

# **MASTER PLAN**

Hartwell Dam and Lake Project  
Savannah River, Georgia and South Carolina

(Hart, Franklin, and Stephens Counties in Georgia and  
Anderson, Oconee, and Pickens Counties in South Carolina)

October 2021



**US Army Corps  
of Engineers®**  
Savannah District

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## INTRODUCTION

The Master Plan (MP) provides a programmatic approach to the management of all the lands included within the Hartwell Project boundary (Hartwell Project). The MP is the basic document guiding the United States Army Corps of Engineers (USACE) responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project's lands, waters, and associated resources. The MP is a planning document anticipating what could and should happen and is flexible based upon changing conditions. MPs are required for civil works projects and other fee-owned lands for which USACE has administrative responsibility for management of natural and manmade resources.

The primary goals of the MP are to prescribe an overall land and water management plan, resource objectives, and associated design and management concepts, which: (1) Provide the best possible combination of responses to regional needs, resource capabilities and suitability, and expressed public interests and desires consistent with authorized project purposes; (2) Contribute towards providing a high degree of recreation diversity within the region; (3) Emphasize the particular qualities, characteristics, and potentials of the project; and (4) Exhibit consistency and compatibility with national objectives and other state and regional goals and programs.

Current guidance includes revised categories of Land Classifications used to define project lands. All lands are acquired for authorized project purposes and allocated for these uses. The classification process is a further distribution of project lands by management categories which, based upon resources available and public needs, will provide for full utilization while protecting project resources. The current guidance also includes requirements for an interdisciplinary team approach for MP supplements or revisions. Coordination with other agencies and the public is an integral part of the master planning process.

The MP includes a Geographic Information Systems (GIS) database. Management can continually update the database throughout the life of the plan to allow USACE to take proactive management actions and adapt existing strategies. Acreages were calculated using best available GIS technology and may vary from acreages in prior MP or official land acquisition records.

The MP serves three primary purposes that are equal in importance. First, it is the primary management document for the project and provides direction for many of the other plans that guide the management of the Hartwell Project. Second, it is a land use management tool. This MP sets the stage for the update of many of the project's resource management plans, such as the Operational Management Plan (OMP). Third, the MP provides for the environmental assessment and public review necessary for facilities and activities proposed in the MP.

As a land use tool, this MP provides USACE and the public with the current classification and preferred future uses of project lands. The current land classification

of project lands allows USACE and the public to visually evaluate the distribution of uses of project lands. For example, the identification of project lands that are suitable for the development of a new recreation facility by USACE, a current lease holder, or a future development is beneficial. Maintaining an up-to-date MP allows USACE to respond effectively to development plans made internally or by outside parties as well as identify laws and policies that govern management of the Hartwell Project.

This policy-based MP, along with the accompanying environmental assessment (EA), and maps provide USACE with a document that sets goals and objectives but does not establish concrete development plans. This allows USACE flexibility in the management and development of the Hartwell Project, within a clear policy framework. A separate EA will not be required for proposed activities or facilities approved or included in this MP. This MP does not address the specifics of regional water quality, shoreline management, or water level management.

## HARTWELL DAM AND LAKE PROJECT MASTER PLAN

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## 1.0 INTRODUCTION

Management of lands and waters at the Hartwell Dam and Lake (also referred to as the Hartwell Project) are guided by the Master Plan (MP), the 2013 Historic Properties Management Plan (HPMP) and the 2020 Shoreline Management Plan (SMP). As stated in Engineer Regulation (ER) 1130-2-550, Chapter 2, Paragraph 2-2.a (1), dated 15 November 1996, the Natural Resource Management Mission of the U.S. Army Corps of Engineers (USACE) is as follows:

### **Mission Statement**

*The Army Corps of Engineers is the steward of the lands and waters at Corps water resources projects. Its Natural Resource Management Mission is to manage and conserve those natural resources, consistent with ecosystem management principles, while providing quality public outdoor recreation experiences to serve the needs of present and future generations.*

*In all aspects of natural and cultural resources management, the Corps promotes awareness of environmental values and adheres to sound environmental stewardship, protection, compliance, and restoration practices.*

*The Corps manages for long-term public access to, and use of, the natural resources in cooperation with other Federal, State, and local agencies as well as the private sector.*

*The Corps integrates the management of diverse natural resource components such as fish, wildlife, forests, wetlands, grasslands, soil, air, and water with the provision of public recreation opportunities. The Corps conserves natural resources and provides public recreation opportunities that contribute to the quality of American life.*

## 1.1 PROJECT AUTHORIZATION

A general plan on the comprehensive development of the Savannah River Basin for flood control and other purposes was approved by the Flood Control Act of 1944, P.L. 78-534. Development and utilization of reservoir lands for public access and recreational use was authorized by Section 4 of the Flood Control Act of 1944, and as amended in 1946, 1954, and 1962. The Hartwell Project was authorized by the Flood Control Act of May 17, 1950 (P.L. 81-516) as the second unit in the comprehensive development of the Savannah River Basin. Hartwell Dam was completed in 1959 and the power plant became operational in 1962. Guidance for specific land use planning is given in Public Law 85-624, (Fish and Wildlife Coordination Act of 1959) and Public Law 86-717, signed into law in September 1960, which specifies protection and development of land resources.

These laws apply only to development of new facilities and not to modifications made in existing USACE areas, erosion control work, or to the construction of sanitary facilities necessary to meet State health code standards.

## **1.2 PROJECT PURPOSE**

As authorized, the Hartwell Project's primary project purposes are the generation of hydroelectric power, operations for flood control as required, and increased minimum regulated flows for navigation of the Savannah River below Augusta, GA. Additional purposes authorized are recreation (P.L. 78-534 and PL 89-72), fish & wildlife management (PL 85-624), water quality (PL 92-500), and water supply (PL 85-500).

The Federal Water Pollution Control Act of 1972 (PL 92-500) established a national goal of eliminating all pollutant discharges into the waters of the U.S. and added water quality as a consideration in general terms.

The Water Supply Act of 1958, as amended (PL 85-500) allows the USACE to reallocate water storage from hydropower to water supply if there is no significant impact on authorized project purposes. At Hartwell Project, up to 50,000-acre feet may be reallocated without additional legislation.

## **1.3 PURPOSE AND SCOPE OF MASTER PLAN**

The last Hartwell Project MP Update was finalized in 1981 and over the past 39 years changes have occurred that warrant an update. The Hartwell Project MP is the strategic land use management document that guides the comprehensive management and development for recreation, natural resources, and cultural resources that is efficient and cost-effective throughout the life of the Hartwell Project. The MP is a vital tool for responsible stewardship and sustainability of the facilities and resources for the benefit of present and future generations.

Engineer Pamphlet (EP) 1130-2-550, dated 30 January 2013, states that one of the requirements of a MP is to evaluate specific land classification categories. One of the categories, Multiple Resource Management Lands, was not considered under the 1981 MP. This updated MP will prescribe an overall land and water management plan, resource objectives, and associated design and management concepts compliant with EP 1130-2-550, which:

- Provide the best possible combination of responses to regional needs, resource capabilities and suitability, and expressed public interests and desires consistent with authorized project purposes;
- Contribute towards providing a high degree of recreation diversity within the region;

- Exhibit consistency and compatibility with national objectives and other state and regional goals and programs; and
- Ensure that program management actions are based on current information and regulations through collaboration with the public, stakeholders, and subject matter experts.

The MP guidance includes revised categories of Land Classifications used to define project lands (Appendix A). All lands were acquired for authorized project purposes and allocated for these uses. The classification process is a further distribution of project lands by management categories which, based upon resources available and public needs, will provide for utilization while protecting project resources. The guidance also includes requirements for an interdisciplinary team approach for the development, re-evaluation, supplementation, and updating of the MP. Coordination with other agencies and the public is an integral part of the MP process.

The MP serves three primary purposes that are equal in importance. First, it is the primary management document for the project and provides direction for many of the other plans that also guide the management of the Hartwell Project. Second, it is a land use management tool. This MP will be utilized to update many of the resource management plans as needed such as the Operational Management Plan (OMP). Third, the MP provides for the environmental assessment and public review necessary for facilities and activities proposed in the MP.

As a land use tool, this MP provides the USACE and the public with the current classification and preferred future uses of project lands. The land classification of project lands allows USACE and the public to visually evaluate the distribution of uses of project lands. For example, the identification of project lands that are suitable for the development of a new recreation facility by USACE, a lease holder, or a future development is beneficial. Maintaining an up-to-date MP allows USACE to respond effectively to development plans made internally or by outside parties.

The MP includes a Geographic Information Systems (GIS) database. Management can continually update the database throughout the life of the plan to allow USACE to take proactive management actions and adapt existing strategies.

The policy-based MP, along with the associated Environmental Assessment (EA), provides the USACE with a document that sets goals and objectives but does not establish concrete development plans. This allows the USACE flexibility in the management and development of Hartwell Project, within a clear policy framework. A separate EA will not be required for proposed activities or facilities approved in this MP.

## 1.4 DESCRIPTION OF PROJECT AND WATERSHED

Hartwell Lake is impounded by Hartwell Dam and covers 55,950 acres; extends 49 miles up the Tugaloo and 45 miles up the Seneca at full pool elevation 660' above mean sea level (amsl) for a total shoreline of 962 miles. Dam construction began in 1955; filling the lake began in 1961 and reached full pool on March 12, 1962. The dam consists of a 204-foot high and 1,900-foot-long concrete gravity structure, flanked by two earth embankments and a saddle dike totaling 17,852 ft. in length. Hartwell Project also maintains two diversion dams on the South Carolina side of the reservoir adjacent to Clemson University totaling 4,710 ft. in length.

There are 79,516 acres of land and water for the entire project. Interstate 85 bisects Hartwell Lake and makes the area easily accessible to visitors. It covers parts of Hart, Franklin, and Stephens Counties in Georgia, and Anderson, Oconee, and Pickens Counties in South Carolina.

Hartwell Lake borders Georgia and South Carolina on the Savannah and Tugaloo Rivers. Hartwell Dam is located 7.1 miles below the point at which the Tugaloo and Seneca Rivers join to form the Savannah River. The lake extends 49 miles up the Tugaloo River to Yonah Dam, operated by Georgia Power, and 45 miles up the Seneca River to Keowee Dam, operated by Duke Energy. The Hartwell dam is 305 river miles above the Savannah River's mouth.

The Savannah River Basin consists of 34 watersheds. Hartwell Project is in three hydrologic units (HUC): HUC 03060101 (Tugaloo), HUC 03060102 (Seneca), and 03060103 (Upper Savannah). More information is available from the United States Geological Survey - <https://water.usgs.gov/wsc/acc/030601.html>.

The Savannah River forms part of the boundary line between Georgia and South Carolina and divides the total lake acreage of 19,582.5 acres in Georgia and 36,367.5 acres in South Carolina. The project includes an area of 79,516 acres acquired in fee; 55,950 acres of water at full pool (660' amsl) and a usable land area of 23,566 acres when the lake is at normal pool elevation. Under current management proposals, all project land is considered necessary for project purposes. Pool fluctuation was considered in the planning and construction of the public-use facilities which have been developed in accordance with the existing MP for the project. The facilities are designed primarily to serve the visitation demands of the population within a 100-mile radius. Emphasis has been directed toward day-use facilities to obtain maximum benefits for the public.

Maintenance of the project buildings and grounds, overlook structures, earthen embankment portion of the dam, spillway, and channel is performed by USACE project personnel and/or service contracts. Other activities include maintenance of project-owned equipment, replacement of riprap on the embankment and outlet channel, and construction of erosion control structures and public-use facilities. Periodic inspections

are made of all public-use areas (inspections of state lease areas are completed every three years) and major repairs are scheduled for off-season recreation periods.

As of the date of this report, Hartwell Project operates and manages a visitor center, seven campgrounds, nine day-use recreation areas, and 25 access areas all served by an extensive network of state and county roads. Access roads to all major recreation areas are paved and well maintained. Hartwell Project maintains all or portions of paved roads (Choestoea and Utz Roads) on retained road easements leading into Choestoea and SC River Recreation Areas.

Access to wildlife management areas may be either by paved or gravel roads. In several instances, access is at the discretion of the adjoining property owner. Efforts are underway to obtain permanent access or reclaim abandoned easements to larger management areas.

Management of other recreational areas and facilities is accomplished by Georgia Department of Natural Resources (GADNR) and South Carolina Department of Parks, Recreation and Tourism (SCPRT), and surrounding city and county agencies, and various quasi groups.

The public-use facilities are planned to provide a complete, safe, and healthful recreation experience in a manner that will minimize impacts to the natural assets of the area.

## 1.5 PRIOR DOCUMENTATION

**Table 1: Design Memoranda**

<b>Design Memo</b>	<b>Title</b>
22B(C-5)	Hartwell Reservoir, 1970
	1981 Master Plan Update

## 1.6 PERTINENT PROJECT INFORMATION

The following table provides pertinent information regarding existing reservoir storage capacity at the Hartwell Project.

**Table 2: Water Storage Capacities**

<b>Feature</b>	<b>Elevation amsl (feet)</b>	<b>Area (acres)</b>	<b>Capacity (acre-feet)</b>
Top of Dam	679	N/A	N/A
Spillway Crest	630	N/A	1,280,000
Top of Flood Control Pool	665	N/A	2,842,700
Top of Conservation Pool	660	55,950	2,549,600
Bottom of Conservation Pool	625	27,650	1,134,100
Conservation Storage, usable	625-660	N/A	1,416,000
Flood Storage	660-665	N/A	293,000
Surcharge Storage	665-674	71,300	596,000

## **2.0 PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT**

### **2.1 DESCRIPTION OF RESERVOIR**

The Hartwell Project is located on the Savannah River 29.9 miles above the Richard B. Russell Dam (RBR) and 67.3 miles above the J. Strom Thurmond Dam. The authorized purposes are flood control, fish and wildlife, water quality, water supply, hydroelectric power, and recreation. The reservoir contains 55,950 acres of water at full pool. Rainfall and tributaries provide some contribution to inflows. However, inflows are affected by two major tributaries. These major tributaries are the Tugaloo and Seneca Rivers which converge to form the Savannah River. Inflow from the Tugaloo River is largely regulated by Yonah Dam. Lake Keowee dam regulates flows on the Seneca River.

### **2.2 HYDROLOGY AND GROUNDWATER**

The sub-basin drainage area for Hartwell Lake totals 2,088 square miles which represents 20 percent of the 10,579 square miles of the Savannah River Basin. Reservoir pool elevations fluctuate considerably and are influenced to a great degree by stream flow, power production demand, and regulated releases into RBR. In most years, Hartwell releases contribute over 80 percent of the total inflow to RBR. Normally, the reservoir reaches a summer pool elevation of 660' amsl in April and remains within a few feet of this height until September. From September to mid-December, the pool is gradually lowered to 656' amsl in preparation for winter and spring rains. A rising pool elevation occurs from January through April.

