myrtle dahoon (*Ilex myrtifolia*), titi (*Cyrilla racemiflora*), buckwheat tree (*Cliftonia monophylla*), sweetbay (*Magnolia virginiana*), fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), bayberry (*Myrica carolinensis*), wax myrtle (*Myrica cerifrea*), odorless wax myrtle (*Myrica indora*) and greenbrier (*Smilax* spp.) (USACE 1989).

The Altamaha Grit Region, also called the Tifton Upland, is separated from the Lime Sink Region by an escarpment which is an extension of the Apalachicola River Bluffs in Georgia. This Region closely approaches Lake Seminole on the left bank of the Flint

River from Chattahoochee, Florida, up to Bainbridge, Georgia. The soil is similar to that of the Lime Sink Region, being predominately sandy at the surface and becoming a reddish sandy clay a few inches beneath the surface. The principal type of forest is longleaf pine. On the dry uplands there is a mixture of shortleaf pine (*Pinus echinate*), turkey oak, post oak (*Quercus stellate*), sand live oak (*Q. virginiana* var. *geminata*), and various species of huckleberry. There are all gradations between dry and wet pinelands as in the Lime Sink Region. Slash pine (*Pinus Elliottii*), pond cypress (*Taxodium ascendens*), and/or water tupelo (*Nyssa sylvatica* var. *biflora*) occurs in the flatter areas, but less frequently than in the Lime Sink Region. The undergrowth of the region consists of a variety of shrubs and wildflowers; however, frequent fires appear to have had an impact on some of the rarer species (USACE 1989).

Federally protected plant species that may occur on Project lands are presented in Section 2.9.

2.8 Invasive Species

Executive Order (EO) 13751 *Safeguarding the Nation from the impacts of Invasive Species* amends EO 13112 *Invasive Species* and outlines requirements of federal agencies whose actions may affect the status of invasive species. EO 13751 requires, in part, federal agencies to use relevant agency programs and authorities (subject to availability of appropriations, and within administrative, budgetary, and jurisdictional limits) to prevent the introduction, establishment, and spread of invasive species and to detect and respond rapidly to eradicate or control populations of such species. EO 13751 also includes requirements for federal agencies to monitor invasive species populations, to provide restoration of native species, ecosystems, and other assets that have been impacted by invasive species, to conduct research on invasive species and develop and apply technologies to prevent their introduction, and to promote public education and action on invasive species, their pathways, and ways to address them. Federal agencies are to also refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species, unless the agency has determined and made public its determination that the benefits of the action clearly outweigh the potential harm caused by invasive species. Federal agencies are to include all feasible measures to minimize the risk of harm from such actions.

The EO defines an invasive species as “a non-native organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.” Pathways of invasive species include human introduction via intentional and/or unintentional release into the environment usually as ornamental plantings, attachment to watercraft, etc. Pathways of invasive species also include modes of natural dispersal mechanisms such as hydrologic connectivity, reproduction habitat, and/or via wildlife through attachment or indigestible consumption.

Invasive plant and animal species known to occur at the Lake Seminole Project are presented in Table 3.

Table 3. Invasive species known to occur at the Lake Seminole Project.

Common Name	Scientific Name	Common Name	Scientific Name
Plant Species			
Alligatorweed	<i>Alternanthera philoxeroides</i>	Japanese honeysuckle	<i>Lonicera japonica</i>
American lotus	<i>Nelumbo lutea</i>	Kudzu	<i>Pueraria montana</i>
Asian marshweed	<i>Limnophila sessiliflora</i>	Lemon bacopa, blue waterhyssop	<i>Bacopa caroliniana</i>
Autumn olive	<i>Elaeagnus umbellata</i>	Lyngbya, blue-green algae	<i>Lyngbya wollei</i>
Bamboo, golden bamboo	<i>Phyllostachys aurea</i>	Mimosa tree	<i>Mimosa sp.</i>
Bicolor lespedeza, shrubby lespedeza	<i>Lespedeza bicolor</i>	Multiflora rose	<i>Rosa multiflora</i>
Brazilian waterweed	<i>Egeria densa</i>	Nandina	<i>Nandina domestica</i>
Broadleaf cattail	<i>Typha latifolia</i>	Parrotfeather	<i>Myriophyllum aquaticum</i>
Chinaberry	<i>Melia azedarach</i>	Pepper-vine	<i>Ampelopsis arborea</i>
Chinese privet	<i>Ligustrum sinense</i>	Phragmites	<i>Phragmites australis</i>
Chinese tallowtree	<i>Triadica sebifera</i>	Red sesbania	<i>Sesbania punicea</i>
Chinese wisteria	<i>Wisteria sinensis</i>	Russian olive	<i>Elaeagnus angustifolia</i>
Coco yam, wild taro	<i>Colocasia esculenta</i>	Sericea lespedeza	<i>Sericea cuneata</i>
Cogongrass	<i>Imperata cylindrica</i>	Sicklepod, java bean	<i>Cassia obtusifolia</i>
Common privet	<i>Ligustrum vulgare</i>	Soda apple	<i>Solanum viarum</i>
Coral ardisia	<i>Ardisia crenata</i>	Spiny naiad	<i>Najas marina</i>
Cuban bulrush	<i>Oxycaryum cubense</i>	Torpedo grass	<i>Panicum repens</i>
East Indian hygrophila	<i>Hygrophila polysperma</i>	Tree-of-Heaven	<i>Ailanthus altissima</i>
Elephant ear	<i>Colocasia esculenta</i>	Tung oil tree	<i>Vernicia fordii</i>
Eurasian water milfoil	<i>Myriophyllum spicatum</i>	Uruguayan water primrose	<i>Ludwigia hexapetala</i>
Giant cutgrass	<i>Zizaniopsis miliacea</i>	Water fern, water spangles	<i>Salvinia minima</i>
Hydrilla	<i>Hydrilla verticillata</i>	Water hyacinth	<i>Eichhornia crassipes</i>

Common Name	Scientific Name	Common Name	Scientific Name
Illinois pondweed	<i>Potamogeton illinoensis</i>	White mulberry	<i>Morus alba</i>
Japanese climbing fern	<i>Lygodium japonicum</i>		

Animal Species

Argentine ant	<i>Linepithema humile</i>	European starling	<i>Sturnus vulgaris</i>
Asian clam	<i>Corbicula fluminea</i>	Island apple snail	<i>Pomacea maculata</i>
Asian grass carp	<i>Ctenopharyngodon idella</i>	Red imported fire ant	<i>Solenopsis invicta</i>
European carp	<i>Cyprinus carpio</i>	Wild boar	<i>Sus scrofa</i>

2.9 Protected Species

2.9.1 Endangered Species Act

Under the Endangered Species Act of 1973 (ESA), as amended, the U.S. Fish and Wildlife Service (USFWS) has identified 15 threatened, endangered, or candidate species within the Lake Seminole project boundaries (USFWS 2021). The species are listed in Table 4 and a brief description for each species is provided after the table, as well as any designated critical habitat.

Table 4. Federally protected species that may occur at the Seminole Lake Project (USFWS 2023).

Common Name	Scientific Name	Common Name	Scientific Name
Threatened Species			
Atlantic sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Purple bankclimber	<i>Elliptoideus sloatianus</i>
Eastern indigo snake	<i>Drymarchon corais couperi</i>	Wood stork	<i>Mycteria americana</i>
Endangered Species			
Fat threeridge	<i>Amblema neislerii</i>	Gulf moccasinshell	<i>Medionidus penicillatus</i>
Florida torreyia	<i>Torreya taxifolia</i>	Oval pigtoe	<i>Pleurobema pyriforme</i>
Fringed campion	<i>Silene polypetala</i>	Red-cockaded woodpecker	<i>Picoides borealis</i>
Gentian pinkroot	<i>Spigelia gentianoides</i>	Reticulated flatwoods salamander	<i>Ambystoma bishopi</i>
Gray bat	<i>Myotis grisescens</i>	Shinyrayed pocketbook	<i>Lampsilis subangulata</i>
Red-cockaded	<i>Picoides borealis</i>		

Woodpecker

Candidate Species

Gopher tortoise

Gopherus polyphemus

Monarch butterfly

Danaus plexippus

Gray bat (Endangered): The gray bat was listed as endangered in 1976 under the ESA (41 FR 17736). The distribution of the gray bat is limited to areas of the southeastern United States containing limestone karst areas (USFWS 1982). Populations are located mainly in Alabama, Arkansas, Kentucky, Missouri, and Tennessee; few populations occur in northwestern Florida, western Georgia, as well as parts of Kansas, Indiana, Illinois, Oklahoma, Mississippi, Virginia, and North Carolina (USFWS 1982; USFWS 2011).

The gray bat roosts almost exclusively in caves year-round and has very specific requirements. Most winter caves are deep and vertical; however, a wider variety of cave types are used during the transient period (spring and fall). In the summer, caves that contain tightly restricted rooms that can trap the body heat of the roosting bats are preferred by maternity colonies (USFWS 1982; USFWS 2011). Summer caves are usually located close to rivers and lake shorelines which are near the bats' feeding areas. Bats are known to range up to 12 miles from their colonies to feed (USFWS 1982).

No critical habitat has been designated for this species.

Red-cockaded woodpecker (Endangered): The red-cockaded woodpecker was listed as an endangered species in October 1970 (35 FR 16047). Historically, the red-cockaded woodpecker occurred in the southeastern United States; the range was from east Texas and Oklahoma, to Florida and north to New Jersey (USFWS 2017). The present distribution of the species still includes the southeastern United States; remaining populations are fragmented into isolated, island populations (USFWS 2017).

Red-cockaded woodpeckers inhabit open stands of old-growth pines; longleaf pines are most commonly used, but other species of southern pines may be used as well (USFWS 2017). This woodpecker uses living pine trees that are over 60 years old to nest and roost; dense stands or areas with a dense hardwood understory are typically avoided (USFWS 2017). Foraging habitat for this species includes extensive pine or pine-hardwood trees 10 inches or larger in diameter (USFWS 2017).

No critical habitat has been designated for this species.

Wood stork (Threatened): The wood stork was listed as threatened in 1984 under the ESA. The wood stork is a large (approximately 50 inches tall) wading bird that primarily utilizes freshwater habitats, such as marshes, swamps, lagoons, ponds, flooded fields, and sometimes brackish wetlands for both foraging and nesting. Nesting occurs mostly in upper parts of cypress trees, mangroves, or dead hardwoods in close proximity to a body of water.

In the final rule to reclassify the breeding population from endangered to threatened, the USFWS noted that wood storks occur in Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina, with breeding and nesting documented in only Florida, Georgia, North Carolina and South Carolina (79 FR 37078).

No critical habitat has been designated for this species.

Eastern indigo snake (Threatened): The eastern indigo snake was listed as threatened in 1978 under the ESA (43 FR 4026). Historical records exist for Alabama and Mississippi, but the snake no longer naturally occur in those states (USFWS 2019b). The current distribution of the snake has reduced; the snake is considered extirpated or very rare in the Florida Panhandle and southwest Georgia and recent records of the snake are from southeastern Georgia and peninsular Florida (USFWS 2019d).

Eastern indigo snakes occupy a wide range of upland and lowland habitat, moving seasonally between upland and lowland habitats, especially in the northern portion of their range (USFWS 2019b; 2019d). The home range of adult eastern indigo snakes vary from several hundred to thousands of acres (USFWS 2019b; 2019d). Habitat types include mesic pine flatwoods, scrubby flatwoods, longleaf pine sandhills, oak scrub, sand pine scrub, dry prairie, tropical hardwood hammocks, freshwater and saltwater marshes and swamps, coastal dunes and some human-altered habitats (USFWS 2019d). The snake may also use below-ground shelter sites for refuge, breeding, feeding, and nesting; gopher tortoise burrows in sandhill habitats are commonly used for shelter during winter months in Georgia and northern Florida (USFWS 2019d).

No critical habitat has been designated for this species.

Gulf sturgeon (Threatened): The Gulf sturgeon was listed as threatened in 1991 under the ESA (56 FR 49653). The Gulf sturgeon is an anadromous fish which migrates from salt water into large coastal rivers to spawn and spend the warm months (USFWS 2009). Gulf sturgeon in the Apalachicola River reportedly utilize the area immediately downstream of the Jim Woodruff Lock and Dam from May through September (USFWS 2009). The area consisted of sand and gravel substrate, water depths up to between 19.7 and 39.4 feet.

Critical habitat was designated for this species in 2003 (68 FR 13370). Unit 6 Apalachicola River Critical Habitat Unit includes the Apalachicola River, from below Jim Woodruff Lock and Dam, downstream to its discharge at East Bay or Apalachicola Bay. Unit 6 also includes the East River, Little St. Marks River, and St. Marks River to their discharge into the East Bay and/or Apalachicola Bay; the entire main stem of the Brothers River (a tributary of Apalachicola River) is also included. The critical habitat extends to the ordinary high-water line on each bank of the associated rivers and shorelines.

Fat threeridge (Endangered): The fat threeridge was listed as endangered in 1998 under the ESA (63 FR 12664). The fat threeridge is a freshwater mussel known from the Flint River in Macon County, Georgia and historically occurred in the mainstems of the Flint, Apalachicola, and lower Chipola rivers. The species was noted to be generally rare, but locally abundant. At the time of listing in 1998, no live mussels had been found since 1981 in the Flint River; the species was noted as being apparently extirpated from Georgia. Surveys in 1996 found a juvenile fat threeridge in the lower Apalachicola River. The fat threeridge inhabits stable sandy and gravelly substrates in medium-sized streams to large rivers. This species of mussel appears to be host-fish generalist that may infect fishes of at least three different fish families.