Hartwell has a 35-foot conservation storage pool that creates 1,416,000 acre-feet of usable storage for hydropower generation, flood storage, and water supply uses. In addition, the 5-foot flood pool provides an additional 293,000 acre-feet of flood storage.

Greater detail can be found in the Savannah District Water Control Manual:  
<http://155.82.195.51/manual/index.cfm>.

### **2.3 SEDIMENTATION AND SHORELINE EROSION**

Hartwell Lake is typical of a majority of reservoirs where throughout the lifespan, siltation accumulates from upstream activities uncontrolled by USACE. Limited bathymetric surveys of areas adjacent to water supply intakes and the immediate dam forebay area revealed very limited siltation. Localized sedimentation has occurred in the “delta” areas of tributaries where the flowing water is slowed as it meets the reservoir. This sedimentation has resulted in minor boating access issues during drought periods, but no significant loss of reservoir storage.

Riprap and bio-engineering erosion control may be authorized for adjacent property owners to prevent erosion of the shoreline and loss of public land. USACE is responsible for placement of riprap for erosion control along the shoreline in USACE managed recreation and operational areas. Shoreline erosion is a major problem for many areas especially on the South Carolina side of the lake due to prevailing westerly winds. In several instances, private property has been eroded. Many adjoining property owners have undertaken considerable erosion control efforts to protect facilities and property. Adjoining property owners must obtain the necessary permits prior to implementing erosion control measures.

### **2.4 WATER QUALITY**

Water quality in Hartwell Lake is measured by Georgia and South Carolina natural resource state agencies. There are seven South Carolina Department of Health and Environmental Control (SC DHEC) monitoring stations (Figure 1) in Hartwell Lake. Currently, both states have identified fish consumption advisories for all species in the Seneca River and 12-Mile Creek arms for polychlorinated biphenyls (PCBs), and for Hybrid/Striped bass, Largemouth bass, Spotted bass, and Channel catfish throughout the lake due to potential mercury levels.

Hartwell Project conducts monthly sampling of dissolved oxygen and temperature at established locations in the reservoir. The routine monthly sampling is conducted only at the forebay station from December through March when reservoir conditions are isothermal and oxygen concentrations are near saturation. From April through November, stratification drives reservoir processes that lead to reduced oxygen conditions, and the reservoir is sampled at 11 established locations throughout the mainstream and major tributaries. Sampling locations are shown in Figure 1. Additional sampling may occasionally be required for special studies (i.e. Blueback herring entrainment, etc.).

Hartwell Lake experiences thermal stratification from April through September. Thermal stratification in the downstream region of the reservoir usually begins in late-April with the establishment of a thermocline (20-25 feet) in mid-May. Temperatures range from 55° to 85°F and the thermocline remains near an average depth of 30 to 40 feet throughout the stratification period. The thermocline begins to weaken in late-September when seasonal cooling begins, until the reservoir conditions are almost completely isothermal by late-December.

Reduced Dissolved Oxygen (D.O.) levels resulting from reservoir stratification are monitored both upstream and downstream of the Hartwell Dam. Temperature, D.O., and specific conductance are monitored continuously. In general, D.O. concentrations downstream of the dam are approximately 1 to 2 milligrams per liter (mg/L) higher than the upstream D.O. concentrations. The increase in D.O is the result of turbine venting and other re-aeration effects in the tailrace area.

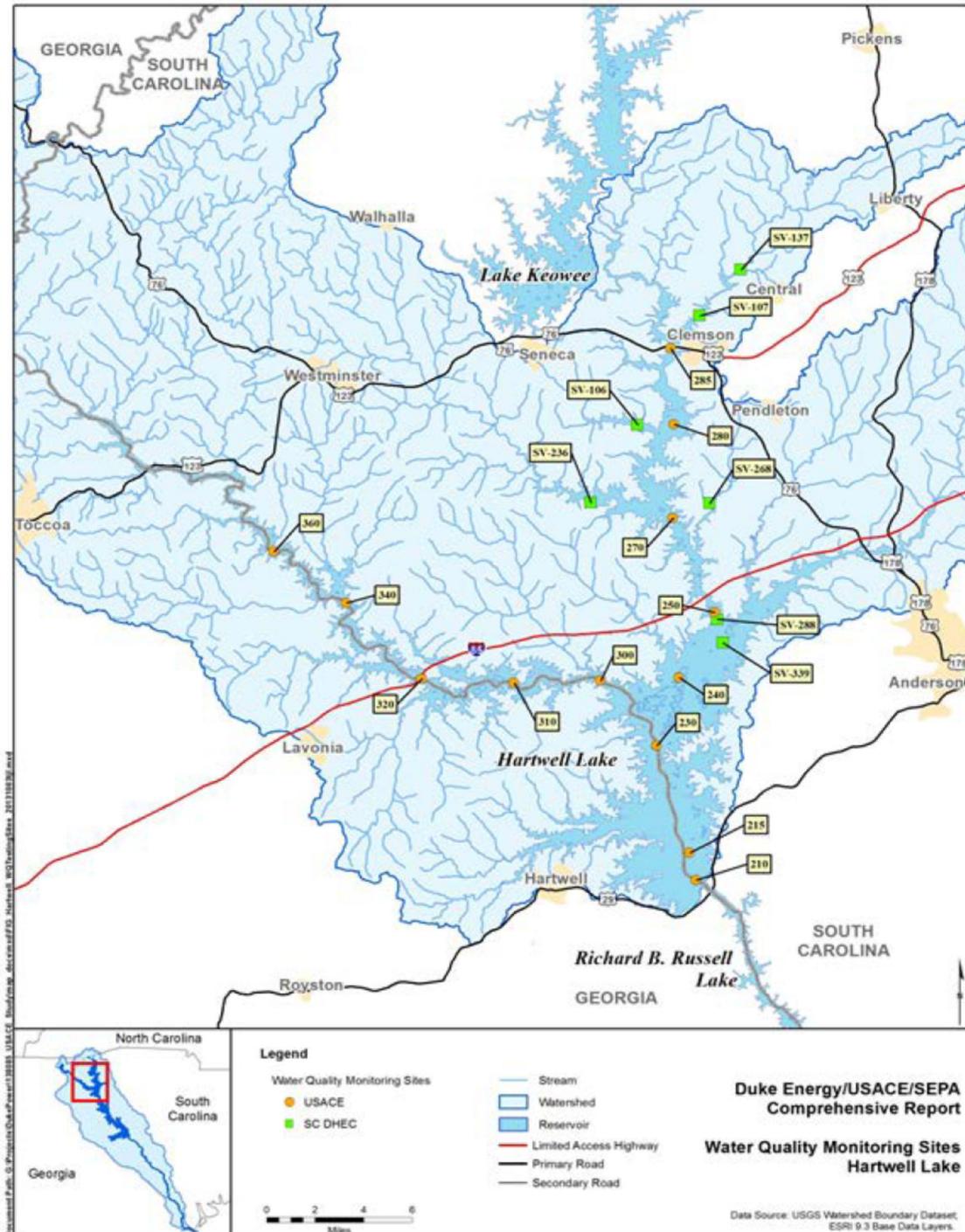


Figure 1: Water Quality Monitoring Sites

## **2.5 CLIMATE**

The climate of the Hartwell Project has relatively short, mild winters and long, hot summers, thus creating a favorable environment for year-round outdoor recreation. The mean annual temperature is 61 degrees. The mean annual rainfall for the Hartwell area is approximately 62 inches. There are two general periods of heavy precipitation, one in February through March, and the other in July through August. Over the entire year, the most common forms of precipitation are thunderstorms, light rain, and moderate rain. Snowfall is rare in the region.

Severe thunderstorms with damaging winds and ice storms occur periodically causing moderate damage to timber stands and facilities. Tornadoes occur infrequently in the region; however, microbursts are more common. Remnants from hurricanes and tropical storms periodically impact the region.

## **2.6 TOPOGRAPHY, GEOLOGY AND SOILS**

The Hartwell Project region has been dominated by agricultural and forest related land uses. In recent years, growth of urban areas throughout the region has brought about an increase in the manufacturing and service-related industries. This urban sprawl has changed the makeup of land use patterns in many areas of the region and has been a contributing factor to the changes in land uses seen in the areas adjacent to it. This data was presented in the 1981 MP.

The Hartwell Project area lies in the Piedmont geologic province, which is a dissected peneplain sloping from the Blue Ridge Mountain province on the north to the Coastal Plain on the south and southeast. Five rock types lie within the lake area: the Carolina gneiss series, Roan gneiss, Brevard schist and Lithonia - type granite gneiss, all of pre-Cambrian age, and the Palmetto type porphyritic granite of Carboniferous age.

The geologic structure of the region trends N 30° E. Secondary folding appears to have taken place at right angles to this trend. Stream patterns have been determined by the geologic structure in many areas, although the Savannah River is thought to be superimposed.

Small amounts of gold, lead, and magnetite were recovered in the area many years ago. However, Georgia and South Carolina report that no mineral deposits are now being worked in the lake area.

The principal rock type in the dam site is moderately hard, medium to coarsely grained, gray biotite granite gneiss. Other rock types at or near the dam site are the Lithonia type granite gneiss, pegmatite, garnetiferous amphibolite, sillimanite garnet schist, and basalt.

The Hartwell Project is in seismic risk zone 2 according to the Algermissen "Seismic Risk Map of the United States." The strongest local event recorded occurred on 2

October 1958, near Anderson, South Carolina, approximately 11 miles from the dam site. No faults of consequence are known except for the Brevard thrust fault in the extreme northwest corner of the lake area.

The predominate soil associations within the project are Cecil, Madison, and Lloyd. Cecil soil associations generally consist of deep, well- drained soils that developed in material weathered from granite, gneiss, and schist. These soils are found in the uplands on the tops of broad plateaus, ridge tops and hillsides. Slopes range from 2 to 15 percent. Cecil soils are low in natural fertility, contain little organic matter, and are strongly acid throughout the profile.

The Madison series consists of moderately deep to deep well-drained soils that are generally high micaceous throughout the profile. These soils formed on uplands in material weathered from quartz and mica schist. Most of the acreage is on broad stream divides and on smooth side slopes ranging from 2 to 15 percent.

Soils in the Lloyd association are situated on the Piedmont uplands with slopes ranging from 2 to 10 percent except for some steep slopes adjacent to drainage ways. They have a service layer of friable, sandy loam and a moderately permeable, dark red, clayey subsoil, relatively high in moisture-holding capacity. The smoothest ridge tops, which make up a large part of this association, are usually well managed and agriculturally productive.

The soils analysis classification 1 through 8, depict general recreation capabilities and limitations. Given the size of this project, development of a soil potential map was imperative. The Lake Scale Soil Analysis was developed through a deductive rating system which ranked soil types according to the following characteristics: permeability, depth of water table, flooding, slope, depth to bedrock, reaction rate, erosion potential, runoff rate, trafficability, corrosivity, and shrink/swell potential.

Every soil type existing on project lands was placed into recreation capability categories, depending upon computed potential. For graphic conveyance of general soil potentials around the lake, recreation capability categories were divided into the best recreation potential, restricted recreation potential, and least recreation potential, as defined as follows:

The "best recreation potential" soils category is generally composed of soils which have characteristics suitable to development. These soils are best suited for high density recreational activities requiring the least amount of rotational use for area recovery.

"Restricted recreation potential" soils are those where a potential for recreation exists, but guarded development is required due primarily to slope and erodibility. These soils will support high density recreational use but will require substantial maintenance and more frequent rotational use to protect the natural resources. The soils are better suited for low density recreational use.

Intrinsic characteristics of soils judged to have the "least recreation potential" generally include high water tables, susceptibility to frequent flooding, and excessive slopes with rapid runoff. These soils will support limited low-density recreational use but are best suited for natural areas with minimal disturbance.

## **2.7 RESOURCE ANALYSIS**

### **2.7.1 Fish and Wildlife Resources**

Prior to impoundment, the Hartwell Project area and the river portion below the existing Hartwell Dam had a limited fishery resource (U.S. Fish and Wildlife Service, 1960). The fishery potential of this area was impaired by the poor habitat conditions created by the unstable shifting river bottom and turbid sediment laden flows.

Under these conditions, the fishery resources were dominated by carp, gar, suckers, and other rough fish. Sport fisheries were primarily limited to sunfish, crappie and bullhead catfish. Due to the poor sport fisheries resources and the proximity of better area within moderate driving distance, fishermen tended to go elsewhere.

Since the construction of the Hartwell Project, recreational sport fishing has substantially increased both in terms of fishing pressure and harvest above and below the dam. The major reason for the increased fishery resources is the fishery management program with the cooperation of Georgia and South Carolina fishery departments. Game fish species found in Hartwell Lake include largemouth bass, spotted bass, catfish, crappie, and striped bass.

Hardwood and mixed pine-hardwood sites within the Hartwell Project are presently supporting deer and turkey populations. Other species of small game and fur-bearing animals found throughout the project include coyote, feral hog, muskrat, opossum, raccoon, beaver, and skunk. Extensive trapping of fur bearing animals has not occurred within the project area. Waterfowl observed in the project area include mallard, pintail, green-winged and blue-winged teal, gadwall, wood duck, ringneck duck, ruddy duck, and Canada goose. There are also many non-game animals found in the project area including indigenous species of songbirds, and several species of raptors, reptiles, and amphibians (Appendix B).

A one-mile stretch of the Savannah River below Hartwell Dam serves as a put-and-take trout fishery. The feasibility of this fishery is due to the cold-water discharges from Hartwell Dam supplemented by routine stocking of trout by Georgia and South Carolina Department of Natural Resources (DNR).

### **2.7.2 Vegetative Resources**

The Hartwell Project is in the oak-pine forest region of the United States. Prior to inundation, 64 percent of Hartwell land was timberland. The remaining area was mostly open farm and pastureland on the gently to moderately rolling upland slopes. The

major forest types present are pine, pine--hardwood, and oak-hickory. These types are listed in the order of evolution to the climax forest.

Presently, pine forest occurs on approximately 50 percent of the project lands and consists of the native pines-shortleaf pine, loblolly pine, and Virginia pine. Slash and loblolly pine have been planted on abandoned cropland over the past 25 years. The pine-hardwood forest occupies approximately 25 percent of the project lands' upper slopes and ridges and is comprised of the native pines - shortleaf pine, loblolly pine and in limited areas, Virginia pine in combination with hardwood species, such as sweet gum, yellow poplar, black gum, white oaks, post oak, and willow oak.

The oak-hickory forest is the climax forest covering approximately 20 percent of the project area. Species such as white oak, northern red oak, southern red oak, chestnut oak, water oak, willow oak, post oak, black oak, shagbark hickory, pignut hickory, mockernut hickory, river birch, hackberry, American elm, American beech, and sycamore are strong dominant trees of this hardwood forest type.

The old, abandoned home sites in the area are often identified with introduced and exotic species such as northern catalpa, tree of heaven, mimosa, empress tree, and privet which have escaped and become acclimated. These areas generally have a weed/grass cover and occur on about 5 percent of the project lands.

The Hartwell Project, due to its geographic location, provides a large variety of natural plant species. Eastern white pine, eastern hemlock, cucumber-tree, sweet shrub, and mountain laurel are uncommon because they are at the extremes of their natural ranges. The American chestnut is extremely rare due to its destruction in past years by the chestnut blight disease. Some of these plants represent flora generally found in the Appalachian Mountains. The faded trillium (*Trillium discolor*) is known to occur in the Walker Creek ramp area. In addition, the state-listed Goldenseal (*Hydrastis canadensis*) and Ozark Bunchflower (*Veratrum woodii*) are known to occur on the project near the Stephens County Park.

Other trees and shrubs – fringe tree, strawberry bush, silverberry, sweetshrub pawpaw, flame azalea, and fragrant azalea are uncommon because they naturally occur infrequently. Oconee bells (*Shortia galacifolia*) is in a class by itself. These plants are found in the Keowee River portion of the lake in the northern parts of Oconee County and western edge of Pickens County. This area is one of the very few places in North America where this beautiful flowering plant is found. When encountered, these plants will be favored and preserved for their scenic and aesthetic value.

The vegetative resources of the Hartwell Project were classified using information derived from FY2019 Project Site Vegetative Resource Records reported in Operations and Maintenance Business Information Link (OMBIL). These data are displayed in Table 3 and list acreages classified by vegetation type.

**Table 3: Vegetative Resources**

<b>Division</b>	<b>Order</b>	<b>Class</b>	<b>Sub-Class</b>	<b>Acreage</b>
Vegetated	Herb Dominated	Herbaceous Vegetation	Annual Graminoid or forb vegetation	712
Vegetated	Tree Dominated	Closed Canopy	Deciduous Closed Tree Canopy	3,140
Vegetated	Tree Dominated	Closed Canopy	Evergreen Forest	7,325
Vegetated	Tree Dominated	Closed Canopy	Mixed Evergreen-Deciduous Closed Tree Canopy	9,631
Vegetated	Shrub Dominated	Shrub	Deciduous	125
<b>Total Vegetated</b>				<b>20,933</b>

### 2.7.3 Protected Species

Based upon the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), there are no identified endangered species within the project area. However, those federally-protected by other laws include bald eagle, golden eagle, osprey, and peregrine falcon which may be transient visitors during migration. Habitat may exist for the federally-listed Northern long-eared bat, smooth purple coneflower, and the recently listed Eastern Black Rail, however, there are no known occurrences on Hartwell Project.

Section 7(a)(2) of the Endangered Species Act (P.L. 93-205) requires federal agencies ensure that any action authorized, funded, or carried out by such agency is not likely to:

- 1) Jeopardize the continued existence of any endangered or threatened species, or
- 2) Result in the destruction or adverse modification of critical habitat.

According to 50 CFR Section 402.02, the term, "jeopardize the continued existence of" means to reduce appreciably the likelihood of both the survival and recovery of listed species in the wild by reducing the species' reproduction, numbers, or distribution. Jeopardy opinions must present reasonable evidence that the project will jeopardize the continued existence of the listed species or result in destruction or adverse modification of critical habitat.

If a survey for a project site is positive for any Threatened or Endangered species, USACE would consult with the USFWS in accordance with Section 7 of the ESA. Federally-listed threatened and endangered species having potential habitat at Hartwell Project fee lands, as identified by the USFWS, can be found in Table 4.

**Table 4: Protected Species**

	Status	Has Critical Habitat
<b>Flowering Plants</b>		
Dwarf-flowered Heartleaf	T	No
Mountain sweet pitcherplant	E	No
White fringeless orchid	T	No
Small-whorled Pogonia	T	No
Persistent Trillium	E	No
Smooth Coneflower	E	No
<b>Mammals</b>		
Northern Long-eared Bat	T	No
<b>Reptiles</b>		
Southern Bog Turtle	T(SA)*	No
<b>Birds</b>		
Eastern Black Rail	T	No

\* Threatened due to similarity of appearance, not subject to Section 7 consultation

### 2.7.4 Invasive Species

Georgia and South Carolina have 207 state-listed invasive species. Invasive terrestrial animals known to occur at the Hartwell Project are the red imported fire ant (*Solenopsis invicta*) and the wild boar (*Sus scrofa*). Invasive terrestrial plants known to occur on Hartwell Project lands include Japanese honeysuckle (*Lonicera japonica*), Johnson grass (*Sorghum halepense*), and Kudzu (*Pueraria lobata*). Kudzu has significantly impacted some of the recreation areas and natural areas around the lake. Table 5 lists invasive species that occur on Hartwell fee lands. Data was retrieved from the FY19 Project Site Invasive Species Records reported in OMBIL.

**Table 5: Invasive Species**

Species Group	Species Common Name	Type of Occurrence	Acreage Impacted	Percent Acreage Impacted
Terrestrial Animals	Red imported fire ant	Minor	58	0.25
Terrestrial Animals	Wild Boar	Moderate	1000	4.2
Terrestrial Plants	Japanese Honeysuckle	Minor	300	1.3
Terrestrial Plants	Wisteria	Minor	2	0.01
Terrestrial Plants	Privet	Minor	15	0.01
Terrestrial Plants	Johnson Grass	Minor	12	0.01
Terrestrial Plants	Autumn Olive	Minor	5	0.01
Terrestrial Plants	Kudzu	Minor	75	0.3
<b>Total Impacted Acres</b>			1467	6.2

## 2.7.5 Ecological Setting

Hartwell Lake extends 49 miles up the Tugaloo River and 45 miles up the Seneca River. The Hartwell Dam is located 7 miles below the confluence of the Tugaloo and Seneca rivers where the Savannah River originates. Hartwell Dam is located 29.9 miles above Russell Lake and 67.3 miles above the Thurmond Dam.

Public lands surrounding Hartwell Lake are typical of the rolling hills found throughout the upper Piedmont. This region encompasses a wide variety of natural vegetation that includes oak/hickory, hickory/shortleaf pine forest, bottomland hardwood forest, Virginia pine, and loblolly pine forest. The dry forest areas are dominated by blackjack oaks, post oak, scattered hickory species, and sweetgum.

The mixed forests are dominated by species such as oak, maple, elms, sweetgum, Virginia pine, and loblolly pine. Vines such as muscadine, poison ivy, and greenbriar are mixed with a variety of grasses and other herbaceous species in the understory.

## 2.7.6 Wetlands

Table 6 lists the acreages of various types of wetlands present in and around Hartwell Lake. Data was derived from the Hartwell Project Geographic Information System (GIS) database with data populated from the National Wetlands Inventory provided by the USFWS at the following website: <https://www.fws.gov/wetlands/data/Mapper.html>.

**Table 6: Wetland Summary**

Wetland Class	Subtotals	Total Acres
Palustrine		
Aquatic Bed	3.98	
Emergent Wetland	850.17	
Forested Wetland	597.12	
Scrub-Shrub Wetland	338.94	
Unconsolidated Bottom	69.56	
Unconsolidated Shore	25.67	
Total Palustrine		1,885.44
Riverine		
Streambed	117.81	
Unconsolidated Bottom	99.83	
Unconsolidated Shore	24.28	
Total Riverine		241.92
Lacustrine		54,518.20
		<u>Total</u> 56,645.56

## 2.8 CULTURAL RESOURCES

Cultural resources are defined under the National Historic Preservation Act (NHPA), P.L. 89-665, as properties listed or eligible for listing in the National Register of Historic Places (NRHP) and are referred to as historic properties. Historic properties include buildings, structures, sites, districts, and objects, cultural items, Indian sacred sites, archaeological artifact collections, and archaeological resources. Eligibility for listing in the NRHP is based on one or more of four criteria: a) association with important historic events or patterns of history, b) association with persons important in history, c) representative of the work of a master or exemplary as a type, or d) have yielded or may yield information important to history or prehistory. 36 C.F.R. § 60.

The archaeological record details a long and continuous occupation of the Savannah River Valley extending from the Paleoindian period (ca 14,000 to 8,000 BC) through the Historic period (post-1930 AD). Ethnohistorical research indicates that many of the archaeological sites at Hartwell Project are affiliated with the Muskogean-speaking Creek and Cherokee tribes (Adams 2009). A generalized cultural overview for the Savannah River Valley, and in particular, the Upper Savannah River Valley, presented below, provides an understanding of the various prehistoric and historic time frames documented in the region.

### Cultural Chronology

#### Prehistoric Periods

##### *Paleoindian Period (ca 14,000 – 8000 BC)*

The earliest evidence of human settlement in North America dates to the Paleoindian period. This cultural period corresponds with the terminal Pleistocene when the climate was generally much colder and sea levels were lower than today. Archaeological evidence suggests that sparse human populations followed the migratory cycles of the mega-fauna such as mammoth, and mastodons over wide-ranging physiographic environments. In the Savannah River Valley, the majority of Paleolithic sites are surface finds consisting of well-made fluted projectile points, or semi-fluted lanceolate points. Anderson et al. (1990) divide the Paleoindian period in the Southeast into three sub-periods, each defined by differing projectile point types: Early (Clovis); Middle (Cumberland, Suwannee, Simpson); and Late (Dalton).

##### *Archaic Period (8000 – 1000 BC)*

During the Archaic period population density increased as did technology. During this period the large lanceolate points of the Paleoindian period were replaced with smaller corner- or side-notched points. During the latter part of the Archaic period (3500 – 1000 BC), steatite and ceramic vessels appear in the archaeological record, indicative of increased sedentism. Sites that contain low frequencies of ceramics are interpreted as short term seasonal camps. Approximately 16 percent of sites recorded in the Savannah River Valley date to the Archaic Period.

*Woodland Period (1000 BC – 900 AD)*

Increased sedentism and larger populations are the hallmarks of the Woodland period. Subsistence during this period began to focus on maize, beans, and squash, and the necessity for planting and maintaining the crops helped establish more stable and settled societies. Woodland period sites, represented by diagnostic materials such as small, square-based contracting stemmed projectile points, triangular points, copper or polished slate spearheads, tubular stone pipes and trade goods, account for nearly 15 percent of the recorded sites in the Savannah River Valley. Sites dating to the Early (1000 – 100 BC) and Middle (100 BC – 500 AD) occur more frequently in the Upper Savannah River Valley than do Late Woodland (500 – 900 AD) sites. Evidence of access to exotic trade goods and craft specialization are much more common during the latter part of the period.

*Mississippian Period (900 – 1600 AD)*

It was during this period that regional chiefdoms and trade networks fully evolved throughout the Southeast. Based on ceramic sequences, Anderson (1994) divides the period into Early (900–1250 AD), Middle (1250 - 1450 AD) and Late (1450 – 1600 AD). During the Early Mississippian period, Savannah River people constructed small hamlets, medium-sized unfortified communities and large palisaded villages. Large earthen mounds appear around 1100 AD. Settlements were located along major rivers on wide, alluvial floodplains. During the Middle Mississippian mound-building intensifies. The Late Mississippian period includes large villages located on major river floodplains with platform mounds, plazas, and fortifications. The archaeological record suggests a decline in occupation of the Savannah River Valley during the Late Mississippian period.

**Historic Periods**

*Contact Period (1540 – 1717 AD)*

The Contact period in the Southeast is a time in which native communities were transformed by a series of European-influenced factors or encounters. The abandonment of the Middle and Upper Savannah River Valley was historically documented in four different narratives of the Hernando de Soto expedition, which passed through the area in April 1540. The interior of South Carolina and Georgia remained largely unexplored by Europeans until the settling of Charles Towne in 1670.

*Colonial (1700 – 1781 AD)*

By the mid-eighteenth-century Europeans from the low country and the Carolina Piedmont began encroaching on Cherokee Territory in the northwest portion of South Carolina. Ties between the colonists and the Cherokees slowly disintegrated resulting in the Cherokee War of 1759 - 1761. In an effort to keep peace between Euro-Americans and the Cherokee, a boundary line was drawn between the Savannah River and the Reedy River (present day South Carolina Counties Anderson and Abbeville) in 1766 that officially prohibited white settlement in Cherokee territory. Prior to and during the Revolutionary War the area was inhabited by Euro-American squatters who had settled the area to escape colonial authorities. Relations between settlers and the

Cherokee again disintegrated during the 1770s when the Cherokee were brought into the War, siding with the British and often attacking frontier settlements.

#### *Antebellum (1782 – 1865 AD)*

Settlement of the Upper Savannah River region increased after the Revolutionary War and the subsequent fall of the Cherokee towns. Following the war, the area's population continued to grow as a result of relocation of the native population who had inhabited the region. Franklin County, Georgia, established in 1784 out of the 1783 Treaty of Augusta, was the first county in the state created after the American Revolution. Hart and Stephens counties were created in 1853 and 1905, respectively.

In South Carolina, lands of the Cherokee were granted to settlers in 1784, and in 1785, South Carolina was divided into six districts, each consisting of multiple counties. In 1791, the state formed Washington District, from which the counties of Pickens (1826), Oconee (1868), and Anderson (1826) evolved. Anderson County established the town of Anderson as the county seat in 1828. As there was no railroad that directly linked Anderson with the outside world, most freight traffic occurred on the Savannah River.

The area developed a subsistence agrarian economy. Early crops such as corn, oats, wheat, rye, barley, cotton, and tobacco became staples. The introduction of the cotton gin and increases in cotton prices following the War of 1812, solidified cotton's position as the dominant cash crop of the region's economy. The natural transportation networks established by the Savannah and Broad Rivers propelled the success of cotton for nearby Elbert County, and by 1849, the county yielded 500 pounds of cotton to the acre. As cotton grew in popularity in the region, so too did slave holdings. Hart and Franklin Counties, being on the northern fringe of the cotton region, were not as reliant on slave labor as counties to the south. By 1860, slaves accounted for about 25 percent of the population in Hart County and 17 percent in Franklin County. In comparison Elbert County's slave population accounted for over 50 percent of county's population.

#### *Postbellum Period (1865 – 1930 AD)*

Although the Upper Savannah River was not directly affected by Civil War military action, the war caused a major disruption in lifeways in the region. Emancipation allowed some former slaves to migrate, causing a shortage of labor for former slave owners who had managed to retain some of their pre-War lands. The migration coupled with the labor shortage encouraged the development of the tenancy system. The increasing number of railroads in the region spurred settlement and economic activity. Water power and industrialization became emphasized as the number of textile mills increased in the region.

#### *Modern Period (post - 1930 AD)*

During the Great Depression, the region continued to shift away from cotton production. Federal New Deal programs (1933 - 1938) encouraged farmers to take their cotton fields out of production and plant trees. As a result, many farm workers moved from rural areas to cities and towns to work at textile or lumber mills. Beginning in the 1940s,

agriculture in Elbert and Hart Counties began to decline noticeably as the number of farms lessened and continued to decline over a span of 40 years.