Critical habitat has been designated for this species (72 FR 64286). Eleven groups of river and stream segments have been designated as critical habitat for the fat three ridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber. The designated critical habitat units for the fat threeridge within or near the Lake Seminole project includes parts of Unit 7 along Spring Creek, from its confluence with Lake Seminole at Smith Landing, upstream 46.1 miles to County Road 35 (western part of Unit 7), along Flint River from its confluence with Big Slough, upstream 72.3 miles to the Flint River Dam (eastern part of Unit 7), and part of Unit 8 along the mainstem of the Apalachicola River from the downstream end of Bloody Bluff Island, upstream to the Jim Woodruff Lock and Dam.

Gulf moccasinshell (Endangered): The Gulf moccasinshell was listed as endangered in 1998 under the ESA (63 FR 12664). The Gulf moccasinshell is a freshwater mussel known from three sites in the Apalachicola-Chattahoochee-Flint (ACF) River system, the Chattahoochee River near Columbus and Atlanta, and the Flint River near Albany. The historical distribution of the species included tributaries and mainstems of the Fling, Chattahoochee, and Chipola rivers, and the mainstem of the Apalachicola River. The Gulf moccasinshell inhabits stable sandy and gravelly substrates in medium-sized streams to large rivers. This species is thought to be a host-fish specialist that primarily parasitizes darters.

Critical habitat has been designated for this species (72 FR 64286). Eleven groups of river and stream segments have been designated as critical habitat for the fat three ridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber. The designated critical habitat units for the Gulf moccasinshell within or near the Lake Seminole project includes parts of Unit 7 along Spring Creek, from its confluence with Lake Seminole at Smith Landing, upstream 46.1 miles to County Road 35 (western part of Unit 7), and along Flint River from its confluence with Big Slough, upstream 72.3 miles to the Flint River Dam (eastern part of Unit 7).

Oval pigtoe (Endangered): The oval pigtoe was listed as endangered in 1998 under the ESA (63 FR 12664). The oval pigtoe is a freshwater mussel known from the Chattahoochee River, near Columbus, Georgia. Historically, the species was one of the most widely distributed and common mussel endemic to the Apalachicolan Region; it occurred throughout the mainstems and several tributaries of the Flint and Chipola

River systems, in the lower Chattahoochee River and several tributaries, and in the Apalachicola River mainstem. The oval pigtoe inhabits stable sandy and gravelly substrates in medium-sized streams to large rivers. The primary host-fish for this species appears to be the sailfin shiner, but the glochidia also infect the eastern mosquitofish.

Critical habitat has been designated for this species (72 FR 64286). Eleven groups of river and stream segments have been designated as critical habitat for the fat three ridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber. The designated critical habitat units for the oval pigtoe within or near the Lake Seminole project includes parts of Unit 7 along Spring Creek, from its confluence with Lake Seminole at Smith Landing, upstream 46.1 miles to County Road 35 (western part of Unit 7), and along Flint River from its confluence with Big Slough, upstream 72.3 miles to the Flint River Dam (eastern part of Unit 7).

Purple bankclimber (Threatened): The purple bankclimber was listed as threatened in 1998 under the ESA (63 FR 12664). The purple bankclimber is a freshwater mussel known from the Chattahoochee River in Georgia. Historically, the species was found throughout the mainstem and in a few of the largest tributaries of the Flint River system and along the mainstems of the Apalachicola and Chattahoochee rivers. The purple bankclimber inhabits stable sandy and gravelly substrates in medium-sized streams to large rivers. This species of mussel is thought to be a host-fish generalist, utilizing eastern mosquitofish and blackbanded darter.

Critical habitat has been designated for this species (72 FR 64286). Eleven groups of river and stream segments have been designated as critical habitat for the fat three ridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber. The designated critical habitat units for the purple bankclimber within or near the Lake Seminole project includes parts of Unit 7 along Spring Creek, from its confluence with Lake Seminole at Smith Landing, upstream 46.1 miles to County Road 35 (western part of Unit 7), and along Flint River from its confluence with Big Slough, upstream 72.3 miles to the Flint River Dam (eastern part of Unit 7), and part of Unit 8 along the mainstem of the Apalachicola River from the downstream end of Bloody Bluff Island, upstream to the Jim Woodruff Lock and Dam.

Shinyrayed pocketbook (Endangered): The shinyrayed pocketbook was listed as endangered in 1998 under the ESA (63 FR 12664). The shinyrayed pocketbook is a freshwater mussel known from the Chattahoochee River near Columbus, Georgia. Historically, the mussel occurred in mainstems and tributaries throughout the ACF River system. The shinyrayed pocketbook inhabits stable sandy and gravelly substrates in medium-sized streams to large rivers.

Critical habitat has been designated for this species (72 FR 64286). Eleven groups of river and stream segments have been designated as critical habitat for the fat three ridge, shinyrayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber. The designated critical habitat units for the shinyrayed pocketbook within or near the

Lake Seminole project includes parts of Unit 7 along Spring Creek, from its confluence with Lake Seminole at Smith Landing, upstream 46.1 miles to County Road 35 (western part of Unit 7), and along Flint River from its confluence with Big Slough, upstream 72.3 miles to the Flint River Dam (eastern part of Unit 7).

Fringed campion (Endangered): The fringed campion was listed as endangered in 1991 under the ESA (56 FR 1932). The fringed campion, a perennial herb and member of the pink carnation family, occurs in the three-county (Jackson and Gadsden counties in Florida and Decatur County in Georgia) area near the confluence of the Flint and Apalachicola rivers on both sides of the Georgia-Florida border. In this area, the fringed campion occurs in rich wooded ravines with southern magnolia, tulip tree, maples, beech, spruce pine, and sugarberry. The species flowers from late March to mid-May and fruits from April to June.

No critical habitat has been designated for this species.

Gentian pinkroot (Endangered): The gentian pinkroot was listed as endangered in 1990 under the ESA (55 FR 49046). The gentian pinkroot, a perennial herb, has been found in light to heavy shade of oak pine woods containing mixed loblolly and longleaf pines, water oaks, laurel oaks, and southern red oaks. Specimens of the plant have been collected from the west side of the Apalachicola River, in Jackson County. In the 2019 Recovery Plan for the species, the gentian pinkroot is noted to occur in four counties west of the Apalachicola River, which includes Jackson County (USFWS 2019c). Surveys in 2018 indicated that the species were stable at two Florida sites, the Nature Conservancy Spigelia Preserve and at Three Rivers State Recreational Area and increasing at two other locations in Florida (USFWS 2019c).

No critical habitat has been designated for this species.

Florida torreya (Endangered): The Florida torreya was listed as endangered in 1984 under the ESA (49 FR 2783). The Florida torreya is an evergreen tree endemic to the Apalachicola River area in Florida and Georgia. The species is an understory tree of mature beech-magnolia-pine forests (USFWS 1986). The Florida torreya occurs in a network of bluffs, ravines, and steep slopes at the heads of ravines on the east side of the Apalachicola River (USFWS 1986). The species is known to occur in Decatur County, Georgia, and in Gadsden County, Florida (USFWS 2020c).

No critical habitat has been designated for this species.

Gopher tortoise (Candidate): The gopher tortoise (eastern population) is a large, terrestrial, herbivorous tortoise. The gopher tortoise typically inhabits the sandhills, pine/scrub oak uplands, and pine flatwood associated with the longleaf pine ecosystem. The tortoise is usually found in areas with well-drained, deep, sandy soils, an open tree canopy, and a diverse herbaceous groundcover. The species is known to occur in peninsular Florida and in the southern Georgia, Florida, Alabama border areas. While the western population (Alabama west of Mobile River, Mississippi, and Louisiana) is

listed as threatened, the eastern population (South Carolina, Florida, Georgia, and Alabama east of the Mobile River) is listed as a candidate species (85 FR 73164).

No critical habitat has been designated for this species.

Monarch butterfly (Candidate): The adult monarch butterfly is a large butterfly, with bright orange wings surrounded by a black border and covered with black veins. During breeding season, monarchs lay eggs on their obligate milkweed host plant (*Asclepias* spp.) and larvae emerge after 2 to 5 days. There are multiple generations of monarchs produced during the summer breeding season with most adult butterflies living approximately 2 to 5 weeks. In eastern North America, monarchs undergo long-distance migration and live for an extended period (USFWS n.d.).

No critical habitat has been designated for this species.

2.9.2 Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) was removed from the endangered and threatened species list in 2007; however, it is now protected under the Bald and Golden Eagle Protection Act (BGEPA), as well as the Migratory Bird Treaty Act (MBTA) (USFWS 2013). Bald eagles require suitable wetland areas for hunting and undisturbed lakeshore or coastal regions with large trees for roosting and nesting. Bald eagles are migratory visitors to Lake Seminole; however, they are not known to nest or reside on project lands (USACE 1989).

2.9.3 Migratory Bird Treaty Act

In addition to the bald eagle, 15 other species of birds protected under the MBTA are known to occur within the Lake Seminole Project area during various times of the year. They are the American kestrel (*Falco sparverius paulus*), Bachman's sparrow (*Aimophila aestivalis*), eastern whip-poor-will (*Antrostomus vociferus*), Henslow's sparrow (*Ammodramus henslowii*), Kentucky warbler (*Oporornis formosus*), king rail (*Rallus elegans*), lesser yellowlegs (*Tringa flavipes*), prairie warbler (*Dendroica discolor*), prothonotary warbler (*Protonotaria citrea*), red-headed woodpecker (*Melanerpes erythrocephalus*), ruddy turnstone (*Arenaria interpres morinella*), rusty blackbird (*Euphagus carolinus*), swallow-tailed kite (*Elanoides forficatus*), willet (*Tringa semipalmata*), and wood thrush (*Hylocichla mustelina*).

2.10 Cultural Resources and Historic Properties

To comply with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, and other Federal preservation laws, the USACE, Mobile District maintains thorough records of cultural resources located within Lake Seminole fee-owned lands. The USACE, Mobile District has also implemented an Integrated Cultural Resources Management Plan (ICRMP) which outlines the cultural resources stewardship responsibilities for Lake Seminole and provides procedural guidance for identifying, evaluating, and managing historic properties. The ICRMP also provides environmental and historic contexts and an overview of the cultural properties within the fee-owned lands of Lake Seminole. All implementation plans are considered

undertakings according to Section 106 and must be consulted on with the State Historic Preservation Officer (SHPO), federally recognized Tribes, and other interested parties at the time of project implementation.

Thirty-six cultural resource investigations have been completed at Lake Seminole and the entire 21,832.39 acres has been surveyed. Most of these surveys are old and only 147.79 acres have been subjected to surveys that meet current Florida Division of Historical Resources (FLDNR) or GADNR – Historic Preservation Division standards. The first archaeological survey was conducted in 1907 and the most recent was completed in 2018. A total of 341 archaeological sites have been recorded, with 129 sites located in Florida and 212 sites in Georgia. There are currently no archaeological sites that are listed on the National Register of Historic Places (NRHP) on Lake Seminole fee-owned lands. However, 103 of the 341 archaeological sites are recommended eligible for the NRHP and need to be formally assessed.

There are also eight historic standing structures on Lake Seminole fee-owned lands. All of these structures are located in Florida and comprise mid-century modern wood frame and concrete block structures built between 1961 and 1971. None of the historic structures are listed in the NRHP. Six of the structures have been determined ineligible for the NRHP and two have not been adequately evaluated. Other cultural resources on Lake Seminole fee-owned lands include 4 historic cemeteries and a section of the Ekanachatee historic trail, (8JA1778) that linked British Pensacola to the Seminole and Creek lands to the east. Additionally, there are eight bridges on Lake Seminole fee-owned lands in Georgia that are over 40 years old. Once these bridges reach the required fifty-year-old threshold to be considered historically significant, they will have to be formally evaluated using NRHP criteria for significance and integrity.

The purpose of the Lake Seminole ICRMP is to assist the USACE, Mobile District meet its responsibilities to manage and protect cultural resources. This ICRMP is tailored to the specific cultural resource issues at Lake Seminole fee-owned lands and is meant to serve as a component of the master plan. It is reviewed and revised every five years and also requires an annual update (DODI 4715.16). Updates and revisions are a necessary part of maintaining a proactive management plan.

While the ICRMP serves as a detailed planning tool for Lake Seminole Lake, project coordination with cultural resources staff at the USACE, Mobile District remains necessary to comply with Section 106 of the NHPA, including consultation with the Florida and Georgia SHPOs and interested federally recognized Tribes regarding any potential effects on historic properties from undertakings on USACE fee-owned lands.

2.11 Water Quality

Section 303(d) of the Clean Water Act (CWA) requires states to submit a list of all waters that are not meeting their designated uses and that have Total Maximum Daily Loads (TMDLs) written for them; TMDLs establish the maximum amount of a pollutant allowed in a water body (USEPA 2020). The USEPA reviews and approves the State's listing of impaired or threatened bodies of water every two years. The FDEP develops

TMDLs for waterbody segments added to the FDEP's list of impaired waters in Florida (FDEP 2020a) and the GAEPD develops TMDLs for waters not supporting their designated uses in Georgia (GAEPD n.d.).

Lake Seminole consists of the Chattahoochee River, Flint River, and Spring Creek (main reaches of the lake). The Chattahoochee and Flint Rivers join to form the Apalachicola River. The Chattahoochee River is along the Florida/Georgia state line on the western side of the lake, Spring Creek is located more centrally located in the lake, occurring in Georgia only, and the Flint River is located on the eastern side of the lake, in Georgia. The Apalachicola River is formed near the dam and flows downstream in Florida.

The Chattahoochee and Apalachicola Rivers in Jackson and Gadsden Counties, Florida, respectively, are listed on the FDEP's Section 303(d) listed waters. The Chattahoochee River/Lake Seminole is listed as impaired for biology due to failing bioassessments and is placed in Category 4d due to an unidentified causative pollutant (FDEP n.d.). And 1.29 miles of the Apalachicola River downstream of the dam is listed as impaired for total nitrogen based on the annual geometric means exceeding the nutrient threshold more than once in a 3-yr period. The impairment is placed in Category 4d based on insufficient supporting biological data. TMDLs have not been developed for these parameters (FDEP 2020b).

The Chattahoochee and Flint Rivers in Seminole and Decatur Counties, Georgia are meeting their supporting use (fishing) (GAEPD n.d.). Spring Creek from Aycocks Creek to Lake Seminole (15 miles) in Decatur County, Georgia is listed as not supporting its use (fishing) due to mercury in fish tissue and is placed in Category 5 (meaning at least one designated use in to being met); no TMDL has been developed for this pollutant (GAEPD n.d.).

Lake Seminole Project personnel monitor water quality at the open beach areas during the recreation season (Memorial Day through Labor Day weekend). If the above fecal bacteria standards are exceeded, the affected beach may be closed for until the standard is met. The downstream water quality is monitored on a continuous basis.

In addition to Section 303(d) of the CWA, Sections 401, 402, and 404 of the CWA protect waters of the United States (waters of the U.S.). Waters of the U.S. are defined within the CWA and jurisdiction is addressed by the USEPA and the USACE. These agencies have typically asserted jurisdiction over (1) traditional navigable waters, (2) wetlands adjacent to navigable waters, (3) non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-around or have continuous flow at least seasonally, and (4) wetlands directly adjacent to such tributaries.

Section 401 protects waters from any discharge into waters resulting from an activity permitted or licensed by a Federal agency and Section 402 protects waters from non-exempt construction activity, as well as municipal, industrial, and commercial facilities

discharging wastewater or stormwater directly from a point source. Section 404 protects waters of the U.S. from discharge of dredged or fill material from non-exempt actions. The FDEP Division of Water Resource Management and GAEPD Watershed Protection Branch are responsible for enforcing Sections 401 and 402 of the CWA in Florida and Georgia, respectively. Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE Chief of Engineers, to issue permits for the discharge of dredge or fill into waters of the U.S., including wetlands; however, Florida assumes the 404 program at the state level.

2.12 Wetlands

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the U.S, which includes wetlands, from non-exempt actions. Therefore, encroachment into wetlands requires a permit from the USACE, as discussed in the previous section (Section 2.11).

There are five types of major wetland habitats within the wetland classification system; they are Marine, Estuarine, Riverine, Lacustrine, and Palustrine (USFWS 2019a). The major wetland habitats found on Lake Seminole Project lands include Riverine, Lacustrine, and Palustrine (USFWS 2019a). A Riverine System includes wetlands contained within a channel where water is periodically or continuously flowing. A Lacustrine System includes wetlands permanently flooded lakes and reservoirs and lacking trees, shrubs, and emergent vegetation. A Palustrine System is more complex; this system includes all non-tidal wetlands dominated by trees, shrubs, and emergent mosses or lichens, or it can lack this vegetation but meet other characteristics. The Palustrine System was developed to group vegetated wetlands, referred to as marshes, swamps, bogs, etc.; however, the system also includes small, shallow ponds.

The Lake Seminole Project includes approximately 33,337 acres of lacustrine wetlands, approximately 13,310 acres palustrine wetlands, and approximately 7,444 acres riverine wetlands per the USFWS National Wetlands Inventory database (USFWS 2019a). The majority of these wetlands includes the actual lake itself (lacustrine) and the USACE-managed portion of the waters feeding into the project. The remaining wetlands consist primarily of locations that may become inundated at different times through fluctuations in the lake elevation during normal operating procedures. The majority of the palustrine wetlands consists of freshwater forested/shrub wetlands (approximately 9,286 acres).

2.13 Floodplain

The natural floodplains of the Apalachicola, Chattahoochee, and Flint Rivers were inundated by the original construction of Lake Seminole. The lake is operated at a relatively constant level at elevation 77.5 feet above MSL; there is no storage for flood risk management operations.

Section 1 of EO 11988 *Floodplain Management* states that “each agency is to provide leadership and 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 floodplains in carrying out its responsibilities for 1) acquiring,

managing, and disposing of Federal lands, and facilities; 2) providing Federally undertaken, finances, or assisted construction and improvements; and 3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.”

In carrying out the aforementioned activities, agencies have a responsibility to evaluate the potential effects of any actions it may take in a floodplain. USACE’s ER 1165-2-26 *Implementation of Executive Order 11988 on Flood Plain Management* applies to planning, design and construction of Civil Works projects, activities under the operation and maintenance program, and to the real estate program of the agency.

Portions of the Lake Seminole Project are within the 100-year floodplain (which includes Zones A and AE) (FEMA n.d.) and any improvements within the 100-year floodplain will require review pursuant to EO 11988.

2.14 Navigation

Lake Seminole Project was authorized primarily for navigation and hydroelectric power generation purposes. The depth of the lake ranges from 40.0 feet at the dam (at normal pool level) to 9.0 – 15.0 feet within the navigation channel at the upper reaches. The lake is operated at a relatively constant level for navigation with some fluctuation expected during flood periods. The maximum draw-down does not exceed 1.5 feet.

The water level above Chattahoochee, Florida is deep enough to pose no problems to water-based recreation. The irregular shoreline of the lake limits boat use somewhat but increases opportunities for shoreline fishing. Water in the lake is generally calm, but winds of 25 miles per hour or more can create waves that can be hazardous to small watercraft.

2.15 Land Use

Land usage immediately adjacent to Lake Seminole Project consists largely of residential development associated with the cities of Chattahoochee, Florida, and Bainbridge, Georgia (red areas depicted in Figure 2). However, several small rural residential sites are scattered around the periphery of the lake. Adjacent land uses also include commercial, institutional, industrial in association with the aforementioned cities. Timber resources and farming are also noted (green and brown areas depicted in Figure 2, respectively).

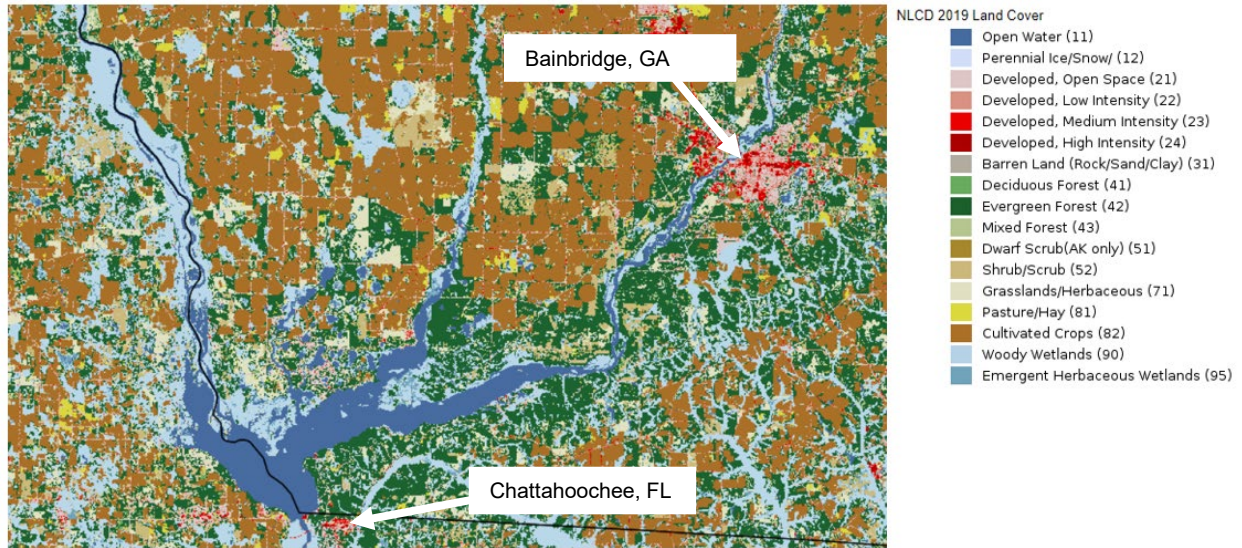


Figure 2. Land cover at and near Lake Seminole Project (MRLC n.d.).

Generally, Lake Seminole Project lands were acquired in fee below contour elevation of 85 ft MSL (with exceptions noted in certain reaches of the project) for congressionally authorized project purposes - hydropower, water supply, water quality, conservation and enhancement of fish and wildlife, and recreation - to provide safe, efficient operation of the project (Land Allocation of Project Operations, see Chapter 4 of the revised Master Plan).

Land classifications at all USACE lake project lands include Project Operations, High-Density Recreation, Mitigation, Environmentally Sensitive Areas, and Multiple Resource Management Lands. Lands at Lake Seminole Project are classified as Project Operations, High-Density Recreation, and Multiple Resource Management Lands (which includes Low-Density Recreation, Wildlife Management, and Vegetation Management classifications) (see Chapter 4 of the revised Master Plan). Plate maps LSMP-LC-01 through LSMP-LC-06 in Appendix E of the revised Master Plan present the proposed land classifications for the lands at the Lake Seminole Project.

2.16 Recreation

Lake Seminole is used for a variety of recreational activities; some of the more popular activities include camping (at developed and primitive sites), boating, hunting, fishing, hiking, swimming, picnicking, biking, sightseeing, and observing wildlife.

The Lake Seminole Project has 1 Class A campground (with a total of 64 campsites), three multi-use parks (with a total of 44 campsites and day use amenities), eight day-use areas, four public marinas, and abundant picnicking opportunities.

The public use recreation areas, which include the day-use areas and campsite areas, are identified in the Table 5:

Table 5. Public Use Recreational Areas.

Apalachee Park Station	Lake Seminole WMA – Ranger
Apalachee WMA – Zone A Reynoldsville	Lake Seminole WMA -
Apalachee WMA – Zone B Creek	Lake Seminole WMA – Spring
Apalachee WMA – Zone C Still	Lake Seminole WMA – Ten Mile
Big Slough Landing Park	Lakeview Park
Brickyard Park	Lower Pool – Lower Pool Park
Buena Vista Park	Lower Pool – Lock Road
Chattahoochee Athletic Park	Mac’s Point Lodge and Marina
Chattahoochee Park	Neals Landing Park
Cummings Landing Park	Parramore Landing
Cypress Pond Park	Ralph King Landing
Decatur Landing	Rays Lake Park
Desser Landing	Recovery Ridge Park
Eastbank Campground	Reynoldsville Park
Faceville Park Harvel Pond Park	River Junction Park
Fairchilds Park	Roosevelt Park
Fish Pond Drain Park	Saunders Slough
Flint River Landing	Sealy Point Park
Hales Landing Park	Seminole Lodge
Horseshoe Bend Park	Seminole State Park
Howells Landing	Smith Landing
Iron Bridge Park	Sneads Park
Island Point Park	Spring Creek Park
Lake Seminole WMA - Desser	Spring Creek Resort
Lake Seminole WMA – Fairchilds	Ten Mile Still Landing
Lake Seminole WMA – Four Mile Creek	Three Rivers State Park
Lake Seminole WMA – Hales Landing	Trails End Landing and Marina
Lake Seminole WMA – River Junction	Westbank Overlook
Lake Seminole WMA – Horseshoe Bend	
Lake Seminole WMA – Lake Seminole WMA	

Descriptions and development needs of each park are provided in Chapter 5 of the MP revision.

2.17 Noise

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities that are part of everyday life, such as construction or traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dBA noise metric describes steady noise levels. Very few noises are, in fact, constant; therefore, a noise metric, *Day-Night Sound Level* (DNL), has been developed. The Noise Control Act of 1972 (P.L. 92-574) directs Federal agencies to comply with applicable Federal, state, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals.

Noise levels at the Lake Seminole Project are commensurate with recreational activities, which includes human presence (hunting, hiking, swimming, playing sports, camping, etc.) and recreational boating traffic. Noise levels around the dam are elevated due to the volume of water passing through dam to the tailwaters and temporary alarms at the dam are also typical to warn public users of an increase in release volumes through the dam.

Noise levels at the Lake Seminole are subject to city and state (Florida and Georgia, respectively) noise ordinances, as applicable.

2.18 Aesthetics

Several locations at the public use areas have mowed vistas provided for scenic enjoyment. Shade trees are prevalent throughout the public use areas. Camping and day use activities are set back a reasonable distance from the water's edge so that everyone can enjoy unrestricted use of the shoreline without intruding on another's site and privacy. There are numerous nature trails and an overlook at the dam.

2.19 Hazardous, Toxic and Radiological Waste

There are no known hazardous, toxic, or radioactive waste (HTRW) sites located on government property at Lake Seminole. Operating and maintaining USACE projects typically requires the use of hazardous and toxic materials. The use of materials, such as pesticides, paints, solvents, and petroleum products, would be expected during the operation and maintenance of USACE-managed facilities, shoreline, vehicles, and equipment. The use of petroleum products would also be expected from the operation of marinas and from recreational vehicle use. The handling, use, storage, and disposal of such materials must be in accordance with label recommendations, USACE regulations (e.g., ER 200-2-3 *Environmental Compliance Policies*), and local, state, and federal regulatory guidelines.