#### Previous Investigations

Prior to impoundment of Hartwell Lake, Joseph Caldwell conducted a reconnaissance level survey of the uppermost parts of the Savannah River and parts of the Tugaloo and Seneca-Keowee Rivers. Caldwell identified 54 sites during the survey; six recommended for additional excavations, and one for additional testing. Subsequent follow-on investigations and excavations of several of Caldwell's recorded sites were conducted in the early 1950s - late 1970s. Small scale Section 106 compliance archaeological surveys have been conducted for various types of development and lease actions since the late 1970s. As a result of these investigations Hartwell Project manages six archaeological sites listed or eligible for listing on the NRHP. Five sites date to the prehistoric period; one site is a historic farmstead. All six sites are located in South Carolina.

#### Long-Term Cultural Resources Objectives

A Hartwell Project HPMP was developed in 1997 and updated in 2013 for the Project, but the update was not coordinated with the SHPOs and not finalized. In general, Hartwell Project protects its cultural resources by avoidance when location is known or discovered when considering development of activities on public land. As funding allows, a Cultural Resources Management Plan (CRMP) will be developed and incorporated into the OMP in accordance with EP 1130-2-540.

The purpose of the CRMP is to provide a comprehensive program to direct the historic preservation activities and objectives at the Hartwell Project. In consultation with the Georgia and South Carolina State Historic Preservation Officers (SHPO), all currently known sites with unevaluated NRHP status must be evaluated to determine their eligibility. In accordance with Section 106 of the NHPA, any proposed undertaking, such as those described in this MP or as may be proposed in the future by others will require coordination with the respective SHPO to locate and evaluate potential impacts to historic and prehistoric resources. An undertaking consists of any project, activity, or program either funded, permitted, licensed, or approved by a federal agency. Resources determined eligible for the NRHP must be protected from proposed project impacts, or the impacts must be mitigated. All future cultural resource investigations at Hartwell Project must be coordinated with the respective SHPO and federally recognized Tribes to ensure compliance with the NHPA, the Archaeological Resources Protection Act (P.L. 96-95), and the Native American Graves Protection and Repatriation Act (P.L. 101-601).

## **2.9 SOCIOECONOMIC RESOURCES**

Socioeconomic resources describe the existing setting related to population, employment, income, and ethnicity.

## 2.9.1 Affected Environment

The affected environment includes regional and local demographic and economic information as it relates to the Hartwell Project and the surrounding area. For the purposes of this section, the socioeconomic study area includes Anderson, Oconee, and Pickens Counties in South Carolina, and Hart, Franklin, and Stephens Counties in Georgia.

## 2.9.2 Population Demographics

The total population for the zone of interest is 484,467 as shown in Table 7. Currently, 2020 census data is not available by county. Therefore, we utilized the best available census data and projections for the zone of interest. Based on the total population within the zone of interest, 42 percent is in Anderson County, 16 percent is in Oconee County, and 26 percent is in Pickens County. Each of the remaining counties makes up less than 6 percent of the zone of interest total population. The zone of interest includes those adjacent counties that would be directly impacted by the management of Hartwell lake.

From 2010 to 2021, the population is projected to increase by 11.51% in Georgia and 13.85% in South Carolina. The distribution of the population by gender is approximately 49 percent male and 51 percent female in the zone of interest (Table 8).

**Table 7: 2019 Population Estimates and 2020 Projections**

	2019 Population Estimate <sup>1</sup>	Growth from April 2010 to July 2019 <sup>1</sup>	2019 Percent of Zone of Interest <sup>1</sup>	2020 Annual Growth Rate <sup>2</sup>	Estimated Growth Rate 2010-2021 <sup>2</sup>
<b>States:</b>					
Georgia	10,711,908			0.81%	11.51%
South Carolina	5,118,714			0.76%	13.85%
<b>Counties:</b>					
Franklin, GA	23,349	5.7%	4.82%	1.33%	8.63%
Hart, GA	26,205	3.9%	5.40%	0.51%	4.89%
Stephens, GA	25,925	-0.9%	5.35%	-0.32%	-1.36%
Anderson, SC	202,558	8.4%	41.81%	1.12%	10.69%
Oconee, SC	79,546	7.1%	16.41%	1.56%	10.32%
Pickens, SC	126,884	6.3%	26.19%	1.31%	9.10%
<b>Zone of Interest Total</b>	<b>484,467</b>		<b>100%</b>		

<sup>1</sup>Source: U.S. Bureau of the Census, 2019 Estimate.

<sup>2</sup>2020 Annual Growth and Estimated Growth based on World Population Review projections from 2019 Census Estimate

**Table 8: Percent of Population Estimate by Gender**

	Male	Percent Male	Female	Percent Female
States:				
Georgia	5,205,988	48.6%	5,505,920	51.4%
South Carolina	2,477,457	48.4%	2,641,256	51.6%
Counties:				
Franklin County, GA	11,441	49%	11,908	51%
Hart County, GA	12,972	49.5%	13,233	50.5%
Stephens County, GA	12,496	48.2%	13,429	51.8%
Anderson County, SC	97,430	48.1%	105,127	51.9%
Oconee County, SC	39,137	49.2%	40,409	50.8%
Pickens County, SC	63,188	49.8%	63,696	50.2%
Zone of Interest	236,664	49%	247,802	51%

Source: U.S. Bureau of the Census, 2019 Estimate

Tables 9 shows the population composition by age group. The distribution by age group is similar among the counties, zone of interest, and the state overall. The largest age group is the 18 to 64, with 59 percent of the total population in the zone of interest.

**Table 9: Age Distribution**

	Under 18	18 to 64	65 and Over
States:			
Georgia	23.6%	62.1%	14.3%
South Carolina	21.6%	60.2%	18.2%
Counties:			
Franklin County, GA	21.8%	59%	19.2%
Hart County, GA	20.7%	57.2%	22.1%
Stephens County, GA	22.5%	57.7%	19.8%
Anderson County, SC	22.7%	59%	18.3%
Oconee County, SC	19.8%	56.6%	23.6%
Pickens County, SC	18.6%	64.7%	16.7%
Zone of Interest	21.0%	59%	19.9%

Source: U.S. Bureau of the Census, 2019 Estimate

Population by Race Alone or in Combination with Other Races is displayed in Table 10. For the zone of interest, 84.7 percent of the population is White, 11.8 percent is Black or African American, 1.9 percent are two or more races, and 1.2 percent are Asian. The remainder of the races make up less than 1 percent of the zone of interest population each and those of Hispanic or Latino origin make up 4.4 percent of the zone of interest.

By comparison, for the state of South Carolina, 68.6 percent of the population is White, 27.0 percent is Black or African American, and the remaining races combined constitute less than 5 percent of the total population with those of Hispanic or Latino origin making

up 6 percent. For Georgia, 60.2 percent of the population is White, 32.6 percent is Black or African American and the remaining races constitute less than 10 percent of the total population. Those of Hispanic or Latino origin comprise 9.9 percent of the Georgia population.

**Table 10: 2019 Population Estimate by Race/Hispanic Origin**

	White Alone	Black or African American Alone	American Indian and Alaska Native Alone	Asian Alone	Native Hawaiian or Other Pacific Islander Alone	Two or more races	Hispanic or Latino Origin
States:							
Georgia	60.2%	32.6%	0.5%	4.4%	0.1%	2.2%	9.9%
South Carolina	68.6%	27.0%	0.5%	1.8%	0.1%	2%	6%
Counties:							
Franklin, GA	86.8%	9.5%	0.4%	1.4%	0.1%	1.9%	4.8%
Hart, GA	77.8%	19.1%	0.2%	1.2%	0.0%	1.7%	3.8%
Stephens, GA	85.0%	11.0%	0.6%	0.8%	0.1%	2.5%	3.9%
Anderson, SC	80.5%	16.3%	0.3%	1.0%	0.0%	1.8%	4%
Oconee, SC	89.3%	7.6%	0.4%	0.9%	0.0%	1.9%	5.8%
Pickens, SC	88.6%	7.2%	0.3%	2.0%	0.0%	1.9%	3.9%
Zone of Interest Total	84.7%	11.8%	0.4%	1.2%	0.0%	1.9%	4.4%

Source: U.S. Bureau of the Census, 2019 Estimate

### 2.9.3 Education and Employment

Table 11 shows the population over 25 years of age by highest level of educational attainment for each of the geographical areas. In the zone of interest, 83.6 percent of the population attained a high school degree or higher level of educational. A Bachelor's degrees or higher has been attained by 21.1 percent.

By comparison, in Georgia 81.7 percent are high school graduates or higher, and 31.3 percent have attained a bachelor's degree or higher. For South Carolina, 87.5 percent are high school graduates or higher, and 28.1 percent have attained a bachelor's degree or higher.

**Table 11: Population Over 25 Highest Level of Education Attainment**

	High school graduate or higher	Bachelor's degree or higher
South Carolina	87.5%	28.1%
Georgia	81.7%	31.3%
Anderson County, SC	85.3%	22.2%
Oconee County, SC	84.9%	25.8%
Pickens County, SC	85.3%	26%
Hart County, GA	81.5%	15.7%
Franklin County, GA	82.3%	15.9%
Stephens County, GA	82.1%	21%
Zone of Interest	83.6%	21.1%

Source: U.S. Bureau of the Census, 2019 Estimate

Employment by sector is presented in Table 12. Each figure represents the percentage of the employed civilian population in each area. In the zone of interest, the largest sectors are educational services, health care, and social assistance, with 24.1 percent of the civilian employed population. The second largest sector is manufacturing, which employs 19.7 percent. This is followed by retail trade with 11.5 percent. The remaining sectors each fall under 7 percent.

Similarly, the largest employment sectors for Georgia and South Carolina are also educational services, health care and social assistance, with 20.8 percent and 21.7 percent, respectively, of the total employment. While manufacturing has importance in both the zone of interest and state, employment is driven by service sector employment.

**Table 12: Employment by Sector (Percentage of Employed Civilian Population)**

	Agriculture, forestry, fishing and hunting, and mining	Construction	Manufacturing	Wholesale trade	Retail trade	Transportation and warehousing, and utilities	Information	Finance and insurance, and real estate and rental	Professional, scientific, and management, and administrative and waste	Educational services, and health care and social assistance	Arts, entertainment, and recreation, and accommodation and food services	Other services, except public administration	Public administration
South Carolina	1.0	6.5	13.8	2.6	12.2	4.8	1.8	5.7	9.9	21.7	10.4	5.1	4.6
Georgia	1.1	6.5	10.6	2.9	11.8	6.2	2.5	6.3	11.8	20.8	9.4	4.9	5.1
Anderson County, SC	0.7	5.7	21.3	3.3	12.5	3.7	1.3	3.9	7.9	24.0	8.0	4.9	3.0
Oconee County, SC	1.2	7.9	20.0	1.3	9.2	5.3	1.0	4.1	8.2	22.5	11.2	5.7	2.4
Pickens County, SC	0.9	7.2	16.0	2.5	11.0	5.5	1.1	4.5	7.8	25.6	9.9	4.9	3.1
Hart County, GA	5.2	6.9	24.2	1.9	14.0	4.8	1.1	3.5	5.7	16.4	7.4	3.6	5.3
Franklin County, GA	4.2	8.2	18.6	2.0	11.0	5.2	1.1	4.0	5.3	24.9	6.3	5.3	3.7
Stephens County, GA	1.5	6.6	21.2	3.0	10.8	2.8	1.8	3.3	4.5	28.5	5.3	5.7	5.0
Zone of Interest	1.2%	6.7%	19.7%	2.6%	11.5%	4.5%	1.2%	4.0%	7.5%	24.1%	8.8%	5.0%	3.2%

Source: U.S. Bureau of the Census, 2017 Estimate

### 2.9.4 Households and Income

There are approximately 184,566 households in the zone of interest with an average household size of 2.5 persons. For Georgia, there are 3.7 million households and in South Carolina, 1.9 million, with an average size of households at 2.7 for Georgia and 2.5 for South Carolina, as shown in Table 13.

**Table 13: Households and Household Size**

	Households	# per Household
South Carolina	1,921,862	2.5
Georgia	3,758,798	2.7
Anderson County, SC	76,798	2.5
Oconee County, SC	31,978	2.4
Pickens County, SC	47,934	2.4
Hart County, GA	9,853	2.5
Franklin County, GA	8,460	2.6
Stephens County, GA	9,543	2.6
Zone of Interest	184,566	2.5

Source: U.S. Bureau of the Census, 2019 Estimate

As shown in Table 14, households in the zone of interest were generally poorer than the Georgia and South Carolina state averages in 2019. In the counties in zone of interest, the median household income ranges from \$42,488 in Franklin County to \$50,865 in Anderson County. These all fall below the Georgia median household income of \$58,700 and the South Carolina median household income and \$53,199.

Similarly, many counties in the zone of interest had a lower 2019 per capita income. Per capita incomes ranged from \$23,187 in Franklin County to \$29,844 in Oconee County. The Georgia counties all fall below the Georgia per capita income of \$31,067 and Anderson and Pickens counties fall below the South Carolina per capita income of \$29,426.

**Table 14: Median Household and Per Capita Income**

	Median Household Income (2019 Dollars)	Per Capita Income (2019 Dollars)
South Carolina	\$ 53,199	\$ 29,426
Georgia	\$ 58,700	\$ 31,067
Anderson County, SC	\$ 50,865	\$ 27,552
Oconee County, SC	\$ 49,134	\$ 29,844
Pickens County, SC	\$ 49,573	\$ 26,061
Hart County, GA	\$ 43,204	\$ 23,181
Franklin County, GA	\$ 42,488	\$ 23,187
Stephens County, GA	\$ 47,164	\$ 23,546

Source: U.S. Bureau of the Census, 2019 Estimate

The percentage of persons whose income was below the poverty level in the zone of interest was higher than the overall percentage for either Georgia or South Carolina (Table 15). A “low-income person” is defined as a person whose household income is at or below the income level stated in the U.S. Department of Health and Human Services’ poverty guidelines, which in the 2019 guidelines was \$21,330 for a family of three.

Counties in the zone of interest showed between 12.9 and 17.3 percent of the population below the poverty level. Anderson County had the lowest percentage below

the poverty threshold at 12.9 percent. Franklin County had the highest percentage below the poverty threshold at 17.3 percent.

**Table 15: Population Below Poverty Thresholds**

	Percent in Poverty
South Carolina	13.8%
Georgia	13.3%
Anderson County, SC	12.9%
Oconee County, SC	13.1%
Pickens County, SC	15.3%
Hart County, GA	14.6%
Franklin County, GA	17.3%
Stephens County, GA	15%
Zone of Interest	14.7%

Source: U.S. Bureau of the Census, 2019 Estimate

## **2.10 RECREATION FACILITIES, ACTIVITIES, AND NEEDS**

### **2.10.1 Zones of Influence**

The primary area of economic influence encompasses portions of Anderson, Oconee, and Pickens in SC, and Hart, Franklin, and Stephens Counties in GA with additional economic influence from within a 100-mile radius of the lake. This six-county region has been utilized as the basis in summarizing the population characteristics of the Hartwell Project.