2.20 Socioeconomics

Lake Seminole's market area is predominantly rural southwestern Georgia, southeastern Alabama, and the panhandle of Florida. A 50-mile radius (from all recreation parks) zone of influence was used for the 2020 capacity study to be included in the MP, which updated the recreation and visitation analysis for the lake. The market area includes 15 entire counties (one in Alabama, five in Florida and 10 in Georgia) and

the majority of seven other counties (two in Alabama, three in Florida, and two in Georgia).

The counties that lie entirely and more than 50% within the same 50-mile zone of influence are considered in the socioeconomic analysis conducted for the programmatic EA. In Georgia, nine counties (Baker, Calhoun, Decatur, Early, Grady, Miller, Mitchell, Seminole, and Thomas Counties) are entirely within the zone of influence and the majority of two counties (Clay and Dougherty counties) are within the zone of influence. In Florida, five counties (Calhoun, Gadsden, Jackson, Leon, and Liberty counties) are entirely within the zone of influence and the majority of three counties (Holmes, Wakulla, and Washington counties) are within the zone of influence. The zone of influence extends into Alabama, with Houston County entirely within the zone of influence and the majority of two counties (Dale and Henry counties) within the zone of influence and are therefore included in the socioeconomic analysis for the programmatic EA.

Tables B-1 through B-3b in Attachment B present estimated 2021 population demographic data for the 15 counties in Alabama, Florida and Georgia located entirely within the zone of influence as obtained by the U.S. Census Bureau. Tables B-4 through B-6 in Attachment B present the population demographic data for the seven counties in Alabama, Florida, and Georgia with majority of area located within the zone of influence, respectively. Each table also includes population data for the respective states and the United States for reference.

Of the counties located entirely within the zone of influence, the data show that Leon County, Florida, has the largest population base, with a population of 292,817. Houston County, Alabama, had the second largest population with 107,458 people. The four counties in which Lake Seminole Project is located have estimated populations of 43,714 people (Gadsden County, Florida), 47,694 people (Jackson County, Florida), 29,038 people (Decatur County, Georgia), and 9,197 people (Seminole County, Georgia) (Tables B -2 through B -3b). Of the counties with majority of area located within the zone of influence, the two counties with the largest population are Dougherty County, Georgia, and Dale County, Alabama, with 84,844 people, and 49,342 people, respectively (Tables B -4 through B -6).

The estimated 2021 Census data also include the racial makeup and the percentage of the population of a certain age. In 2021, the most populated county in which Lake Seminole Project is located (Jackson County, Florida), was comprised of 65.7% white, 26.3% black, and 4.9% Hispanic or Latino (Table B -2). The proportion of the Jackson County, Florida population under 5 and under 18 years of age is 5.2% and 18.9%, respectively, while 20.6% are 65 years of age and older (Table B -2).

The racial makeup of the other three counties in which Lake Seminole Project is located includes 32.5%, 49.4%, and 61.4%% white in Gadsden County, Florida, Decatur County, Georgia, and Seminole County, Georgia, respectively; 55.5%, 42.7%, and 33.1% black, respectively; and 10.9%, 6.5%, and 3.6% Hispanic or Latino, respectively

(Tables B -2 through B -3b). The age make-up of the younger members of the population for the respective counties are 6.0%, 6.9%, and 5.2% for persons under 5 years of age (Tables B -2 through B -3b). For persons under 18 years of age, the population percentages for the respective counties are 21.6%, 24.3%, and 20.8% (Tables B -2 through B -3b). For persons age 65 and over, the population percentages are 18.7%, 16.7%, and 23.2% (Tables B -2 through B-3b).

The median household income (in 2020 dollars) ranged from \$35,286 to \$41,135 for the four counties in which Lake Seminole Project is located (Tables B -2 through B -3b). For comparison, the median household income for the states of Florida and Georgia are \$57,703 and \$61,224, respectively; the national median household income is estimated at \$64,994.

The percentage of persons living below poverty ranged from 19.5% to 25.6% for the four counties in which Lake Seminole Project is located (Tables B -2 through B -3b). For comparison, the persons in poverty for the states of Florida and Georgia are 12.4% and 14.0%, respectively; the national percent of persons in poverty was 11.4% (Tables B -2 through B -3b).

2.21 Public Safety

Public safety issues, such as swimming and boating accidents, drowning, and other accidents related to camping and use of recreational facilities (e.g., tripping, cuts and scrapes, and animal/insect bites, etc.) exist at the Lake Seminole Project. Additional safety risks identified at the lake include the shoreline erosion issues at the public recreation parks.

USACE has an established safety awareness and education program to reduce such accidents to the greatest extent possible.

2.22 Prime and Unique Farmland

According to the U.S. Department of Agriculture (USDA), the definition of “prime farmland” is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable levels of acidity or alkalinity, and content of salt or sodium, and has few or no rocks. Its soils are permeable to water and air. Prime farmland is not excessively eroded or saturated with water for long periods of time, and does not flood frequently during the growing season, or is protected from flooding.

Table B-1 in Attachment B lists the types of prime and unique farmland soils located at the Lake Seminole Project. Information for the soil data was generated using the USDA

Natural Resources Conservation Service (NRCS) Web Soil Survey and the NRCS Soil Data Access database for prime and other important farmlands.

3.0 ALTERNATIVES

3.1 No Action

Inclusion of the No Action Alternative (NAA) is prescribed by the CEQ regulations and serves as the benchmark against which Federal actions are evaluated. Under the NAA, the USACE, Mobile District would not approve the revised MP and would not meet current regulations or goals, per USACE policy. The 1989 Master Plan would continue to provide the only source of comprehensive management guidance. Information provided in the 1989 Master Plan is outdated and no longer adequately addresses the needs of the district, other management partners, or use of the Lake Seminole Project. Furthermore, the 1989 Master Plan does not include revised land classifications in accordance with current USACE regulations.

For these reasons, this alternative was not considered as a viable alternative.

3.2 Proposed Action – Adopt the Revised Lake Seminole Master Plan

Under this alternative, the MP revision would be approved for the Lake Seminole Project to provide management guidance and would replace the 1989 Master Plan. The revised MP addresses important updates due to the considerable amount of time since the 1989 Master Plan; it addresses current recreation demand, existing and proposed amenities (also referred to as development features) within Seminole Park and Snead Park, current environmental conditions, and pertinent laws and policies.

3.2.1 Scope and Objectives of the Master Plan Revision

The revised MP provides guidelines and direction for future project development and use, which are based on authorized project purposes and USACE policies and regulations. The revised MP carefully considers regional and local needs, as well as resource capabilities and suitable uses.

The proposed MP revision involves two elements: 1) documenting changes to land classifications to meet authorized project purposes, natural resource management objectives, and recreation management objectives (per ER 1130-2-550 *Recreation Operations and Maintenance Policies*), and 2) implementing construction and future usages identified as improvement needs for USACE-managed parks, Seminole State Park, and Sneads Park. Furthermore, adoption of the MP revision will also document improvements which have been made at Lake Seminole Project since implementation of the 1989 Master Plan.

The programmatic EA evaluates environmental effects of the proposed actions on two levels. The first level consists of those changes described conceptually, and in very broad terms, to guide and direct future project development and use. Given this conceptual nature, a tiered NEPA effort would be necessary for any future improvements to those project lands. The second level consists of improvements

involving construction and future recreational utilization identified at USACE-managed areas, Seminole State Park and Sneads Park (Table 8). This level includes sufficient project details associated with construction and future usage to perform environmental considerations and analyses for those improvement features. Impacts have been disclosed in this programmatic EA. Further environmental considerations and analyses may be required prior to implementation should the project's scope be increased greater than that previously evaluated in this programmatic EA.

Land classifications are designated at USACE projects to identify the primary use for which project lands are managed (EP 1130-2-550 *Recreation Operations and Maintenance Guidance and Procedures*). Updated land classifications now include Project Operations, High Density Recreation, Mitigation, Environmentally Sensitive Areas, and Multiple Resource Management Lands. The Multiple Resource Management Lands designation includes Low Density Recreation, Wildlife Management, Vegetative Management, and Future or Inactive Recreation Areas. A complete description of each land classification is provided in Chapter 4 of the revised MP and in EP 1130-2-550. The proposed changes to land classification for project lands at Lake Seminole Project are provided as Element 1 and are describe in detail in Section 3.2.2.

The updated public use recreation park descriptions are provided in Chapter 5 of the MP Revision and include, in part: 1) the land classification of the park area, 2) the resource objectives for the park area, and 3) the proposed improvement projects (development features) to be added to address the development needs at each park area. The proposed improvement projects (identified as "Development Needs" in the park descriptions) for Seminole State Park and Sneads Park are provided as Element 2 and are described in more detail in Section 3.2.3. The updated park design with proposed development feature locations can be found on the coordinating plate map for each public use recreation park (Appendix E of the revised MP).

Adoption of the MP revision also documents improvements which have been made at the lake since the 1989 Master Plan. Improvements made throughout the various USACE-managed recreation parks since 1989 include: comfort stations, waterborne restrooms, biological pit toilets, courtesy loading docks, dump station, fishing piers and fish station sites, parking sites, picnic sites, group shelters, sports areas, trail heads, and park attendant sites. Improvements throughout the various leased recreation parks since 1989 include: boat ramps, courtesy loading docks, fishing docks and cleaning stations, picnic areas, group shelters, park attendant areas, dump stations, playgrounds, trails, parking lots, campsites, cabins, motel, lodges, waterborne restrooms, biological pit toilet, chemical comfort station, laundry, marinas (with wet and dry slips, fuel, stores, etc.), restaurants, concession stand, an activity center, volley ball court, mini golf, an amphitheater, and canoe, kayak, boat, and bike rentals. The plate maps for each public use recreation park (Appendix E of the revised MP) includes locations of these existing features.

3.2.2 Element 1 – Land Classifications

The first element of the proposed action, Element 1, consists of classification and/or reclassification of project lands to reflect the most efficient and cost-effective management, development, and use of project lands as currently managed to meet authorized project purposes, natural resource management objectives, and recreation management objectives (EP 1105-2-550).

Some park areas changed in size over the years; a comparison of parks and their acreages are presented in Table 6. Components of the land classification changes are presented in Table 7 and delineated in the Land Classification maps LS21MP-OC-01 through LS21MP-OC-03 provided in Appendix E of the revised MP.

Table 6. Comparison of Recreation Park Acreages from the 1989 Master Plan to the Revised MP for the Lake Seminole Project.

Park Area Name	1989 Master Plan ¹	Revised Master Plan ²	Notes:
Lower Pool – Lower Pool Park	14	21	Noted as Woodruff Dam Fishing Area in 1989 Master Plan. Difference in acreage attributed to mapping technology.
Lower Pool – Lock Road	See above	201	Noted as Woodruff Dam Fishing Area in 1989 Master Plan. This area was not included as a recreation area in the 1989 Master Plan.
Eastbank Campground	118	143	Noted as Mount Vernon Park in 1989 Master Plan.
Chattahoochee Athletic Park	35	36	Difference in acreage attributed to mapping technology.
Chattahoochee Park	259	251	Difference in acreage attributed to mapping technology.
River Junction Park	118	23	The park was reduced and surrounding land is now part of Lake Seminole WMA license, River Junction Tract.
Recovery Ridge Park	22	15	The 1989 map appears to have a road access that no longer exists.
At Ease Campground	252	248	Noted as Hutchinson Ferry Landing in 1989 Master Plan. A small area to the east (~4 acres) of the park is no longer included in the park area.
Faceville Park	113	100	Difference in acreage attributed to mapping technology.
Horseshoe Bend Park	172	30	This area is a lease area, outside area is now part of Lake Seminole WMA. Difference in mapping technology between 22 acres noted in the 1989 Master Plan and 30 acres today.
Brickyard Park	54	48	Difference in acreage attributed to mapping technology. Additional islands may have been included in 1989 Master Plan.
Big Slough Landing Park	61	57	Difference in acreage attributed to mapping technology.

Flint River Landing	-	23	Difference in acreage attributed to mapping technology.
Hales Landing Park	128	20	The area outside of the park is now leased to Lake Seminole WMA Hales Landing tract.
Ten Mile Still Landing	133	120	Difference in acreage attributed to mapping technology. Additional islands may have been included in 1989 Master Plan.
Ralph King Landing	745	6	Noted as Buffalo Pond Park in 1989 Master Plan. The area outside of the park is now included in Lake Seminole WMA, Spring Creek Tract.
Smith Landing	20	4	The 1989 Master Plan included a section north of the park area. The current lease only includes the park.
Decatur Landing	2	2	
Iron Bridge Park	90	90	
Reynoldsville Park	125	5	The area outside of the park is now part of Lake Seminole WMA, Reynoldsville tract.
Spring Creek Park	151	93	Spring Creek Resort was also included in the 1989 Master Plan acreage, as well as an additional area (~22 acres) that is outside of the lease limit. Some additional islands may have also originally been included.
Spring Creek Resort	17	19	Private concession portion was listed at 17 acres in the 1989 Master Plan.
Sealy Point Park	125	29	Part of original park has been reclassified to vegetative management area. New area is lease area.
Island Point Park	95	90	Difference in acreage is attributed to mapping technology. There are some areas where the 1989 Master Plan appears to denote the shoreline slightly different than current plan.
Cypress Pond Park	98	84	The current park does not include pond area. Also, it now has addition of area to the southwest of the park.
Harvel Pond Park	151	26	The area outside park is now part of Seminole State Park.
Seminole State Park	492	649	Additional area was incorporated from what was originally designated as part of Harvel Pond Park in the 1989 Master Plan. Additionally, difference in acreages can be attributed to mapping technology.
Roosevelt Park	24	29	Noted as FDR Park in 1989 Master Plan. Current park area has added an area to the west (~5 acres). The park area in the 1989 Master Plan ended where there is a cove and dock currently.
Lakeview Park	31	28	Noted as Lewis Pond Park in 1989 Master Plan. Difference in acreage is attributed to mapping technology.
Rays Lake Park	82	75	Difference in acreage is attributed to mapping technology.
Fish Pond Drain Park	36	24	Difference in acreage is attributed to mapping technology.
Cummings Landing Park	92	87	Difference in acreage is attributed to mapping technology.