### **2.10.2 Visitation Profile**

Most visitors to the Hartwell Project come from within a 100-mile radius of the lake area. The majority of visitors' primary activities involve water-based recreation such as swimming, fishing, boating, water skiing (including wakeboarding), kayaking, and sailing. Picnicking and camping are often an important part of their visit. Another large segment of visitors relies on the Hartwell Project's land base for activities such as hunting, hiking, bird watching, and mountain biking. Many visitors are repeat customers who have been "going to the lake" for years. Visitors are a diverse group ranging from campers who utilize the campgrounds around the lake; full time and part time residents of private housing developments that border the lake; hunters who utilize the Wildlife Management Areas and collar lands around the lake; day users who picnic in the city, county, state, and USACE operated parks; marina customers, fishermen, and many other user groups.

### **2.10.3 Recreation Analysis**

Recreational use at the Hartwell Project continues to evolve with approximately 9.2 million visitors in FY2020. While visitation in recreational areas remains strong, facilities

(e.g., marina and cabins) in outgranted areas indicate that there is a demand for recreational opportunities not offered in traditional USACE parks.

#### **2.10.4 Recreation Carrying Capacity**

The recreation carrying capacity of the project is the amount of development, use, and activity any lake and associated recreational lands can sustain without being permanently adversely impacted. USACE staff will identify overcrowding and overuse and apply appropriate management practices to maintain a quality recreational experience.

### **2.11 REAL ESTATE**

Hartwell Project was authorized by the Flood Control Act of 1950 and the land was acquired under the 1953 - 1962 acquisition policy known as the Eisenhower Policy. This policy limited land acquisition to what was required for operational purposes, as a cost saving measure. Land acquisition involved the purchasing of fee titles to all land acquired for the dam site, construction area, permanent structure area, reservoir, and lands for the safe and efficient operation of the project. This included all lands encompassing the acquisition guideline at or below an elevation of 674.0' amsl (maximum surcharge elevation). Distance from the boundary line to full pool typically ranges from 100 to 200 feet.

The project includes an area of 23,566 acres of land acquired in fee above the full conservation pool of 660' amsl with an additional 676 acres of flowage easement. Total project lands and water equal 79,516 acres. Neither surface nor subsurface minerals were acquired below the normal high-water line of the natural river channel. This was generally defined on the ground at the vegetative line on the riverbank. Permanent inundation precludes use by the surface owner; however, adjacent property owners may apply for a dredging permit (in the dry) of silt during periods of low water. Dredging (in the dry) requires an additional permit from the USACE Regulatory Division. Applications for dredging should be submitted to the local Hartwell Project office.

Government property is monitored by USACE personnel to identify and correct instances of unauthorized use. When encroachments are discovered, Savannah District - Real Estate Division will be notified after the project exhausts all efforts to resolve it in the field.

Forest products generated through clearing, flood damage and salvage operations, or incidental to implementation of the approved Forest Management Plan, and not required for USACE use, will be sold. Disposal procedure for standing timber is a Real Estate Division function and all proposed sales will incorporate a disposal plan. Generally, the plan will indicate extent, volume, and justification for such sales. Funds derived from the sale of forest products are returned to the project and utilized for the implementation of natural resource management programs in accordance with the Collection of Civil Works Appropriation Refunds USACE Policy (2016-05).

Currently, at Hartwell Lake, project staff and the Savannah District Real Estate Division oversee and manage over 303 real estate easements, 57 leases, 14 consents, 10,277 shoreline licenses, and 10 miscellaneous licenses. They provide oversight for leases for five marinas, four state parks, 40 city and county parks, campgrounds, and access areas, nine quasi-public sites, and seven private clubs. Additionally, there are 3,043 acres of public land under license to the states of GA and SC for wildlife management.

## **2.12 APPLICABLE PUBLIC LAWS**

There are many public laws that are applicable to the Hartwell Project. The USACE complies with all public laws and uses public laws to guide the development of policies and plans. A complete listing of applicable public laws can be found in Appendix C.

## **3.0 RESOURCE OBJECTIVES**

### **3.1 PROJECT-WIDE RESOURCE OBJECTIVES**

Resource considerations at the Hartwell Project exist primarily due to user demands. Multiple user types have interests in the recreation facilities, project lands and waters, and such demands regularly create conflicts. USACE is also obligated to manage these resources for the overall interest of the public and not just for a select group of individuals. It is the responsibility of the project and USACE to attempt to provide an environmentally-sound balance of these demands.

The project-wide resource management objectives involve the long-term development and management goals of project resources to guide proposed future actions for the public benefit, consistent with resource capabilities within the framework of USACE Environmental Operating Principles. Resource objectives are attainable goals for development, conservation, and management of natural, cultural, and manmade resources at the project. They are guidelines for obtaining maximum public benefits while minimizing adverse impacts to the environment and are developed in accordance with: 1) authorized project purposes; 2) applicable laws and regulations; 3) resource capabilities and suitability; 4) regional needs; 5) other governmental plans and programs; and 6) expressed public desires.

The project-wide resource objectives for the Hartwell Project, not in priority order, are listed below:

- Increase the benefit of all project lands and waters for recreation, fisheries, and wildlife.
- Manage the existing natural resources and recreation facilities in compliance with all pertinent laws, regulations, and policies.
- Develop and manage the area for maximum enjoyment of the recreating public to the extent compatible with other authorized purposes. It is a goal of the Corps to make its facilities accessible to persons with disabilities. The Corps will comply with standards of the Architectural Barriers Act (ABA) of

1968 to the maximum extent practicable and feasible without compromising the facility's function.

- Protect and conserve the existing native wildlife species and improve habitat now and in the future.
- Manage habitat for fish, game, and non-game species, thereby providing a quality hunting, fishing, and wildlife viewing experience.
- Protect and conserve Government property from erosion through natural resource management and fostering good stewardship by minimizing encroachments and other unauthorized uses.
- Inform the public, through programs, public outreach, education, and personal contacts, about the project and resource management purposes and objectives.
- Integrate fish and wildlife management practices with other natural resource management practices while working closely with state and local natural resource agencies. Forest management techniques (i.e., timber thinning and prescribed burning) will be utilized to improve wildlife habitat and as a forest management tool to improve insect and disease resistance in forest stands.
- Identify safety hazards or unsafe conditions, correct infractions, and implement safety standards in accordance with EM 385-1-1.
- Encourage hunting and fishing participation through special events, habitat management, programs, and other outdoor recreation pursuits compatible with project purposes.
- Preserve and protect important cultural, ecological, and aesthetic resources in compliance with existing federal statutes and regulations.
- Detect invasive species and minimize impacts to authorized project purposes in a cost-effective and environmentally sound manner. Monitor invasive species populations accurately and reliably, and if feasible, provide for restoration of native species and habitat.

Implementation of these objectives is based upon time, manpower, and budget. The objectives provided in this chapter are established to provide high levels of stewardship to USACE managed lands and resources while still providing a high level of public service. These objectives will be pursued using a variety of mechanisms such as assistance from volunteers, partnerships, hired labor, contract labor, remediation, and special lease conditions. It is the intention of the Hartwell Project staff to provide a realistic approach to the management of all resources.

The natural resource elements within the identified objectives are represented in several different categories of work. They can be broken into recreation, fisheries, game, and non-game. Management objectives for these categories are dependent on the individual resource, location, and lead agency (i.e., GADNR and SCDNR).

### **3.1.1 Aids to Navigation Management**

The Hartwell Lake Aids to Navigation (ATON) management program provides for the maintenance of approximately 1,196 navigation markers with a focus on providing safe

recreational opportunities. ATONs are maintained by USACE staff, through contracts and volunteers.

### **3.1.2 Wildlife and Fisheries Management**

Wildlife and fisheries are managed cooperatively between the GADNR, SCDNR, and USACE.

Objectives for fisheries are to continue to monitor current populations, ensure the populations are healthy and stable, and provide a quality fishery for recreation. Agencies conduct annual sampling and data analysis to assess fisheries populations. They also make adjustments in creel and size limits as necessary to keep existing populations healthy. Striped bass, hybrid bass, and trout are routinely stocked in Hartwell Lake.

The Fish and Wildlife Management Plan for Hartwell Project integrates management practices that are compatible with the multiuse purposes of the project for the long-range optimization and sustained use of a diverse yet balanced wildlife population. The management plan and associated activities are coordinated with appropriate Federal, State, and USACE personnel to ensure compatibility and continued success of the programs.

Wildlife management efforts are directed principally to habitat conservation, with food, cover, and nesting areas being the critical areas of concern. Principal management tools used to accomplish habitat management include silvicultural practices to ensure diverse vegetative cover, establishment of food plots and strips, placement of nesting aids to supplement natural tree cavities, and beaver pond manipulation.

The fish management plan is designed to provide a successful and sustained harvest to ensure maximum recreational enjoyment by present and future users at Hartwell Lake. Fisheries management includes habitat manipulation, population monitoring, and distribution of population and habitat information to the local news media.

Habitat management includes controlling water levels to enhance spawning conditions for game fish, constructing artificial reefs and fish shelters, and controlling water discharges to ensure a cold-water fishery below the Hartwell Dam. In 1998, the Hartwell Dam generating units 1 - 4 were retrofitted with vent pipes to induce air into the hydro turbines during power generation. This venting system increases the dissolved oxygen in the Hartwell tailwater during periods when ambient conditions are less than optimal for fisheries.

Creel census, fishing club tournament surveys, electro-shocking, rotenone sampling, and vertical gill are the tools used for fish population monitoring. From data received during monitoring procedures, estimations are made as to the general health, numbers and potential problems of the overall population. Certain

information received from these studies, such as average depth of the game fish and general locations, are combined with current catch and success information.

### **3.1.3 Recreation**

Recreation falls within two categories that can be identified as either land or water-based recreation. Management objectives for each type vary depending on the location and the intensity of use. General objectives are provided in this MP as to the work necessary to meet the public's needs for land and/or water-based recreation.

Land-based recreation includes activities that typically occur on, or adjacent to USACE lands and waters, such as camping, hiking, hunting, picnicking, wildlife/bird viewing, sightseeing, etc. Land-based recreation areas include campgrounds, day-use areas, overlooks, roads, bike trails, and wildlife management areas. Facility types typically found within these recreation areas include campsites, picnic sites, shelters, hunting areas, trails, restrooms, boat ramps, and courtesy docks. These recreation areas are managed by several entities: USACE, state and local governments, and private organizations.

Water-based outdoor recreation includes opportunities, activities, areas, and facilities that occur on water managed by USACE. These activities include fishing, boating, swimming, scuba diving, kayaking, etc. Water-based recreation is managed by USACE and state and local agencies.

A primary mission of USACE is to provide safe recreational opportunities. This involves looking at recreation carrying capacity versus current use patterns, zoning requirements for no-wake or restricted areas, and areas to remain open for public recreation. USACE will keep in close coordination with the state and local agencies in determining use patterns within the water portions of the project and promote water safety.

### **3.1.4 State Comprehensive Outdoor Recreation Plan (SCORP)**

Both GA and SC have State Comprehensive Outdoor Recreation Plans (SCORP), which make the states eligible to receive federal grant dollars through the Land and Water Conservation Fund. These plans are typically updated every five years.

The GA 2017-2021 SCORP stresses the positive impacts provided by outdoor recreation by highlighting the value that parks and recreation bring to protecting natural resources, maintaining healthy populations, and adding to local economic vitality. Their priority is to attend to the urgent needs of current outdoor recreation facilities.

The SC 2014 SCORP focuses on providing recreational opportunities to all populations and creating economic benefits for the surrounding communities.

One of the unique challenges identified in the SCORP is the increase in resource user groups that have historically represented ethnic and racial minorities. The SCORP

demonstrated that low-income and rural constituents often face unique challenges in accessing outdoor recreation resources. Any reduction in the availability of outdoor recreation would increase the negative impacts on these population groups. USACE will continue to maintain public access to these areas to facilitate outdoor recreation use and help address these needs.

#### **4.0 LAND ALLOCATION, LAND CLASSIFICATION, WATER SURFACE, AND PROJECT EASEMENT LANDS**

Land allocation categories identify the congressionally authorized purpose for which project lands were acquired, whether by fee simple purchase or through other means as described below. All 23,566 acres of project lands acquired at Hartwell were for operational purposes. Specifically, the original authorized purposes for construction were Hydropower, Flood Control, and Navigation under HD 78-657 (Flood Control Act of 1950 and PL 81-516). Recreation (PL 89-72), Wildlife (PL 85-624), Water Supply (PL85-500) and Water Quality (PL 92-500) were added at a later date.

#### **4.1 LAND CLASSIFICATION**

Land Classifications are determined based on characteristics that make an area suitable for a particular land use and is largely dictated by resource capability (i.e., soils, topography, and vegetation) and location. There are six categories of classification for the MP identified as: Project Operations, High Density Recreation, Mitigation, Environmentally Sensitive Areas, Multiple Resource Management Lands, and Surface Water. Each classification may have sub classifications. For example, recreation areas are classified based on two designations: 1) High Density for intensive use with sub-classifications of public recreation, quasi-public development, and private club sites, and 2) Low Density recreation sites which are identified under the Multiple Resource Management category. Maps showing the various land classifications can be found in Appendix A.

##### **4.1.1 Project Operations**

Project Operations includes the lands categorized as restricted use that are managed for the dam, spillway, hydropower plant, and project office. These lands were acquired to provide for the safe and efficient operation of Hartwell Project. This includes the land on which project operational structures are located which totals 68 acres. These operational lands were acquired specifically to meet the requirements of the congressionally authorized purpose of constructing and operating the project for flood control, and hydroelectric power generation and are comprised of two categories: administrative and dual use.

Administrative lands are classified for the safe and efficient operation of the dam and powerhouse, radio tower locations, the resource manager's marine base, the resource manager's office and maintenance areas, and the pumping station at the Clemson diversion dams. Dual Use lands are located between elevation 660' AMSL (top of

conservation pool) and 674' amsl (maximum design surcharge elevation). These lands were also classified for project operations but allow public use for recreation and fish and wildlife. Dual Use lands are not depicted on the Land Use Plates due to scale limitations and for clarity.

#### **4.1.2 High Density Recreation**

These are lands that typically occur near the shoreline and are developed for intensive recreational activities for the visiting public including day use areas, campgrounds, concession areas, cabins, lodges, docks, fishing piers, hiking trails, education centers, interpretive displays, restaurant, boat launching ramps and supporting facilities, shelters, and pavilions. This category includes lands originally acquired for project operations and allocated for use as developed public use areas for intensive recreational activities by the visiting public, including areas for concession and group use development. To recognize and honor past commitments, this classification is further subdivided:

- Public Recreation Areas are defined as lands identified and managed for the benefit of the public in general, including concessions.
- Quasi-Public Development. This category includes lands leased to church groups, Scout groups, Clemson University, and other similar groups.
- Private Club Leases. This designation will allow the District to honor past lease commitments in accordance with existing USACE policy on private exclusive use. There are no additional lands for lease to private clubs.

A total of 5,875.5 acres were classified specifically for the congressionally authorized purpose of recreation development (Table 18).

#### **4.1.3 Environmentally Sensitive Areas**

These are areas where scientific, ecological, cultural, and aesthetic features have been identified. This designation limits and can prohibit any further development within the area. There are 7,626.7 acres classified for environmentally sensitive areas.

#### **4.1.4 Multiple Resource Management Lands**

This classification is divided into four subcategories identified as: Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. A given tract of land may be classified using one or more of these subcategories. The following identifies the amount contained in each subcategory of this classification.

Low Density Recreation. These are lands with minimal development or infrastructure that support passive public recreational use (e.g., fishing, hunting, wildlife viewing, shoreline use, hiking, etc.). The intention of these lands is to ensure available lands for low density recreation serving as a buffer between areas classified as recreation

intensive use and wildlife management. There are 8,345.8 acres under this classification at Hartwell Project.

**Wildlife Management.** These are lands designated for the stewardship of wildlife resources. There are 1,650 acres of land under this classification. The focus of these areas is providing public access and habitat management through maintained wildlife openings and prescribed burning.

**Vegetative Management.** These are lands designated for stewardship of forest, prairie, and other native vegetative cover. There is no acreage under this classification at the Hartwell Project.

**Future or Inactive Recreation.** These are lands designated for recreation with site characteristics compatible with potential future recreation development. These areas will be managed as low-density recreation lands which will still provide for recreational benefits until there is an identifiable need and opportunity to develop these areas. Currently, Hartwell Project does not have any lands that fit this designation.

#### **4.1.5 Surface Water**

The project does have a surface water management program for project operations and public safety. The navigation channel and hazard buoys are managed by USACE.

**Restricted.** These are water areas restricted for project operations, safety, and security purposes. The area around the dam and hydropower intakes in the forebay has been identified for no boat entry which covers an area of approximately 23 acres. The area restricted in the tailwater encompasses 14.6 acres for a total of 37.6 acres of restricted surface water.

**Designated No-Wake.** Hartwell Lake has approximately 37 no-wake areas surrounding the bridges and railroad crossings, five marinas, 92 boat ramps, and four state parks. Total surface water designated as no-wake is 350.5 acres.

**Fish and Wildlife Sanctuary.** These areas are managed with annual or seasonal restrictions to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning. Hartwell Lake does not have surface water designated for this purpose. However, there are spring water level restrictions for the purpose of maintaining largemouth bass spawning habitat (Division Regulation (DR) 1130-2-16). The spawning period is defined as beginning when water temperatures reach 65 degrees Fahrenheit and lasting until three weeks after water temperatures reach 70 degrees. The spawning period usually starts around the first of April and lasts 4 to 6 weeks. Past studies indicate that the 4-week period of April 1 - 28 is the peak spawning period. Stable lake levels should be provided during this peak spawning period to prevent the stranding of eggs and abandonment of nests.

Throughout the spawning season, water levels should not be lowered more than six inches below the highest lake elevation recorded during the operational spawning window. If inflows during the spawning season cause lake levels to rise to flood levels, managers have the authority to lower lake levels more than 6 inches, since flood control takes precedence over fish spawn. Additionally, maintaining these stable lake levels may not always be possible during drought.

Open Recreation. Other than the restricted areas near the dam, the remainder of the lake is open to recreational use. There is no specific zoning for these areas, but there is a buoy system in place to help aid in public safety. These buoys mark hazards in the navigation channel, no wake areas, boat restriction, and navigational channel and direction.

Table 16 provides a summary of land classifications at Hartwell Reservoir. A map representing these areas can be found in Appendix A.

**Table 16: Land and Water Classifications**

<b>Land Classification</b>	<b>Acres</b>
Project Operations	68.0
High Density Recreation (includes Future/Inactive)	5,875.5
Environmental Sensitive and Natural Areas	7,626.7
<b>MULTIPLE RESOURCE MANAGED LANDS</b>	
Low Density Recreation	8,345.8
Wildlife Management	1,650.0
Vegetative Management	0
<b>TOTAL LANDS</b>	<b>23,566.0</b>
Future/Inactive Recreation (included under Recreation above)	0
<b>Water Classification</b>	
Surface Water: Restricted	37.6
Surface Water: Designated No-Wake	350.5
Surface Water: Fish and Wildlife Sanctuary	0
Surface Water: Open Recreation	55,562.5
<b>TOTAL WATER</b>	<b>55,950.6</b>

#### **4.2 PROJECT EASEMENT LANDS**

These are lands on which easement interests were acquired. Fee title was not acquired on these lands, but the easement interests convey to the Federal government certain rights to use and or restrict the use of the land for specific purposes. Easement lands are typically classified as Operations Easement, Flowage Easement, and/or Conservation Easement. There are 750.6 acres of easement lands at the Hartwell Project.

#### **4.2.1 Operations Easement**

These are easements USACE purchased for the purpose of project operations. There are no acres of operations easements at the Hartwell Project.

#### **4.2.2 Flowage Easement**

These are easements purchased by USACE giving the right to temporarily flood private land during flood risk management operations. There are 750.6 acres of flowage easement lands located at the Hartwell Project. These lands occur along tributaries outside the project boundaries and are not included as part of the resource plan.

#### **4.2.3 Conservation Easement**

These are easements purchased by USACE for the purpose of protecting wildlife, fisheries, recreation, vegetation, archeological, threatened, and endangered species, or other environmental benefits. There are no conservation easements at the Hartwell Project.

### **4.3 LAND CLASSIFICATION OBJECTIVES**

#### **4.3.1 Operations**

USACE will operate and maintain the Hartwell Project based on authorized project purposes with a priority on security and safety. For lands designated for operations, USACE will conserve and improve natural resources through management activities and restrict access as needed for security and safety purposes. In addition, these lands will be used to promote hunting and fishing through special events.

#### **4.3.2 High Density Recreation**

Because high density recreation can include concessions, camping, boat ramps, and day use areas, often near each other, the Hartwell Project will coordinate planning with state partners while ensuring that use of project lands is compatible with sound stewardship of the natural resource. In cooperation with our state partners, USACE will develop and manage project resources to support types and levels of recreation activities indicated by visitor demand and consistent with carrying capacities, mitigation requirements, and natural resources capabilities.

### **4.3.3 Multiple Resource Management**

#### **Low Density Recreation**

USACE will manage areas designated for low density recreation to accommodate and support a variety of uses such as hiking, wildlife observation, hunting, and fishing. Forest and wildlife management techniques such as thinning, prescribed burns, and planting wildlife openings may be used. However, the low-density designated areas occupy small acreages making some management techniques impractical.

#### **Wildlife Management**

USACE will utilize both forest management and agricultural techniques to maintain or improve wildlife populations with consideration of land capabilities as well as to promote hunting opportunities and improve public access.

### **4.3.4 Surface Water**

#### **Restricted**

USACE maintains restricted areas (defined by buoy lines) in the forebay and tailrace areas of the dam for public safety purposes.

#### **No Wake**

USACE designates no wake areas (designated by no wake buoys) near boat ramps and bridges for public safety purposes.

#### **Open Recreation**

USACE provides and maintains approximately 1,196 ATONs which include both channel and hazard markers. Both types of markers improve safety for boaters and fishermen.

### **4.3.5 Easement**

Flowage easements are inspected periodically and evaluated for encroachments. In addition to easements the USACE has acquired, the USACE also issues easements for crossings on public land. Additional information is available in Section 6.6 NON-RECREATIONAL OUTGRANTS.

## **5.0 RESOURCE PLAN**

**5.1 Purpose:** The overall objective of the resource plan is to maximize recreational benefits while maintaining the projects unique natural resources and scenic qualities. The resource plan recognizes that budgets are variable from year to year and visitor use patterns and preferences change over time.

**5.2 Common Recreation Facilities:** In general, the following types of common recreational facilities listed in Table 17 may be considered for development within existing high-density recreation areas without an additional formal Environmental Assessment (EA) or modification to the MP. Each development or expansion along with utilities and rights-of-way will be evaluated for cultural resources, wetlands, and protected species in accordance with our standard NEPA evaluation, and other public laws, as applicable, as well as all current guidance for recreational development.

**Table 17: Potential Recreational Facilities Development**

Public Parks:

Facilities approved on the lease development plan	Replacement, relocation, and/or modernization of existing facilities not to exceed 10% of the original facility's footprint
Campsites not to exceed 25% of the existing number of campsites	Picnic Sites not to exceed 50% of the existing number of picnic sites
Yurts not to exceed 25% of the existing number of campsites/yurts sites combined	Portable or fixed mini cabins not to exceed 25% of the existing number of campsites/yurts sites combined
Sanitary facilities necessary to meet existing or expected demand including restrooms, shower houses, septic systems, or RV dump station	Conversion of picnic areas to campgrounds or campgrounds to picnic areas
Picnic shelter not to exceed 200-person capacity	Amphitheater not to exceed 250-person capacity
Designated parking lot(s) not to exceed 100 spaces	Disc golf course not to exceed 25 acres in size
Archery or skeet range not to exceed 25 acres in size	Additional lanes to existing boat ramps. Realignment of roads to improve safety and traffic flow at boat ramps
Playground(s)	Park office or gate house
Restaurant	Hiking, biking, interpretive, fitness, endurance, or equestrian trails or zip lines/high ropes courses
Courtesy dock, fishing pier	Park attendant/camp host sites
Fish cleaning station	Swim beach(s)
Shoreline erosion control	Game court, ball field
Camp store not to exceed 1,000 sq. ft.	Designated pet friendly areas
Interpretive Center	Splash pad/mini floating water park not to exceed one acre

Public Marinas:

Facilities approved on the lease development plan	Replacement, relocation, and/or modernization of existing facilities not to exceed 10% of the original facility's footprint
Additional wet slip, dry stack, or open boat storage not to exceed 25% of the approved total of boat storage opportunities	Marina office, ships store or gate house
Sanitary facilities necessary to meet existing or expected demand including restrooms, shower houses, septic systems, or marine pump out station	Picnic shelters not to exceed 200-person capacity
Amphitheater not to exceed 250-person capacity	Marine service and sales facility not to exceed 1 acre.
Playground(s)	Fish cleaning station
Courtesy dock, fishing pier	Restaurant

Lessee must submit detailed plans prior to approval of such facilities, infrastructure, or rights-of-way. Engineer approved plans may be required. A feasibility and market analysis may be required for larger, revenue producing facilities. All state and local ordinances and laws apply. A public comment period may be required. Prior to construction, an endangered species survey will be conducted in accordance with the Memorandum of Agreement between the USACE, Savannah District, and the USFWS, dated July 2010. Cultural resources information will be reviewed to ensure these resources are protected in accordance with the NHPA. Clean Water Act and Rivers and Harbors Act permits may be required from USACE Regulatory Division for potential impacts to wetland or waters of the U.S. if the activities cannot be approved via Hartwell's delegated Regional or Programmatic General Permits. Generally, habitable structures will not be authorized below 674' AMSL elevation, the maximum flood surcharge.

**5.3 Area Resource Plans:** Appendix D provides resource plans for individual recreation areas (including lease areas) and wildlife management areas. These descriptions provide the following information:

**Management Agency** – Table 18 lists the agency responsible for the day-to-day operations and maintenance of an area

**Land Classification** – The designated land use as defined in Section 4.1

**Location** – A brief description of the area's location including the plate number

**Description** – A brief description of the area, focusing on recreation features currently on site

**Future Development** – Lists the potential for future development based on the features originally in the design, but due to various constraints were not constructed. Also, includes those features being proposed for development, but not in the original design.

**Table 18: Recreation Area Managing Agency**

PARK	Map #	TOTAL ACRES	AGENCY
Andersonville Island	1	455.0	USACE
Apple Island Recreation Area	2	107.0	USACE
Asbury Recreation Area	3	27.0	Anderson County, SC
Barton's Mill Access Area	4	0.17	Oconee County, SC
Big Oaks Recreation Area	5	12.0	USACE
Bradbury Access	6	2.42	Hart County, GA
Brown Road Access	7	2.18	Anderson County, SC
Broyles Recreation Area	8	24.0	USACE
Bruce Creek Recreation Area	9	41.0	Stephens County, GA
Camp Creek Access	10	47.0	USACE
Carter's Ferry Access	11	20.0	USACE
Chandlers Ferry Recreation Area	12	48.0	USACE
Choestoea Recreation Area	13	369.0	Oconee County, SC
Clemson City Park	14	35.0	City of Clemson, SC
Cleveland Access	15	2.0	USACE
Cove Inlet	16	0.36	Anderson County, SC
Crawford's Ferry Access	17	36.0	USACE
Darwin H. Wright Park	18	28.0	City of Anderson, SC
Denver Access	19	19.0	USACE
Double Springs Access	20	18.0	USACE
Duncan Branch Access	21	11.0	USACE
Durham Access	22	4.0	USACE
Eighteen Mile Creek Access	23	6.73	USACE
Elrod Ferry Recreation Area	24	39.0	USACE
Fair Play Recreation Area	25	16.0	Oconee County, SC
Franklin County Access	26	2.10	Franklin County, GA
Friendship Recreation Area	27	27.0	Oconee County, SC
Georgia Dam Viewing Area	28	10.0	USACE
Glenn Ferry Recreation Area	29	211.0	USACE
Green Pond Landing	30	35.0	Anderson County, SC
Gum Branch Recreation Area	31	35.0	Hart County, GA
Hartwell Volunteer Village	32	22.0	USACE

PARK	Map #	TOTAL ACRES	AGENCY
Hatton's Ford	33	5.4	USACE
Holcomb Access	34	6.6	Stephens County, GA
Holder's Landing	35	3.57	Oconee County, SC
Honea Path Access	36	21	USACE
Hoyt Tilley Access	37	0.93	Anderson County, SC
Hurricane Creek Access	38	5.27	Anderson County, SC
Island Point Recreation Area	39	32.0	USACE
Jack's Landing Access	40	3.18	Anderson County, SC
Jarrett Access	41	2.0	USACE
Jenkins Ferry Access	42	31.0	USACE
Keowee Trail	43	6.14	City of Clemson, SC
Lake Shore Access	44	0.34	Oconee County, SC
Lawrence Bridge Recreation Area	45	7.0	Oconee County, SC
Long Point Recreation Area	46	37.0	Hart County, GA
Madden Bridge	47	15.0	Pickens County, SC
Martin Creek Access Area	48	60.0	USACE
Mary Ann Branch Recreation Area	49	16.0	USACE
Mt. Bay Park	50	1.0	Oconee County, SC
Mullins Ford Recreation Area	51	10.0	Oconee County, SC
New Prospect Access	52	34.0	USACE
Poplar Springs Recreation Area	53	24.0	USACE
Port Bass Access	54	2.59	Oconee County, SC
Powderbag Creek Access	55	12.0	USACE
Reed Creek Access	56	10.0	Hart County, GA
Richland Creek Access	57	19.0	USACE
River Forks Recreation Area	58	182.0	Anderson County, SC
Rock Springs Access	59	59.0	USACE
Rocky Ford Access	60	2.99	Hart County, GA
Seneca Creek Access	61	3.99	Oconee County, SC
Singing Pines Recreation Area	62	42.0	USACE
SC River Access	63	4.46	USACE
South Carolina Dam Overlook	64	1.76	USACE
South Carolina Dam Viewing Area	65	1.9	USACE
South Union Access	66	13.99	Oconee County, SC
Spring Branch	67	12.0	USACE