Saunders Slough	-	0.25	Difference in acreage attributed to mapping technology.
Trails End Landing and Marina	108	139	Noted as Butlers Ferry Landing in 1989 Master Plan. The current park area and marina has added an area on the north side to the lease (~30 acres).
Fairchilds Park	341	53	Part of the park was reallocated to be part of Lake Seminole WMA (241 acres). Some of the ponds were likely included in the original acreage and not the new acreage.
Desser Landing	45	2	Part of the park was reallocated to be part of Lake Seminole WMA.
Neals Landing Park	134	119	Difference in acreage is attributed to mapping technology.
Apalachee WMA – Zone A	-	5,027	
Apalachee WMA – Zone B	343	256	Noted as Flatwoods in 1989 Master Plan.
Apalachee WMA – Zone C	374	2,669	River Road Park (230 acres), and Buena Vista Park (144 acres) in 1989 Master Plan
Buena Vista Park	144	5	The area outside of the park is now part of Apalachee Zone C.
Parramore Landing	124	110	Difference in acreage attributed to mapping technology. Also, shoreline appears to be slightly different than 1989 Master Plan maps.
Howells Landing	-	10	Difference in acreage attributed to mapping technology.
Three Rivers State Park	718	651	10 acres of Howell's was originally part of Three Rivers.
Sneads Park	64	62	
Seminole Lodge	42	44	Noted as Sneads Landing Marina in 1989 Master Plan. Difference in acreage attributed to mapping technology
Apalachee Park	55	49	Difference in acreage attributed to mapping technology
Westbank Overlook	24	23	Noted as Woodruff Dam Overlook in 1989 Master Plan. Difference in acreage attributed to mapping technology
Lake Seminole WMA – River Junction Tract	242	317	Noted as Flint River Park, Dell Park, and River Junction in 1989 Master Plan.
Lake Seminole WMA – Horseshoe Bend Tract	-	162	
Lake Seminole WMA – Four Mile Creek Tract	454	432	Noted as Four Mile Creek Park in 1989 Master Plan. There was an additional road area (~6 acres) included in the area in the 1989 Master Plan. Difference in acreage also attributed to mapping technology.

Lake Seminole WMA – Lake Seminole WMA	92	103	Noted as Diffie Park in 1989 Master Plan. Difference in acreage attributed to mapping technology.
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Lake Seminole WMA – Hales Landing Tract	-	819	
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Lake Seminole WMA – Ten Mile Still Tract	-	2,165	
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Lake Seminole WMA – Spring Creek Tract	-	571	Also known as Rhodes Ferry Park
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Lake Seminole WMA – Reynoldsville	-	96	
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Lake Seminole WMA – Ranger Station Tract	-	1,428	
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Lake Seminole WMA – Fairchilds Tract	-	241	
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Lake Seminole WMA – Desser Tract	-	1,296	
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¹Acreages are detailed in Table 12 of the 1989 Master Plan.

²Acreage in each park is detailed in Chapter 5 of the revised MP.

Table 7. Existing and Proposed Land Classifications and Acreage at the Lake Seminole Project. This table will be used for impacts analysis for Element 1.

Existing Land Classification ¹	Existing Acres ¹	Proposed Land Classification	Proposed Acres ²	Explanation of changes
Project Operations	13,015	Project Operations	187	Most areas acquired for operations and previously classified as operations are currently managed for wildlife. Current Project Operations acres include the Resource Management Office, Dam, and other controlled areas.
Recreational	3,645	High Density Recreation	3,124	Difference in acreage attributed to the removal of Bainbridge Park that is no longer owned by the Corps.
Multiple Resource Management	15,885	Multiple Resource Management Lands: Low Density Recreation	2,288	These acres are counted as low density recreation, but still fall under the “multiple resource management” umbrella. They are also managed for wildlife and vegetation, but primarily are offered as rural recreation areas.

		Multiple Resource Management Lands: Vegetative Management	784	These acres were mostly previously classified under Multiple Resource Management, and thus haven't changed classification.
		Multiple Resource Management Lands: Wildlife Management	15,373	These acres were mostly previously classified under Multiple Resource Management, and thus haven't changed classification. Some acres that were previously classified as Operations have been reclassified into this category to reflect their status as wildlife habitat.
Environmentally Sensitive Areas	1,670	Environmentally Sensitive	788	Some of the areas that were previously defined (south of Neals and around Faceville) are no longer areas considered sensitive. Areas included in updated value are cultural, cemeteries, and threatened and endangered species areas. Areas are approximate. These acres do not count towards the overall project Total Fee Acreage.
Water – Recreational Pool	37,500	Water Level	34,146	The change in water level can be attributed to more precise mapping technology.
Total Fee Acreage	71,715	Total Fee Acreage ³	55,900	The current total fee acreage is 0.8% error from what the USACE REMIS ⁴ reports for this project, indicating that the 1989 acreages were incorrect. Additionally, small inconsistencies between total acreages can be based on the technology used in mapping for each master plan and disposals of both fee land and easements have occurred since 1989.

¹Source: 1989 Master Plan for Lake Seminole (Table 11).

²Source: Lake Seminole revised MP

³Proposed acreages are based on measurements using ArcMap version 10.6.1 for planning purposes only and not intended for real estate or survey use.

3.2.3 Element 2 – Future Development under the Master Plan Revision

The second element of the proposed action, Element 2, consists of implementing and constructing the proposed development features detailed for USACE-managed parks and for Seminole Park and Sneads Park (see Table 8 and plate maps LSMP-OR-26 and LSMP-OR-42, respectively). The description of development features/improvements to be implemented is provided in the following paragraphs. The potential impacts of those proposed actions are discussed in Section 4.0.

Table 8. Proposed development features at Seminole State Park and Sneads Park.

Proposed Development Feature	Seminole State Park	Sneads Park
Upgrade aging facilities	Note: This feature is proposed for USACE-managed parks throughout the lake project – refer to park descriptions in Chapter 5 of MP revision	
Campsites – w/electric, water, and sewer	-	15
Campsites – w/electric and water	2	-
Cabins	6	-
Parking lots	5 (65 car spaces)	-
Waterborne – w/showers	-	1
Waterborne – w/o showers	3	-
Information kiosk	-	1
Courtesy fishing dock	1	1
Dock w/gas	1	-
Courtesy loading dock	15	-
Transient slip	-	30
Swim beach	1	-
Trail head	-	2
Group picnic shelter	2	6
Kid friendly attraction – splash pad	1	-
Kid friendly attraction –playground	1	1
Amphitheater w/restroom	-	1
Restaurant	-	1
Activity center w/kitchen	-	1

These development features would upgrade aging facilities and infrastructure to improve operational efficiencies, enhance security, and meet future needs, including ABA accessibility and general park security. These features are proposed at all USACE-managed parks at Lake Seminole as described in park descriptions in Chapter 5 of the MP revision. Features include, but are not limited to, actions such as repairing existing facilities, continuing management and future access to natural resource, adding security cameras, converting steps into ramps, and/or building ramps to existing structural facilities. Minimal to no new ground disturbance would occur from implementing features, such as repairs and adding security cameras to existing facilities. Building ramps to existing structures and managing natural resources may require some ground disturbance; however, the impacts would be minor, and the ramps would be built on existing disturbed areas.

As part of this MP revision, both Seminole State Park and Sneads Park identified proposed development features for implementation to be considered in this update. In addition to upgrading and maintaining aging facilities and infrastructure, GADNR and the Town of Sneads, FL propose to improve project lands at Seminole State Park and Snead, respectively, by constructing those features identified in Table 8. Activities with construction and future use anticipated during these development features' implementation are generally described below. Impacts associated from these development features are described in Section 4.0.

Construction would predominantly be in previously disturbed areas already frequented by visitors and park personnel. Demolition of some existing facilities and infrastructure would occur as part of the proposed development features. Walkways, roadways, staircases, ramps, curbs, gutters, and other similar types of structures made of concrete, asphalt, lumber, and gravel would be removed from areas, such as campgrounds. Some tree removal could also be required. Debris would be temporarily stockpiled in identified sites and then hauled off to approved landfill(s) and/or disposal area(s). Improvements would then be made at these cleared sites consisting of repaving with asphalt, concrete, and/or gab paving for vehicular parking and pedestrian walkways. Use of gab paving would improve stormwater management at those sites. To implement these development features, ground disturbance, which may include laying utility work requiring trenching and digging, and grading, would occur. A few development features, such as dock structures and some campground areas, have ground vegetation and tree coverage that would require tree removal, such as pine and oak species, to improve accessibility. Other types of ground disturbance activities could occur to construct these proposed sites.

Improvements associated with the proposed development features would also result in ground disturbance due to grading, trenching, digging, and stockpiling of materials. Heavy equipment, such as backhoes, compactor machine, trenchers, and bulldozers, would perform that earthwork. Some grading of elevations would be conducted to enhance stormwater management. In addition to this earthwork, vertical construction of buildings/structures, such as 2- and 3-bedroom cabins, activity center, amphitheater, waterbornes, restaurant, playground, splash pad, information kiosk, parking, and picnic shelters, would also be erected as part of these development features. Cabins would range from approximately 2,000- to approximately 3,000-square feet in size. Picnic shelters would house 4 or 8 tables under the small shelter or large shelter structures, respectively. The small picnic shelter area would consist of approximately 700 square feet while the large structure would occupy approximately 1,200 square feet. A small playground in a neutral area that sits in the middle of Snead Park would be easily accessible. The area consists of an asphalt road that leads to the proposed site with utilities that run underground and there would be minimal impact to the location. Ground disturbance associated with the construction could include, but is not limited to, clearing vegetation, pouring concrete, laying utility work requiring trenching and digging, installing septic/sewage systems, and grading of soils. Grinder pumps would be also installed and utilized in certain areas requiring such infrastructure support. Installing above and in-ground conduit lines to run water, electricity, and sewer would also result in some temporary ground disturbance but the removed material would be filled back to cover those in-ground features. Other ground disturbance type activities along with temporary stockpiling of building materials could occur to construct these proposed features.

Courtesy fishing docks with access sidewalks to expand ABA accessibility are planned to be constructed at Seminole State Park and Sneads Park. The courtesy fishing docks and sidewalks would be built to the specification of ABA accessibility standards for fishing piers and platforms. The fishing docks that extend into the water would be supported either by floats or pilings; however, it is likely that the proposed docks would

be built on pilings approved for water/soil contact that are driven into the lakebed. The dimensions of the proposed fishing docks and number of pilings are not known at this time; site-specific development plans will be needed prior to construction. However, the estimated dimensions of a typical fishing dock are approximately 15 feet wide by 30 feet long (approximately 450 square feet).

Estimated dimensions of the associated sidewalks with ABA accessibility at Seminole State Park are approximately 8 feet wide by 150 feet long and at Sneads Park are approximately 8 feet wide by 150 feet long. Each sidewalk would consist of approximately 1,200 square feet. The selected areas in which the proposed fishing docks and sidewalks will be constructed would accommodate the features without removal of deep-rooted vegetation. However, to implement this project, ground disturbance which may include clearing ground cover vegetation would occur. Ground disturbance from the construction of the sidewalks is estimated to be less than an acre; this amount includes adding a buffer of disturbance during construction activities. The amount of ground disturbance from the fishing docks is to be determined when site-specific plans are developed; however, for purposes of this MP revision, the amount is expected to be negligible to minor since the fishing docks extend mostly into the water. The only area of disturbance would be at or near the shoreline where the end of the dock connects to the sidewalk. Some digging, driving of pilings, and minor grading would be anticipated to construct the abutment and sidewalks, respectively, associated with the courtesy docks. For purposes of general ground disturbing impacts analysis, a total less than 1 acre will be used for the two courtesy fishing docks and associated sidewalks. After construction, the disturbed areas outside of the permanent features would be seeded with native vegetation.

Resurfacing transient slips with a sealing coat of new asphalt over the existing asphalt at Sneads Park would also occur as part of this MP revision. To implement this project, ground disturbance which may include clearing vegetation would occur. Trucks would haul the asphalt to the site and possibly utilize the existing road/walkway leading out to the slips. Although no changing posts located in the water would occur, the addition of a floating dock platform(s) could eventually be added to the existing permanent dock structures. These activities would result in minimal disturbance.

Two trails/trail heads at Sneads Park for public convenience are also proposed. To implement this project, ground disturbance which may include clearing vegetation would occur. These features would consist of short trails running from the parking area to join the existing trail system. The total length would be approximately a half of mile combined with a trail width of approximately 4 feet. Implementation would require clearing a path that follows minimal tree removal and mainly small brush. The trails would possibly be covered with wood chips, depending upon project cost. Signs with two posts at each trail head would be erected to show the extended trail system.

In summary, actions such as those described above are anticipated efforts that would be associated with implementation of these described proposed development features at USACE-managed park lands, Seminole State Park and Sneads Park.