PARK	Map #	TOTAL ACRES	AGENCY
Stephens County Park	68	7.0	Stephens County, GA
Sunshine Point Access	69	13.0	SC DNR
Tabor Access	70	20.0	USACE
Timberlake Access	71	18.04	Oconee County, SC
Townville Access	72	23.0	USACE
Twelve Mile Recreation Area	73	26.0	City of Clemson, SC
Walker Creek Access	74	9.0	Stephens County, GA
Weldon Island Recreation Area	75	138.0	Anderson County, SC
White City Access	76	1.26	Anderson County, SC
Coneross Campground	77	136.0	USACE
Crescent Group Campground	78	41.0	USACE
GA River Campground and Rec Area	79	12.0	USACE
Milltown Campground	80	43.0	Hart County, GA
Oconee Point Campground	81	70.0	USACE
Paynes Creek Campground	82	399.0	Hart County, GA
Springfield Campground	83	60.0	USACE
Twin Lakes Campground & Recreation Area	84	152.0	USACE
Watsadler Campground	85	36.0	USACE
Sadlers Creek State Park	86	394.0	SC PRT
Lake Hartwell State Park	87	690.0	SC PRT
Tugaloo State Park	88	396.0	GA DNR
Hart State Park	89	147.0	GA DNR
Big Water Marina	90	49.0	Outgranted
Clemson Marina	91	36.0	Outgranted
Harbor Light Marina	92	54.0	Outgranted
Harbor Light Expansion Site	92-A	40.0	
Hartwell Marina	93	22.0	Outgranted
Portman Marina	94	44.0	Outgranted

## **6.0 SPECIAL TOPICS/ISSUES/CONSIDERATIONS**

### **6.1 POLYCHLORINATED BIPHENYL (PCB's)**

The presence of Polychlorinated biphenyl (PCB's) in Twelve Mile Creek/Hartwell Lake were discovered when surface water, sediment, and fish from the area were sampled in the mid-1970s. The source of this contamination was determined to be the Sangamo-Weston, Inc. capacitor manufacturing plant in Pickens, South Carolina. Sangamo-Weston, Inc. operated the plant from 1955 to 1987. The liabilities associated with that operation were subsequently assumed by Schlumberger Technology Corporation (STC). Dielectric fluids, used in the manufacture of capacitors until 1977, contained PCBs, and materials containing these fluids were disposed via land burial. In addition, PCBs were present in discharges from the plant to Town Creek (a tributary of Twelve Mile Creek). Surface water and sediment contaminated by the discharged PCBs eventually migrated downstream to Twelve Mile Creek and Hartwell Lake.

In 1994, the United States Environmental Protection Agency (EPA) issued a Record of Decision (ROD) for the Twelve Mile Creek/Hartwell Lake area that included natural recovery of PCB-contaminated sediments. This alternative was supported by studies showing that PCB-contaminated sediments are expected to be continually buried by sediment entering Twelve Mile Creek and Harwell Lake. In addition, the ROD called for ongoing monitoring of biota, adoption of risk-based guidelines for human consumption of Lake Hartwell fish, and a public education program designed to increase public awareness of the current fish consumption advisory.

The U.S. District Court for the District of South Carolina entered a Consent Decree in May 2006 which resolved a natural resource damages claim brought by the natural resource trustees, including the USACE, U.S. Department of Interior, the State of Georgia, and the State of South Carolina, against STC for PCB contamination at or from the site known as Sangamo Weston/Twelve Mile Creek/Hartwell Lake PCB Contamination Superfund Site. Under the terms of the Consent decree STC paid \$11,960,000 into the Hartwell Lake Restoration Account which financed projects to restore, replace, and/or protect natural resources damages as a result of the PCB contamination. In addition, STC removed two hydroelectric power dams known as Woodside I and Woodside II on Twelve Mile Creek to address the ecological injury to Twelve Mile Creek and Hartwell Lake.

### **6.2 COMPETING INTERESTS ON THE NATURAL RESOURCES**

The Hartwell Project is a medium sized multi-purpose project with numerous authorized purposes. These authorized purposes have municipal and private users which have developed over time and are reliant on their provided benefits. These benefits are critical to the local and regional economies and are of great interest to the public. As a result, competing interests may attempt to influence the utilization of federal lands and waters. USACE will balance these interests so the public can benefit by implementing

sound management practices and minimizing any adverse impacts per USACE environmental stewardship mission.

### **6.3 PRIVATE EXCLUSIVE USE**

Presently, there are five private recreation leases on Hartwell Lake. These are granted to Hartwell Shores Country Club, Swaney's Landing, Swamp Guinea, Dockside Clemson, and Western Carolina Sailing Club. The Hartwell Shores Country Club and Western Carolina Sailing Club have all their facilities on public property. The existing facilities generally consist of restrooms, camp sites, clubhouses, docking facilities, and other outdoor recreation facilities. There are no structures designed for human habitation on project lands. The leases for Swaney's Landing, Swamp Guinea, and Dockside Clemson are to provide public access to commercial businesses adjacent to the lake that support water-based recreation. These areas (docks) were previously authorized by a shoreline use permit but were converted to leases since the docks are not for private exclusive use as defined in the Shoreline Management Plan. These leases have limited picnic spaces and green space for passive recreation on public land.

Interpretations of current planning regulations have led to the formulation of policy on additional private exclusive use at the Hartwell Project. This policy is to permit only new real estate outgrants to quasi-public groups or municipalities at an existing lease site should one become available, except for areas previously issued a Shoreline Use Permit that was offered an option to convert to a lease. USACE will honor those commitments already made. In instances where project lands are required, such as for utility lines or vehicular access, only the minimal amount necessary will be granted.

### **6.4 MARINA CONCESSIONS**

Originally, there were four leases for commercial marina recreation sites granted on Hartwell Lake. These marinas are known as Harbor Light, Portman, Hartwell, and Seneca, later renamed Clemson. The majority of land-based facilities at Harbor Light and Portman Marinas are on private land. Their wet slip storage, gasoline sales, and launch ramps are on public property. Portman also has a restaurant, dry storage, and campground on public property. Clemson and Hartwell are entirely on public property with facilities that include launching ramps, gasoline sales, wet and dry storage, boat and motor service bays, snack bar, general sales, and restrooms. Boat sales are conducted on public land at Clemson and Hartwell Marinas.

A study of marinas on Hartwell Lake completed by USACE in September 1980, was accomplished because of requests from individuals interested in leasing a possible marina site and because of complaints received from the public about lack of dock space at the existing marinas. This study determined the economic feasibility of leasing additional sites for marina concession purposes. The study's recommendation was no additional marinas or related facilities be permitted on the lake at that time.

On 1 July 1982, another review of the feasibility study determined that the need now existed at Hartwell Lake for additional Marina development. In 1983, Big Water Access Area consisting of 49 acres was leased as a marina site, making Big Water Marina the fifth full-service marina on Hartwell Lake. Further development will depend on market conditions.

## **6.5 OTHER RECREATIONAL OUTGRANTS**

The recreation outgrant program also contains nine leases for quasi-public recreation, 40 leases to city and county municipalities for campgrounds, parks, and access areas. Additionally, there are four State Parks and five marinas. The Hartwell Project has two commercial outgrants for use as campgrounds. The properties are leased to Lake Hartwell Camping and Cabins and Tiger Cove Campground and are used in conjunction with adjacent campgrounds located on private property. These outgrants assist in meeting the demand for recreational facilities at Hartwell Lake. Additional project lands may be outgranted for public recreation purposes.

## **6.6 NON-RECREATIONAL OUTGRANTS**

USACE implemented a nationwide Non-Recreational Outgrant Policy on 20 March 2009 to consistently evaluate non-recreational real estate outgrant requests for use of Civil Works land and waters for roadways and bridges, public utilities (power lines, water lines, intakes, outfalls, and pipelines). This policy recommends designated corridors be established in Project MP's where feasible and new proposals should be limited to these utility corridors. The Hartwell Project has 326 existing easements for such crossings/use of public land therefore designating any new utility corridors is not feasible. All new requests for easements (utilities, roadways, etc.) or proposals to modify or renew existing easements, if approved, will be required to be located within an existing easement right-of-way to limit the installation of additional infrastructure within a previously undisturbed area.

## **7.0 PUBLIC AND AGENCY COORDINATION**

USACE began planning to revise the Hartwell Project MP in the fall of 2017. USACE objectives for a MP revision were to update land classifications to reflect changes in USACE land management policies since 1980, and new agency requirements for MP documents in accordance with ER 1130-2-550, Change 7, January 30, 2013 and EP 1130-2-550, Change 5, January 30, 2013.

The Hartwell Project Office mailed letters in June 2018 to existing lease holders on the Hartwell Project informing them of the impending MP update and solicited comments from these stakeholders. The stakeholders were asked to submit anticipated changes to their existing development plans, such as adding new facilities, as part of this MP update by July 20, 2018. The public comment period was from April 28, – May 28, 2021.

## **8.0 SUMMARY OF RECOMMENDATIONS**

The revised MP considered a broad spectrum of public use, environmental, socioeconomic, and workload factors. The revised MP for the Hartwell Project will continue to provide for and enhance recreational opportunities for the public, improve stewardship of the natural resources, and continue a management philosophy that recognizes the unique qualities, characteristics, and potentials of the project.

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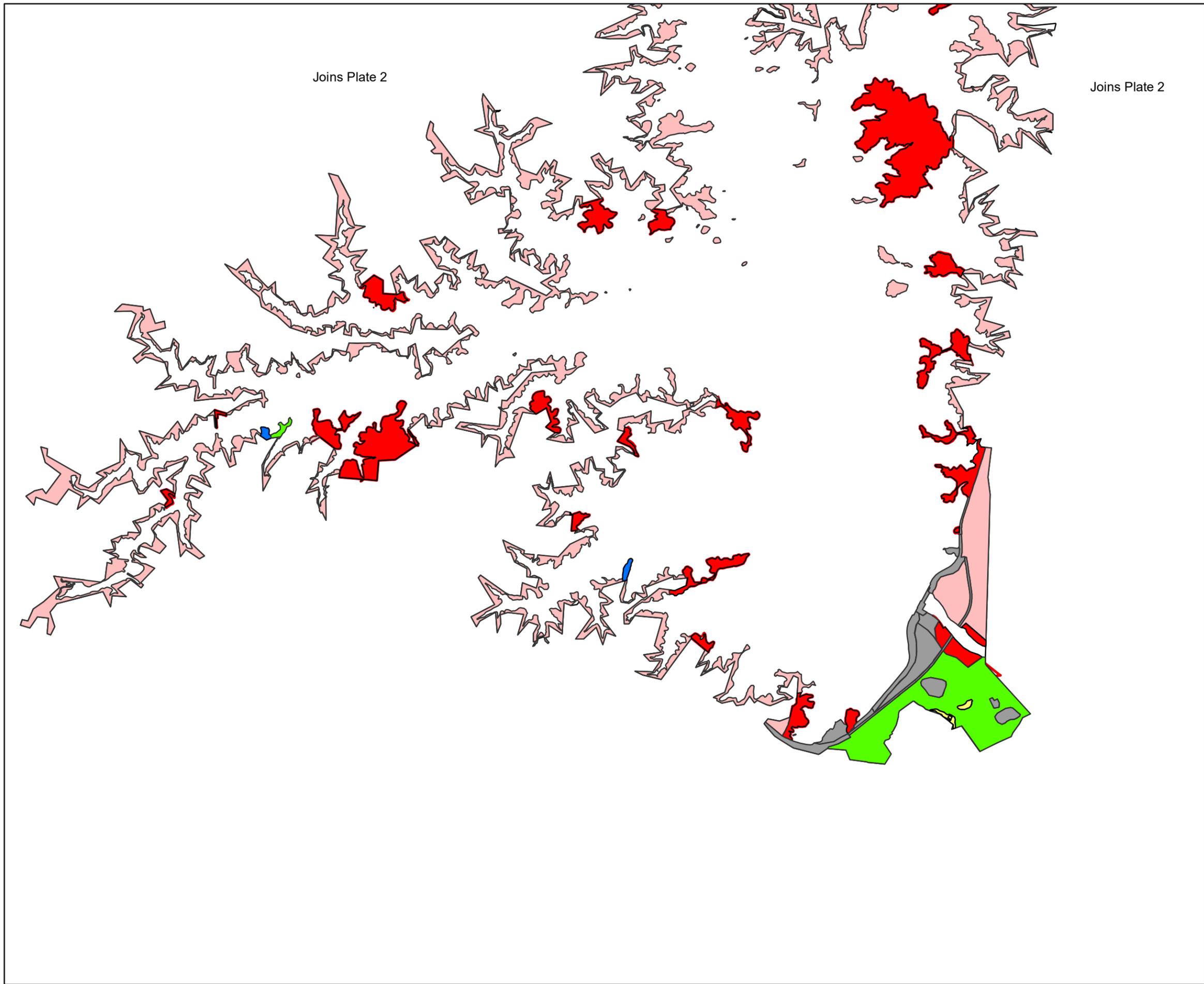
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# **APPENDIX A**