4.0 POTENTIAL ENVIRONMENT IMPACTS

As stated in Section 3.0, the recommended plan, otherwise identified as the proposed action pursuant to NEPA, consists of two actions (referred to above and below as elements): 1) updating the MP to reflect current land classification and uses and 2) updating the MP to reflect improvements made since the 1989 Master Plan. As such, the impact analysis from each action within the proposed action will be referred to as Element 1 and Element 2, respectively, or as “elements,” collectively. The proposed action will be compared to the no action alternative pursuant to NEPA.

4.1 Topography

4.1.1 No Action

Under the NAA, the MP revision would not be adopted and elements of the proposed action would not be implemented; therefore, there would be no impact to topography at the Lake Seminole Project. Under the NAA, the project would continue to be managed according to the 1989 Master Plan.

4.1.2 Proposed Action

Element 1 will classify more lands as Wildlife Management, which restricts the development of those lands. Implementing Element 1 would have no negative impact on the topography of Lake Seminole Project lands.

Construction actions involved in Element 2 consist of constructing the proposed development features detailed for USACE-managed parks and for Seminole Park and Sneads Park (see Table 8 and plate maps LSMP-OR-26 and LSMP-OR-42, respectively), all of which will have minimal to no negative impact on the topography of Lake Seminole lands. Furthermore, prior to constructing any future features, best management practices (BMPs) would be used (e.g. use of silt fences) to minimize erosion, when appropriate. For these reasons, it is determined that implementing the proposed action would not affect the topography of Lake Seminole Project lands.

4.2 Geology and Soils

4.2.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the geology and/or soils at the Lake Seminole Project.

4.2.2 Proposed Action

Implementing the proposed action would not affect or alter the geology of Lake Seminole Project lands. Implementing Element 1 would have no negative impact on the geology of Lake Seminole Project lands.

Element 2 would not have significant impacts on the soils of the area. Only minor, local impacts to the soils would occur due to excavation, grading and construction associated with implementing the projects of Element 2. Heavy equipment would be used to move soil, excavate, and grade the area at the work sites. There would be potential for both

soil compaction and erosion during the construction of the project. There is potential for erosion and soil runoff exists during the construction. The proposed action would be implemented with all appropriate BMPs and soil and erosion controls in place.

4.3 Climate

4.3.1 No Action

Under the NAA, the project would continue to be managed according to the 1989 Master Plan, and elements of the proposed action would not be implemented; therefore, there would be no impact to the climate of the Lake Seminole Project area.

4.3.2 Proposed Action

Implementing Element 1 will have no direct impact on the climate of the project area. Changing the land classification of lands to Wildlife Management restricts the development of these lands. With no further development, less construction activity over time would occur; therefore, no indirect impacts to climate from gas emissions would occur.

The length and duration of operating heavy construction equipment associated construction activities for Element 2 would temporarily increase local gas emissions, but not to the point to increase the greenhouse effect to the level of significantly impacting the climate of the Lake Seminole project area. Therefore, implementing the proposed action would not affect the climate of Lake Seminole Project area.

4.4 Air Quality

4.4.1 No Action

Under the NAA, the MP revision would not be adopted and elements of the proposed action would not be implemented; therefore, there would be no impact to the air quality of the Lake Seminole Project area.

4.4.2 Proposed Action

Changing the land classification of lands to Wildlife Management restricts the development of these lands. With no further development, less construction activity over time would occur; therefore, minimal to no impacts would occur to air quality.

Performing those identified construction activities as identified in Element 2 would have short-term impacts to air quality. There would be short-term and minimal impacts to air quality in the immediate vicinity of areas. These impacts would be temporary increases in particulates and emissions from the construction equipment but would subside upon completion of the work. No significant impacts to the Lake Seminole would occur as neither recreational traffic nor operational activities are anticipated to dramatically increase.

4.5 Fishery Resources

4.5.1 No Action

Under the NAA, the MP revision would not be adopted and elements of the proposed action would not be implemented; therefore, there would be no impact to the fishery resources at the Lake Seminole Project.

4.5.2 Proposed Action

Fishery resources would not be significantly impacted by the identified elements of this MP revision at the project. Bass tournaments would continue at their regular frequency and recreational fishing would potentially slightly increase due to the increased number of fishing sites and docks; however, the effects would be minor and would not greatly impact Lake Seminole due to the distances between each park. Docks would not greatly increase the amount of fish caught through recreational fishing. Therefore, there would be minimal direct and indirect impacts to the fishery resources at the Lake Seminole Project

4.6 Wildlife Resources

4.6.1 No Action

Under the NAA, the MP revision would not be adopted, and elements of the proposed action would not be implemented. In the absence of implementing land classification changes associated with Element 1, development could be approved on the unclassified lands and on lands classified as Recreation (Table 5). The potential for increased development in these areas could have localized impacts on the wildlife resources of the area over time by reducing the amount of available natural habitat and/or creating habitat fragmentation in undisturbed natural environments on those lands.

4.6.2 Proposed Action

The 11 day-use parks and recreational areas which are currently maintained as inactive/future recreation would benefit wildlife species in the area due to improved habitat. These parks would be maintained in this manner until resources become available for development at these parks. Should development occur once resources become available, there would be negative impacts as construction would temporarily deter wildlife in the vicinity. However, during construction wildlife would migrate to nearby habitat and upon completion would return to the area.

In areas which have proposed improvements, there would also be minor impacts on wildlife resources during construction. Wildlife would be displaced during construction but once construction is complete, the species would return to the area. As a result, wildlife would not be scattered as often resulting from construction activities. No significant impacts to the wildlife would occur.

4.7 Vegetation

4.7.1 No Action

Under the NAA, the MP revision would not be adopted and Elements 1 and 2 of the proposed action would not be implemented. In the absence of implementing land classification changes associated with Element 1, development could be approved on the unclassified lands and on lands classified as Recreation (Table 5). The potential for increased development in these areas could have localized impacts on the vegetation in the area over time by reducing the amount of available natural habitat and/or creating habitat fragmentation in undisturbed natural environments on those lands. Under the NAA, there would be no project-related construction activities associated with Element 2 that would affect the vegetation in the area.

4.7.2 Proposed Action

Until developments identified in Section 3.0 occur at the inactive day use parks, habitat improvements would benefit vegetation by strengthening the health of the forest and allowing for more diversity.

In other regions of the lake, vegetation would be impacted from proposed construction within lease areas and recreational parks. In most areas, impacts to grasses and trees would be temporary due to reseeding and replanting of vegetation upon construction finalization. Grasses and trees would be removed in places with proposed permanent facilities, such as campsites, operation buildings, paved sports areas, etc. BMPs would be used to minimize these any indirect impacts to vegetation. These impacts would be minor due to the history of environmental disturbance shown at each of the sites. Docks would be constructed at the shoreline where vegetation does occur. Lake Seminole does not experience a heavy population of aquatic vegetation so no impacts regarding aquatic vegetation would occur. No significant impacts to the would occur.

4.8 Invasive Species

4.8.1 No Action

Under the NAA, the MP revision would not be adopted and the identified elements of the proposed action would not be implemented; therefore, there would be no additional impacts to invasive species at the Lake Seminole Project.

4.8.2 Proposed Action

Prevention of introduction and/or establishment of an invasive species to the Lake Seminole project land and waters remains a priority, utilizing strategies coordinated with other Federal, state, and local agencies, as appropriate.

It USACE's policy is to incorporate measures to either prevent or reduce establishment of invasive and non-native species as a component of all operation and maintenance at project sites (USACE 2009). Under the proposed action, USACE, Mobile District would continue to employ measures to eliminate and/or reduce invasive species identified in

the Lake Seminole project lands and waters. Such measures would minimize and/or eliminate potential adverse impacts attributed to invasive species.

4.9 Protected Species

4.9.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no additional impacts to protected species at the Lake Seminole Project.

4.9.2 Proposed Action

Of the species discussed in Section 2.2.5, there is potential habitat for the Northern long-eared bat and wood stork. No known populations of these listed species have been observed within the project area. However, in order to avoid impacts to the northern long-eared bats, any construction or implementation of the MP that requires removal of trees would be subject to the 4(d) rule, based on Section 4(d) of the ESA which allows the USFWS to promulgate special rules for species listed as threatened that provide flexibility in implementing the ESA (USFWS midwest website 2019). In addition, the USACE, Mobile District will provide information and instruction to contractors regarding identification of federally listed species and roost habitat potentially occurring within the project area prior to any proposed construction. The contractor will be directed to not harm or remove any species found. In the event tree removal is necessary, an approach intended to avoid bat impacts would be implemented. Prior to construction in undisturbed areas, the USFWS would be consulted and if determined necessary, a trained biologist would survey the specific site for species occurrence. In addition, if bald eagle nests are observed, a plan to avoid them will be developed in coordination with USFWS.

Due to the nature of the proposed action, the lack of known occurrences in or near the project area, and the proposed mitigation measures, the USACE, Mobile District has determined that the proposed actions may affect but not likely to adversely affect the northern long-eared bat and wood stork in the project area. The USFWS Mississippi Ecological Services Field Office concurred with the determination via stamped responses dated June 6, 2019. Coordination with the USFWS for Mississippi ESFO can be found in Appendix C. Given the programmatic use of this EA and the potential additions of federally protected species by the USFWS under the ESA, the USACE will evaluate each implementation plan submitted for approval to ensure compliance with the ESA.

4.10 Cultural Resources and Historic Properties

4.10.1 No Action

Under the NAA, the MP revision would not be approved and none of the elements of the proposed action would be implemented. There would be no construction activities associated with Element 2; therefore, there would be no impact to the cultural resources or historic properties of the project area.

4.10.2 Proposed Action

Archaeological fieldwork on Lake Seminole Federal project lands, including Seminole and Sneads State Parks, has been performed over the years. Improvements identified in this MP would undergo review prior to any construction. USACE, Mobile District's archaeologist would identify any past surveys at the proposed project area that complies with the Secretary of Interior Professional Qualification Standards. Should additional fieldwork be necessary, USACE, Mobile District's archaeologist would identify survey area(s) and requirements. The USACE, Mobile District would perform coordination with the SHPOs and the Tribes in compliance with Section 106 of the NHPA.

4.11 Water Quality

4.11.1 No Action

Under the NAA, the MP revision would not be adopted and none of the proposed element features would not be implemented; therefore, there would be no impact to water quality of Lake Seminole.

4.11.2 Proposed Action

Increased turbidity would temporarily impact areas with proposed boat ramps, docks, and trail bridges. These impacts would be minor and would return to normal conditions upon completion of construction. BMPs would be implemented during construction to reduce the volume of turbidity and sediment runoff entering the lake. Coordination with appropriate state and Federal agencies will be conducted during implementation of individual actions.

Of all the proposed developments, the majority of proposed improvements within Lake Seminole involve small but numerous campsites and picnic sites. The increased runoff from the impervious structures would be minor individually and cumulatively. Most of the runoff would be absorbed into the earth surrounding each development before entering Lake Seminole. No proposed trail bridges are within the Master Plan revision and therefore no stream crossings would occur. Consequently, no direct impacts to water quality would occur as a result of the proposed MP revision. Implementation of the proposed action would result in temporary, minor impacts to water quality.

4.12 Wetlands

4.12.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, no impacts to wetlands would occur from implementation of the revised MP at the Lake Seminole Project.

4.12.2 Proposed Action

There are no proposed actions that would occur within wetlands and therefore there would be no impacts.

4.13 Floodplain

4.13.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the floodplain at the Lake Seminole Project.

4.13.2 Proposed Action

There would be no adverse impacts to floodplains as much of the proposed improvements would not alter flow regime in the area, nor would they increase the lake elevation.

4.14 Navigation

4.14.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the recreational boating at Lake Seminole. There is no commercial navigation at Lake Seminole that would be impacted.

4.14.2 Proposed Action

Implementing the elements of the proposed MP revision does not include development within commercial navigable channels; therefore, there would be no impact to commercial navigation under the proposed action.

Implementation of the proposed development features associated with Element 2 could cause temporary closure of parking areas at the public use recreation parks during construction activities. Closures could impact access to the local boat ramps and affect recreational boating at the lake temporarily; however, boaters could use other boat ramps around the lake and normal recreational boating would occur after each development project is completed. Likewise, any parking areas used as staging areas during construction activities that are used for boat ramp access would be closed during construction activities. However, boaters could use other boat ramps around the lake until project completion.

For these reasons, implementation of the proposed action would not have significant adverse impacts to recreational boating at the Lake Seminole Project and there would be no impact to commercial navigation.

4.15 Land Use

4.15.1 No Action

Under the NAA, the MP revision would not be adopted and the proposed action would not be implemented. Under the NAA, there would be no change to land classification and associated land use of project lands. In the absence of implementing land classification changes associated with Element 1, development could be approved on the unclassified lands and on lands classified for Recreation (Table 5). Under the NAA,

there would be no project-related construction activities associated with Element 2 that would affect the land use at the Lake Seminole Project.

Under the NAA, no impact would occur to the land use of adjacent lands to the Lake Seminole Project.

4.15.2 Proposed Action

All changes to land use are identified in the MP revision. The day use parks being managed for vegetation and wildlife would still be classified as recreational areas. Land use surrounding the lake would not be affected as no changes are being proposed that would alter the designated use of the land.

4.16 Recreation

4.16.1 No Action

Under the NAA, the MP revision would not be adopted. Under the NAA, there would be no change to land classification and associated land use of Project lands. In the absence of implementing land classification changes associated with Element 1, development could be approved on the unclassified lands and on lands classified for Public Use Recreation (Table 5).

4.16.2 Proposed Action

There will be no significant increase to recreation as a result of the proposed MP revision. Much of the proposed improvements would occur within lease areas. Proposed improvements to USACE operated sites would not greatly attract new tourists to the area as the counties which surround Lake Seminole are not exponentially increasing in population. Community docks would benefit recreation by decreasing the overall amount of structures on the shoreline.

4.17 Noise

4.17.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the noise at the Lake Seminole Project.

4.17.2 Proposed Action

Implementation of the land classification changes (Element 1) would result in an overall reduction in the amount of land at the Lake Seminole Project that would be developed for intense recreation and increase the amount of land managed for wildlife habitat and conservation and project operations. Given that the types of noise and maximum permissible noise levels are linked to the various land uses, the general range of ambient noise levels at the Lake Seminole Project is not expected to measurably increase from implementing Element 1 of the proposed action.

Within areas where development features are proposed under Element 2 of the proposed action, typical construction noise would occur above ambient noise levels for

urban residential areas. It is anticipated that such noise levels from the proposed development features would be comparable to noise originating from a residential or commercial building construction project. The noise would be that of machinery associated with clearing, excavating, trenching, grubbing and grading of material, cutting of timber, hammering, etc. All of these impacts are anticipated to be temporary and minor, within low to no populated areas, and would cease upon completion of the action. This may constitute a minor nuisance to the nearby users of the development sites; however, work would occur only during daylight hours, assuring no sleep disturbance for most people that may live within surrounding areas or who may be camping overnight at the lake. Noise levels would return to levels commensurate with pre-construction levels and within typical ambient noise levels associated with operations and recreation at a lake project. For these reasons, implementation of the proposed action would not have significant adverse impacts to the noise levels at the Lake Seminole Project.

4.18 Aesthetics

4.18.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the aesthetics at the Lake Seminole Project.

4.18.2 Proposed Action

Aesthetic impacts due to construction activities would be temporary and would revert to pre-construction conditions upon completion of the developments. Proposed modifications within each of the recreational parks and lease areas at Lake Seminole are aesthetically consistent with the existing design of the sites.

4.19 Hazardous, Toxic and Radiological Waste

4.19.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to Lake Seminole Project resulting from HTRW.

Additional HTRW sites are not expected to be generated to a significant extent, as there are existing regulations designed to prevent future contaminant releases. As such, the number, extent and influence of HTRW sites on aquatic habitats at the lake project are not expected to significantly differ from existing conditions.

4.19.2 Proposed Action

Implementation of the proposed land classification changes (Element 1) would not result in changes in management of the recreation or operation facilities and therefore would not impact current HTRW or solid waste management practices at the lake.

Implementation of the proposed development features of Element 2 of the proposed action is not expected to generate HTRW sites to a significant extent, as there are existing regulations designed to prevent future contaminant releases. While the

potential to create HTRW materials as result of construction equipment malfunction or failure during the construction process exists (such as fluid leaks), BMPs and regular equipment maintenance would reduce the risk. Additionally, the storage, fueling, and lubrication of the construction equipment used on site would continue to be conducted in a manner to protect against accidents and spills and in accordance with label recommendations, USACE regulations (e.g., ER 200-2-3 *Environmental Compliance Policies*), and local, state, and federal regulatory guidelines. As such, the number, extent, and influence of HTRW sites at the Lake Seminole Project are not expected to significantly differ from existing conditions.

For these reasons, implementation of the proposed action would not have significant adverse impacts to HTRW at the Lake Seminole Project.

4.20 Socioeconomics

4.20.1 No Action

Under the NAA, the MP revision would not be adopted; therefore, there would be no impact to the socioeconomics at the Lake Seminole Project or within its 50-mile zone of influence.

4.20.2 Proposed Action

Implementation of the land classification changes (Element 1) would not result in changes to the population, demographics, or socioeconomics within the 50-mile zone of influence for Lake Seminole and therefore would not impact current socioeconomics within the Lake Seminole Project area.

Element 2 of the MP revision include implementing development features Lake Seminole, including USACE-managed parks, Seminole State Park and Sneads Park. There could be temporary, localized beneficial impacts on the socioeconomics of the area via construction-related jobs in the area. This impact is considered temporary and minor due to the scope of the projects and whether such employment would be represented by those already employed or whether new jobs would result from the development projects. A short-term increase in the sale of construction related materials and fuel in the local area may occur; however, there would be no long-term impacts to the local economy.

Implementation of the proposed development features are not anticipated to affect the population or demographics within the zone of influence. There would be no relocations required as a result of the proposed action. Additionally, there would be no changes in expected population growth patterns or local residential or commercial development.

For these reasons, the proposed action would have no significant impacts to the socioeconomics of the Lake Seminole Project or within its zone of influence.

4.21 Public Safety

4.21.1 No Action

Under the NAA, the MP revision would not be adopted would not be implemented; therefore, no impacts would occur to public safety.

4.21.2 Proposed Action

Under the MP revision, no impacts to public safety would be anticipated.

4.22 Prime and Unique Farmland

4.22.1 No Action

Under the NAA, the MP revision would not implemented; therefore, there would be no impact to prime and unique farmland.

4.22.2 Proposed Action

There are several soil types on Lake Seminole Project lands that are associated with prime farmland or farmlands of state or local importance (Table A-1 of Attachment A). However, the land represented by these soil types have not been used for farming since the land was acquired for the construction of the Lake Seminole Project, which was authorized in the Flood Control Act of 1962 (USACE 1974).

Implementation of the land classification changes (Element 1) would result in an overall reduction in the amount of land at the project that would be developed for intense recreation and increase the amount of land managed for wildlife habitat and conservation and project operations. Therefore, less land at the project would be developed for intense recreation use under Element 1 of the proposed action, compared to the NAA. Furthermore, the development features in Element 2 of the proposed action would occur within public use recreation parks, of which several areas are proposed to decrease in size. Limiting the size of the respective recreation parks that could be developed for intense recreation use would help protect any undisturbed prime and unique farmlands that may occur in those areas.

For these reasons, the proposed action would have no significant adverse impacts to the prime and unique farmlands at the Lake Seminole Project.

5.0 PROTECTION OF CHILDREN

The EO 13045, Protection of Children from Environmental Health Risks and Safety Risks (21 April 1997), recognizes a growing body of scientific knowledge that demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink, and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health and safety risks that may

disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. The MP revision do not pose any disproportionate environmental health or safety risk to children.

6.0 ENVIRONMENTAL JUSTICE

The EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (11 February 1994) requires that Federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin.

Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe serves to heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.

Low-income populations in an affected area are identified with the annual statistical poverty thresholds from the U.S Census Bureau. Minorities are comprised of individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. Minority populations are identified where either: (a) the minority populations of the affected area exceed 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority percentage, as calculated by aggregating all minority persons, meets one of the aforementioned thresholds.

Disproportionately high and adverse human health effects: When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- a) Whether the health effects, which may be measured in risks and rates, are significant or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death;
- b) Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
- c) Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Disproportionately high and adverse environmental effects: When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- a) Whether there is or will be an impact on the natural or physical environment that significantly and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment;
- b) Whether environmental effects are significant and are or may be having an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and
- c) Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposure from environmental hazards (Council on Environmental Quality, 1997).

Disproportionately high and adverse human health and environmental effects on minority and low-income populations have been considered in recommended zoning classifications and reclassifications. No significant adverse impacts to minority and low-income communities would occur by adoption of the Lake Seminole MP revision.

7.0 ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Adverse environmental effects which cannot be avoided involve vegetation loss as a result of proposed construction. It is unavoidable to not affect the area with the proposal of permanent structures. However, these additions and modifications are minor cumulatively and individually. Therefore, adverse environmental effects would be minimal and insignificant.

8.0 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed project constitutes a short-term use of man's environment and is not anticipated to affect long-term productivity. The proposed MP revision would provide increased values of existing resources within the project sites by improving the facilities and infrastructure. Land classification changes would benefit the habitat and its associated dependent wildlife species. Therefore, the proposed MP revision would be beneficial to the community and surrounding areas.

9.0 ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS WHICH WOULD BE INVOLVED SHOULD THE RECOMMENDED PLAN BE IMPLEMENTED

Any modifications proposed within the MP revision could be removed and restored to current conditions if future conditions are warranted. Facilities and structures could be demolished and/or removed and the area could be made to recreate preexisting habitat conditions. Docks could be uninstalled and the shoreline would revert back to pre-construction conditions. Therefore, any irreversible or irretrievable commitments of resources involved in the proposed action have been considered and are either unanticipated at this time, or have been considered and determined to present minor impacts.

10.0 COORDINATION

The USACE, Mobile District will coordinate the proposed MP revision with the USFWS, GAEPD, Georgia and Florida SHPOs, FDEP, and FL FWC (Appendix C).

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Attachment A – Prime and Unique Farmland at Lake Seminole Project

TABLE A-1. WEB SOIL SURVEY DATA FOR PRIME FARMLAND OF LAKE SEMINOLE PROJECT LANDS.

Symbol ^{1,2}	Soil Description ^{1,2}	Approximate acres / percentage of Lake Seminole Project lands ^{1,3}	Soil Type Designation ²
Decatur County, GA			
BoB	Bonneau loamy sand, 0 to 5% slopes	284.4 / 0.5%	Farmland of statewide importance
BoD	Bonneau loamy sand, 5 to 12% slopes	16.0 / 0.0%	Farmland of statewide importance
CcB	Chisolm loamy fine sand, 0 to 5% slopes	5.2 / 0.0%	Farmland of statewide importance
CgC	Cowarts-Gritney complex, 5 to 8% slopes	45.0 / 0.1%	Farmland of statewide importance
CgD	Cowarts-Gritney complex, 8 to 12% slopes	78.5 / 0.1%	Farmland of statewide importance
FeA	Faceville sandy loam, 0 to 2% slopes	10.4 / 0.0%	All areas are prime farmland
FeB	Faceville sandy loam, 2 to 5% slopes	8.5 / 0.0%	All areas are prime farmland
GoA	Goldsboro loamy sand, 0 to 2% slopes	47.5 / 0.1%	All areas are prime farmland
HvA	Hornsville fine sandy loam, 0 to 2% slopes	252.8 / 0.4%	All areas are prime farmland
KoB	Kolomoki sandy loam, 0 to 5% slopes	99.2 / 0.2%	All areas are prime farmland
LmB	Lucy loamy sand, 0 to 5 % slopes	596.4 / 1.0%	Farmland of statewide importance
LmC	Lucy loamy sand, 5 to 8 % slopes	273.0 / 0.5%	Farmland of statewide importance
NaB	Nankin loamy fine sand, 2 to 5% slopes	26.4 / 0.0%	All areas are prime farmland
NcC	Nankin-Cowarts complex, 5 to 8% slopes	148.3 / 0.3%	All areas are prime farmland
NcD	Nankin-Cowarts complex, 8 to 12% slopes	386.3 / 0.7%	Farmland of statewide importance
NoB	Norfolk loamy sand, 2 to 5% slopes	42.5 / 0.1%	All areas are prime farmland
OcA	Ocilla loamy fine sand, 0 to 2% slopes	11.3 / 0.0%	Farmland of statewide importance
OeA	Orangeburg loamy sand, 0 to 2% slopes	25.6 / 0.0%	All areas are prime farmland
OeB	Orangeburg loamy sand, 2 to 5% slopes	475.5 / 0.8%	All areas are prime farmland
OeC	Orangeburg loamy sand, 5 to 8% slopes	391.2 / 0.7%	All areas are prime farmland
OeD	Orangeburg loamy sand, 8 to 12% slopes	68.6 / 0.1%	Farmland of statewide importance
Seminole County, GA			
Av	Angie fine sandy loam	2,707.2 / 4.7%	Farmland of statewide importance
EuB	Esto loamy sand, 2 to 5% slopes	70.0 / 0.1%	All areas are prime farmland

GmA	Goldsboro sandy loam, 0 to 2% slopes	147.6 / 0.3%	All areas are prime farmland
LmB	Lucy loamy sand, 0 to 5 % slopes	453.8 / 0.8%	Farmland of statewide importance
NhB	Norfolk loamy sand, 2 to 5% slopes	97.1 / 0.2%	All areas are prime farmland
OeA	Orangeburg loamy sand, 0 to 2% slopes	308.0 / 0.5%	All areas are prime farmland
OeB	Orangeburg loamy sand, 2 to 5% slopes	157.3 / 0.3%	All areas are prime farmland
OeC2	Orangeburg loamy sand, 5 to 8% slopes, moderately eroded	67.7 / 0.1%	All areas are prime farmland
Oh	Ocilla loamy fine sand, 0 to 2% slopes	910.2 / 1.6%	Farmland of statewide importance
Riv	Riverview and Congaree soils	1,836.9 / 3.2%	All areas are prime farmland
TuA	Tifton sandy loam, 0 to 2% slopes	2.3 / 0.0%	All areas are prime farmland
TuB	Tifton sandy loam, 2 to 5% slopes	67.6 / 0.1%	All areas are prime farmland
WeB	Wagram loamy sand, 0 to 5% slopes	403.7 / 0.7%	Farmland of statewide importance

Gadsden County, FL

No prime or unique farmlands within Lake Seminole Project boundaries

Jackson County, FL

2	Albany sand, 0 to 5% slopes	18.1 / 0.0%	Farmland of local importance
6	Blanton coarse sand, 0 to 5% slopes	618.2 / 1.1%	Farmland of local importance
8	Bonifay sand, 0 to 5% slopes	68.5 / 0.1%	Farmland of local importance
10	Chipola loamy sand, 0 to 5% slopes	184.3 / 0.3%	Farmland of local importance
11	Chipola loamy sand, 5 to 8% slopes	44.1 / 0.1%	Farmland of local importance
12	Clarendon fine sandy loam	50.9 / 0.1%	All areas are prime farmland
14	Compass loamy sand, 2 to 5% slopes	337.2 / 0.6%	All areas are prime farmland
17	Dothan loamy sand, 2 to 5% slopes	109.3 / 0.2%	All areas are prime farmland
18	Dothan loamy sand, 5 to 8% slopes	47.6 / 0.1%	All areas are prime farmland
20	Duplin fine sandy loam, 0 to 2% slopes	43.8 / 0.1%	All areas are prime farmland
21	Duplin fine sandy loam, 2 to 5% slopes	743.2 / 1.3%	All areas are prime farmland
22	Esto loamy sand, 2 to 5% slopes	3.7 / 0.0%	All areas are prime farmland
24	Faceville loamy fine sand, 2 to 5% slopes	37.7 / 0.1%	All areas are prime farmland
25	Faceville loamy fine sand, 5 to 8% slopes	270.1 / 0.5%	All areas are prime farmland

30	Fuquay coarse sand, 0 to 5% slopes	132.7 / 0.2%	Farmland of local importance
31	Fuquay coarse sand, 5 to 8% slopes	48.3 / 0.1%	Farmland of local importance
35	Hornsville fine sandy loam, 0 to 2% slopes	135.6 / 0.2%	All areas are prime farmland
36	Hornsville fine sandy loam, 2 to 5% slopes	974.8 / 1.7%	All areas are prime farmland
46	Orangeburg loamy sand, 2 to 5% slopes	517.8 / 0.9%	All areas are prime farmland
47	Orangeburg loamy sand, 5 to 8% slopes	388.6 / 0.7%	All areas are prime farmland
53	Red Bay fine sandy loam, 0 to 2% slopes	0.1 / 0.0%	All areas are prime farmland
54	Red Bay fine sandy loam, 2 to 5% slopes	34.9 / 0.1%	All areas are prime farmland
58	Tifton loamy sand, 5 to 8% slopes	3.1 / 0.0%	All areas are prime farmland
59	Troup sand, 0 to 5% slopes	359.1 / 0.6%	Farmland of local importance
63	Wicksburg-Esto complex, 2 to 5% slopes	9.2 / 0.0%	Farmland of local importance

¹(NRCS 2022), ²(NRCS n.d.), ³Acreeges and percentages are approximations

Attachment B – Socioeconomic Data

Table B-1: 2021 U.S. Census Data for the county in Alabama entirely located within 50-mile radius of Lake Seminole project. Statistics are provided for states and counties, and for cities and towns with a population of 5,000 or more (U.S. Census Bureau 2021).

	Houston County	Alabama	United States
Population			
Population estimates, Census July 1, 2021	107,458	5,039,877	331,893,745
Age and Sex (percent)			
Persons under 5 years	6.3	6.0	6.0
Persons under 18 years	22.9	22.2	22.3
Persons 65 years and over	18.1	17.3	16.5
Race and Hispanic Origin (percent)			
White alone	68.8	69.1	76.3
Black or African American alone	27.4	26.8	13.4
American Indian and Alaska Native alone	0.5	0.7	1.3
Asian alone	1.1	1.5	5.9
Native Hawaiian and Other Pacific Islander alone	0.1	0.1	0.2
Two or More Races	2.1	1.8	2.8
Hispanic or Latino	3.4	4.6	18.5
White alone, not Hispanic or Latino	66.1	65.3	60.1
Income and Poverty			
Median household income (in 2020 dollars), 2016-2020	\$49,069	\$52,035	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$27,794	\$28,934	\$35,384
Persons in poverty (percent)	14.8	14.9	11.4

Table B-2: 2018 U.S. Census Data for the counties in Florida entirely located within 50-mile radius of Lake Seminole project. Statistics are provided for states and counties, and for cities and towns with a population of 5,000 or more.

	Calhoun County	Gadsden County*	Jackson County*	Leon County	Liberty County	Florida	United States
Population							
Population estimates, Census July 1, 2021	13,641	43,714	47,694	292,817	7,900	21,781,128	331,893,745
Age and Sex (percent)							
Persons under 5 years	4.8	6.0	5.2	5.2	4.4	5.3	6.0
Persons under 18 years	19.9	21.6	18.9	18.6	17.4	19.7	22.3
Persons 65 years and over	18.9	18.7	20.6	13.9	15.0	20.9	16.5
Race and Hispanic Origin (percent)							
White alone	82.7	41.9	69.6	61.5	76.8	77.3	76.3
Black or African American alone	12.5	55.5	26.3	32.0	19.7	16.9	13.4
American Indian and Alaska Native alone	1.3	0.6	0.9	0.3	1.2	0.5	1.3
Asian alone	0.9	0.6	0.7	3.6	0.5	3.0	5.9
Native Hawaiian and Other Pacific Islander alone	0.1	0.1	0.3	0.1	Z**	0.1	0.2
Two or More Races	2.5	1.2	2.2	2.4	1.7	2.2	2.8
Hispanic or Latino	5.7	10.9	4.9	6.7	7.0	26.4	18.5
White alone, not Hispanic or Latino	77.8	32.5	65.7	55.9	71.0	53.2	60.1
Income and Poverty							
Median household income (in 2020 dollars), 2016-2020	\$38,037	\$41,135	\$40,754	\$54,675	\$39,121	\$57,703	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$19,512	\$21,087	\$21,058	\$31,778	\$19,585	\$32,848	\$35,384
Persons in poverty (percent)	20.3	21.9	19.5	17.6	21.2	12.4	11.4

*County Lake Seminole is located.

**Z notes a value greater than zero but less than half unit of measure shown.

Table B-3a: 2018 U.S. Census Data for the counties* in Georgia entirely located within 50-mile radius of Lake Seminole project. Statistics are provided for states and counties, and for cities and towns with a population of 5,000 or more.

	Baker County	Calhoun County	Decatur County**	Early County	Grady County	Georgia	United States
Population							
Population estimates, Census July 1, 2021	2,819	5,509	29,038	10,619	25,918	10,799,566	331,893,745
Age and Sex (percent)							
Persons under 5 years	5.8	4.0	6.9	6.6	6.4	6.2	6.0
Persons under 18 years	19.5	16.9	24.3	24.9	24.8	23.6	22.3
Persons 65 years and over	23.7	16.6	16.7	19.3	18.5	14.3	16.5
Race and Hispanic Origin (percent)							
White alone	52.9	36.1	54.2	46.0	66.5	60.2	76.3
Black or African American alone	44.0	60.8	42.7	51.7	29.8	32.6	13.4
American Indian and Alaska Native alone	0.5	0.6	0.8	0.6	1.3	0.5	1.3
Asian alone	1.2	0.9	0.7	0.7	0.7	4.4	5.9
Native Hawaiian and Other Pacific Islander alone	0.1	0.3	0.2	0.1	0.3	0.1	0.2
Two or More Races	1.3	1.3	1.5	1.0	1.5	2.2	2.8
Hispanic or Latino	6.4	5.1	6.5	2.3	12.1	9.9	18.5
White alone, not Hispanic or Latino	47.9	32.7	49.4	44.2	57.4	52.0	60.1
Income and Poverty							
Median household income (in 2020 dollars), 2016-2020	\$34,034	\$41,962	\$40,567	\$34,811	\$48,047	\$61,224	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$25,691	\$15,461	\$21,810	\$21,992	\$24,272	\$32,427	\$35,384
Persons in poverty (percent)	23.7	34.4	25.6	24.0	18.7	14.0	11.4

*The other four counties are provided in Table C-3b.

**County Lake Seminole is located.

Table B-3b: 2018 U.S. Census Data for the counties* in Georgia entirely located within 50-mile radius of Lake Seminole project. Statistics are provided for states and counties, and for cities and towns with a population of 5,000 or more.

	Miller County	Mitchell County	Seminole County**	Thomas County	Georgia	United States
Population						
Population estimates, Census July 1, 2021	5,919	21,521	9,197	45,842	10,799,566	331,893,745
Age and Sex (percent)						
Persons under 5 years	5.8	5.8	5.2	6.2	6.2	6.0
Persons under 18 years	22.9	22.4	20.8	23.7	23.6	22.3
Persons 65 years and over	22.5	16.9	23.2	18.7	14.3	16.5
Race and Hispanic Origin (percent)						
White alone	68.9	49.3	64.1	60.6	60.2	76.3
Black or African American alone	28.3	48.0	33.1	36.2	32.6	13.4
American Indian and Alaska Native alone	0.5	0.6	0.3	0.6	0.5	1.3
Asian alone	0.6	0.8	0.8	1.0	4.4	5.9
Native Hawaiian and Other Pacific Islander alone	Z***	0.1	Z***	0.1	0.1	0.2
Two or More Races	1.6	1.2	1.6	1.5	2.2	2.8
Hispanic or Latino	2.9	4.8	3.6	3.9	9.9	18.5
White alone, not Hispanic or Latino	67.0	45.5	61.4	57.6	52.0	60.1
Income and Poverty						
Median household income (in 2020 dollars), 2016-2020	\$49,771	\$39,404	\$35,286	\$47,133	\$61,224	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$24,492	\$19,377	\$28,132	\$27,937	\$32,427	\$35,384
Persons in poverty (percent)	19.8	38.2	22.9	16.2	14.0	11.4

*The other five counties are provided in Table C-3a.

**County Lake Seminole is located.

***Z notes a value greater than zero but less than half unit of measure shown.

Table B-4: 2018 U.S. Census Data for counties in Alabama with majority of area located within a 50-mile radius of Lake Seminole project.

	Dale County	Henry County	Alabama	United States
Population				
Population estimates, Census July 1, 2021	49,342	17,459	5,039,877	331,893,745
Age and Sex (percent)				
Persons under 5 years	6.7	5.2	6.0	6.0
Persons under 18 years	22.8	20.4	22.2	22.3
Persons 65 years and over	17.3	23.4	17.3	16.5
Race and Hispanic Origin (percent)				
White alone	73.8	71.6	69.1	76.3
Black or African American alone	21.0	25.9	26.8	13.4
American Indian and Alaska Native alone	0.9	0.5	0.7	1.3
Asian alone	1.5	0.4	1.5	5.9
Native Hawaiian and Other Pacific Islander alone	0.2	Z*	0.1	0.2
Two or More Races	2.8	1.6	1.8	2.8
Hispanic or Latino	7.0	2.7	4.6	18.5
White alone, not Hispanic or Latino	68.0	69.5	65.3	60.1
Income and Poverty				
Median household income (in 2020 dollars), 2016-2020	\$45,644	\$51,715	\$52,035	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$24,473	\$26,011	\$28,934	\$35,384
Persons in poverty (percent)	15.5	16.2	14.9	11.4

*Z notes a value greater than zero but less than half unit of measure shown.

Table B-5: 2018 U.S. Census Data for counties in Florida with majority of area located within a 50-mile radius of Lake Seminole project.

	Holmes County	Wakulla County	Washington County	Florida	United States
Population					
Population estimates, Census July 1, 2021	19,784	34,690	25,436	21,781,128	331,893,745
Age and Sex (percent)					
Persons under 5 years	5.6	5.2	5.2	5.3	6.0
Persons under 18 years	20.4	20.7	19.9	19.7	22.3
Persons 65 years and over	20.0	15.9	17.2	20.9	16.5
Race and Hispanic Origin (percent)					
White alone	88.9	82.4	80.2	77.3	76.3
Black or African American alone	6.7	13.9	15.1	16.9	13.4
American Indian and Alaska Native alone	1.1	0.7	1.3	0.5	1.3
Asian alone	0.7	0.7	0.6	3.0	5.9
Native Hawaiian and Other Pacific Islander alone	0.2	0.1	0.4	0.1	0.2
Two or More Races	2.4	2.2	2.4	2.2	2.8
Hispanic or Latino	2.9	3.9	3.8	26.4	18.5
White alone, not Hispanic or Latino	86.4	79.2	77.1	53.2	60.1
Income and Poverty					
Median household income (in 2020 dollars), 2016-2020	\$39,215	\$67,480	\$37,260	\$57,703	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$19,028	\$28,320	\$19,375	\$32,848	\$35,384
Persons in poverty (percent)	20.5	10.3	20.4	12.4	11.4

Table B-6: 2018 U.S. Census Data for counties in Georgia with majority of area located within a 50-mile radius of Lake Seminole project.

	Clay County	Dougherty County	Georgia	United States
Population				
Population estimates, Census July 1, 2021	2,882	84,844	10,799,566	331,893,745
Age and Sex (percent)				
Persons under 5 years	5.6	6.6	6.2	6.0
Persons under 18 years	19.3	23.6	23.6	22.3
Persons 65 years and over	27.3	16.5	14.3	16.5
Race and Hispanic Origin (percent)				
White alone	37.8	26.3	60.2	76.3
Black or African American alone	60.4	71.0	32.6	13.4
American Indian and Alaska Native alone	0.4	0.3	0.5	1.3
Asian alone	0.6	0.9	4.4	5.9
Native Hawaiian and Other Pacific Islander alone	0.1	0.2	0.1	0.2
Two or More Races	0.8	1.3	2.2	2.8
Hispanic or Latino	1.7	3.1	9.9	18.5
White alone, not Hispanic or Latino	36.3	24.3	52.0	60.1
Income and Poverty				
Median household income (in 2020 dollars), 2016-2020	\$32,434	\$40,947	\$61,224	\$64,994
Per capita income in past 12 months (in 2020 dollars), 2016-2020	\$22,389	\$22,647	\$32,427	\$35,384
Persons in poverty (percent)	24.1	27.4	14.0	11.4