## **Land Classification Maps**



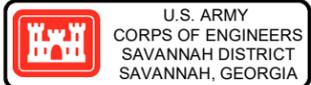
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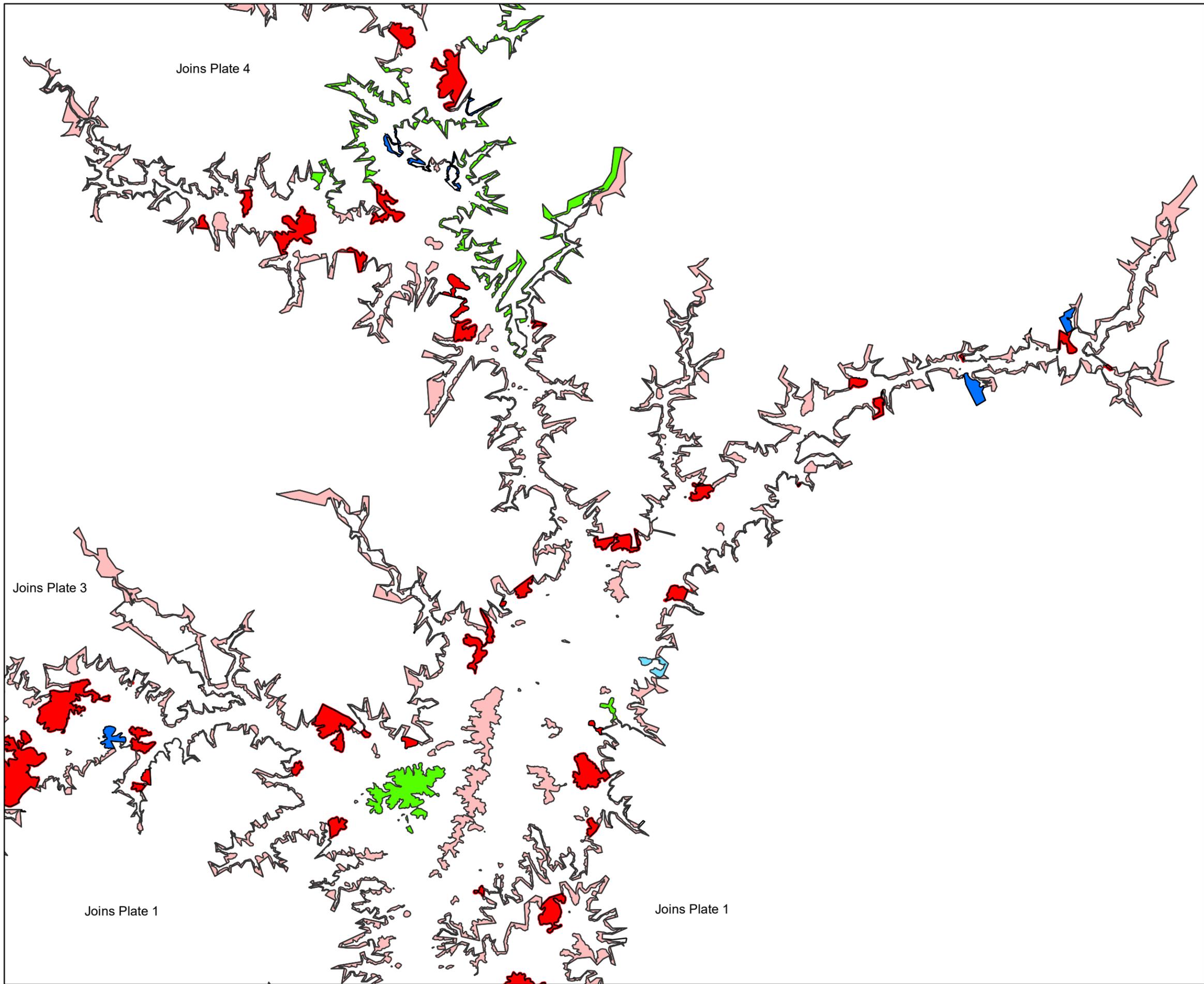
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- PROJECT OPERATIONS-ADMINISTRATIVE
- PUBLIC RECREATION - LOW DENSITY
- RECREATION - INTENSIVE USE
- RECREATION-EXISTING LEASED CLUB SITE
- RECREATION-EXISTING LEASED QUASI-PUBLIC SITE
- SENSITIVE AREA
- WILDLIFE MANAGEMENT
- Boundary Line

**Land Use Plate 1**



Hartwell Lake  
Georgia and South Carolina  
**MASTER PLAN**  
2021 Update



Location Map



**Legend**

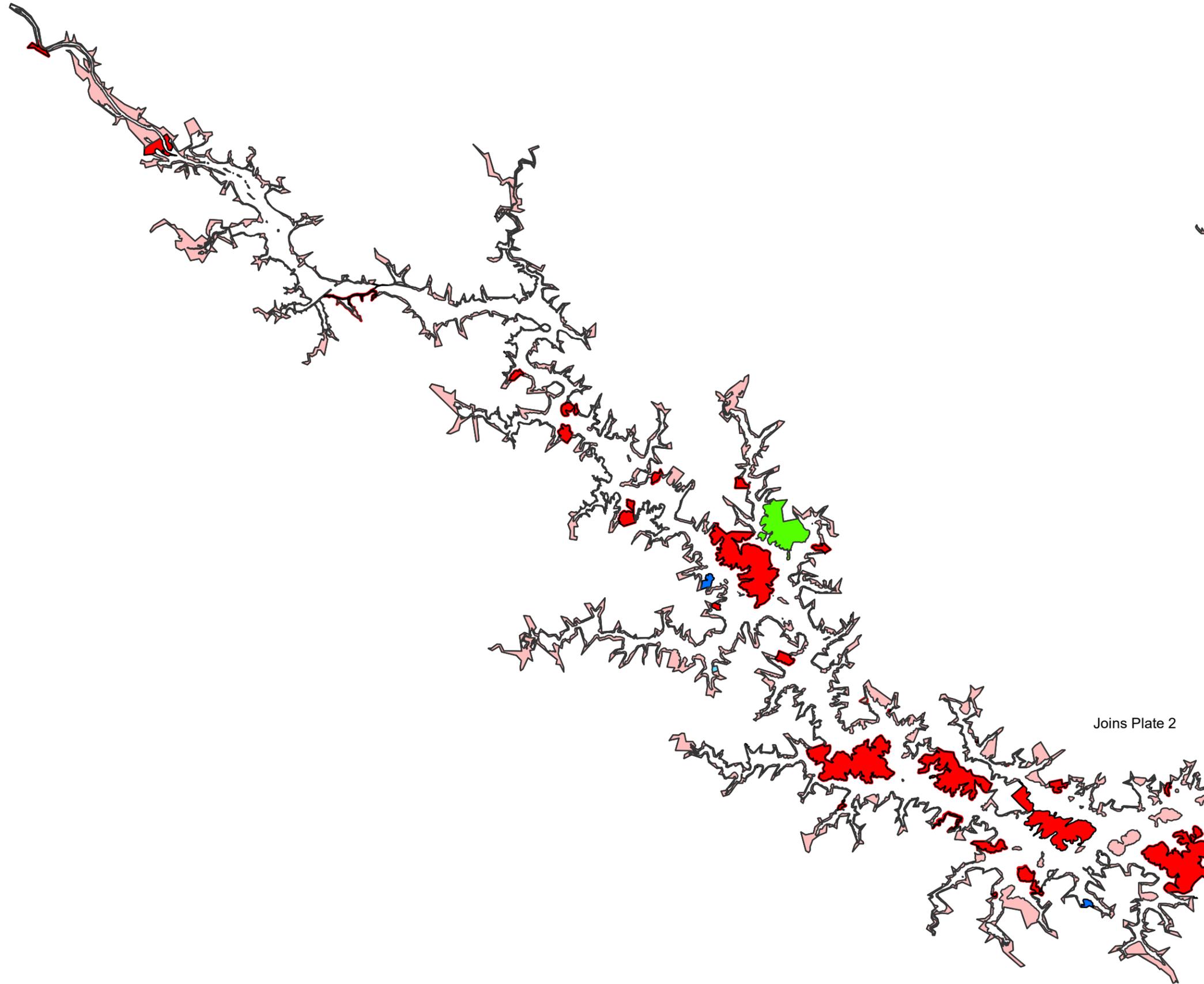
**Land Use**

- PROJECT OPERATIONS-ADMINISTRATIVE
- PUBLIC RECREATION - LOW DENSITY
- RECREATION - INTENSIVE USE
- RECREATION-EXISTING LEASED CLUB SITE
- RECREATION-EXISTING LEASED QUASI-PUBLIC SITE
- SENSITIVE AREA
- WILDLIFE MANAGEMENT
- Boundary Line

**Land Use Plate 2**



Hartwell Lake  
Georgia and South Carolina  
**MASTER PLAN**  
2021 Update



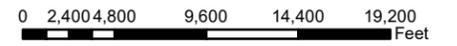
**Location Map**



**Land Use Legend**

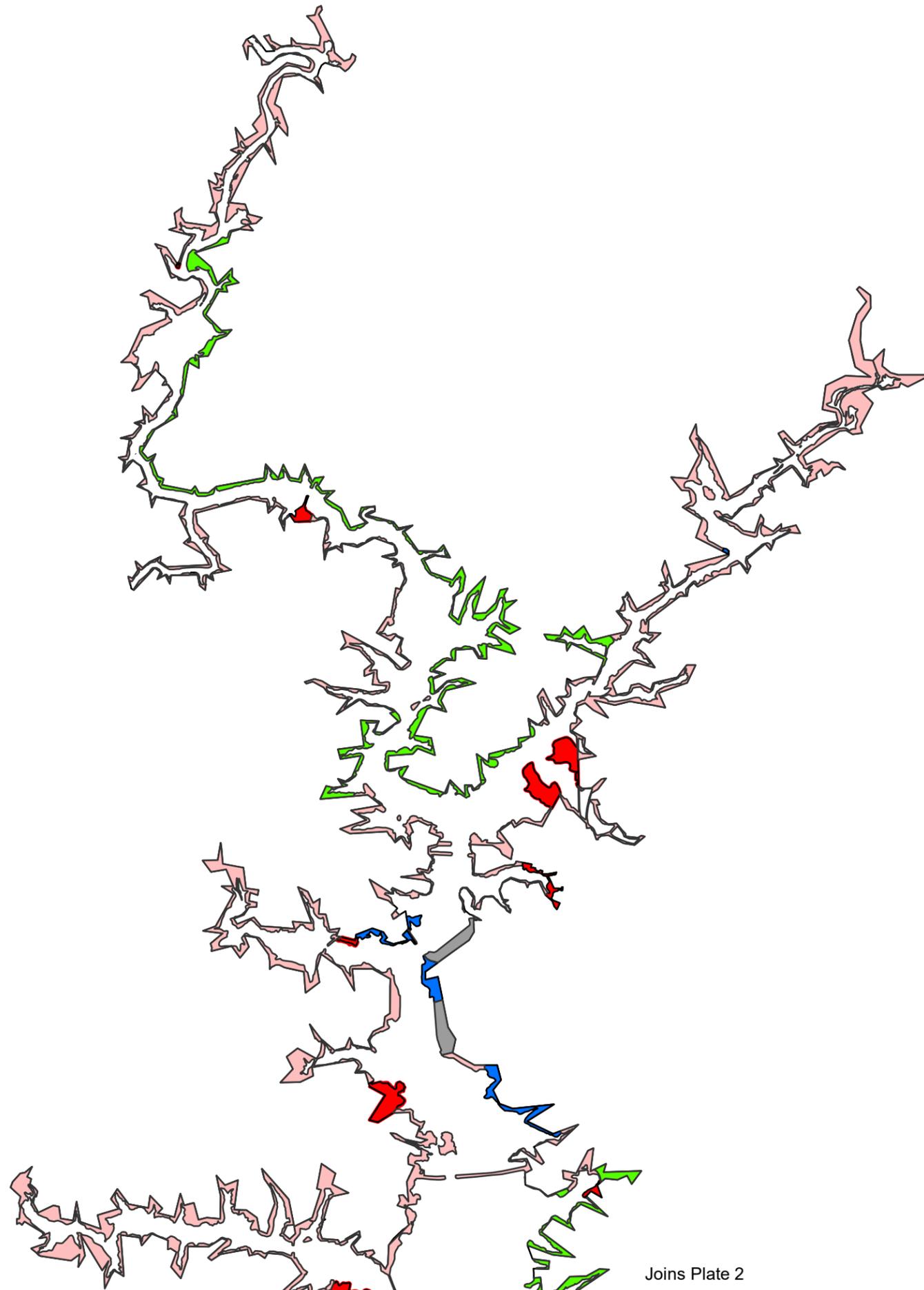
- PROJECT OPERATIONS-ADMINISTRATIVE
- PUBLIC RECREATION - LOW DENSITY
- RECREATION - INTENSIVE USE
- RECREATION-EXISTING LEASED CLUB SITE
- RECREATION-EXISTING LEASED QUASI-PUBLIC SITE
- SENSITIVE AREA
- WILDLIFE MANAGEMENT
- Boundary Line

**Land Use Plate 3**



U.S. ARMY  
CORPS OF ENGINEERS  
SAVANNAH DISTRICT  
SAVANNAH, GEORGIA

Hartwell Lake  
Georgia and South Carolina  
**MASTER PLAN**  
2021 Update



Joins Plate 2



Location Map

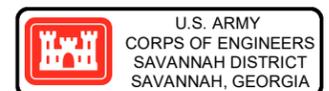
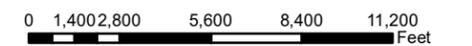


**Legend**

**Land Use**

- PROJECT OPERATIONS-ADMINSTRATIVE
- PUBLIC RECREATION - LOW DENSITY
- RECREATION - INTENSIVE USE
- RECREATION-EXISTING LEASED CLUB SITE
- RECREATION-EXISTING LEASED QUASI-PUBLIC SITE
- SENSITIVE AREA
- WILDLIFE MANAGEMENT
- Boundary Line

**Land Use Plate 4**



Hartwell Lake  
Georgia and South Carolina  
**MASTER PLAN**  
2021 Update

## **Appendix B**

# **Commonly Occurring Terrestrial and Aquatic Plants, Mammals, Reptiles, Amphibians, Birds, and Fish of Hartwell Project**

## Commonly Occurring Plant Species

### Overstory

Common Name	Scientific Name
Southern Sugar Maple	<i>Acer barbatum</i>
Red Maple	<i>Acer rubrum</i>
Silver Maple	<i>Acer saccharum</i>
River Birch	<i>Betula nigra</i>
Bitternut Hickory	<i>Carya cordiformis</i>
Pignut Hickory	<i>Carya glabra</i>
Shagbark Hickory	<i>Carya ovata</i>
Mockernut Hickory	<i>Carya tomentosa</i>
White Ash	<i>Fraxinus americana</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Yellow Poplar	<i>Liriodendron tulipifera</i>
Southern Magnolia	<i>Magnolia grandiflora</i>
Blackgum	<i>Nyssa sylvatica</i>
Shortleaf Pine	<i>Pinus echinata</i>
Slash Pine	<i>Pinus elliottii</i>
Loblolly Pine	<i>Pinus taeda</i>
Sycamore	<i>Platanus occidentalis</i>
Eastern Cottonwood	<i>Populus deltoides</i>
White Oak	<i>Quercus alba</i>
Scarlet Oak	<i>Quercus coccinea</i>
Southern Red Oak	<i>Quercus falcata</i>
Laurel Oak	<i>Quercus laurifolia</i>
Blackjack Oak	<i>Quercus marilandica</i>
Water Oak	<i>Quercus nigra</i>
Pin Oak	<i>Quercus palustris</i>
Willow Oak	<i>Quercus phellos</i>
Swamp Chestnut Oak	<i>Quercus prinus</i>
Northern Red Oak	<i>Quercus rubra</i>
Post Oak	<i>Quercus stellata</i>
Black Oak	<i>Quercus velutina</i>
Winged elm	<i>Ulmus alata</i>
American elm	<i>Ulmus americana</i>

## Midstory

Common Name	Scientific Name
Boxelder	<i>Acer negundo</i>
Beauty-berry	<i>Callicarpa americana</i>
American Hornbeam, Musclewood	<i>Carpinus caroliniana</i>
Hackberry	<i>Celtis occidentalis</i>
Redbud	<i>Cercis canadensis</i>
Fringetree	<i>Chionanthus virginicus</i>
Dogwood	<i>Cornus florida</i>
Hawthorn	<i>Craetagus sp.</i>
Persimmon	<i>Diospyros virginiana</i>
Honeylocust	<i>Gleditsia triacanthos</i>
American Holly	<i>Ilex opaca</i>
Black Walnut	<i>Juglans nigra</i>
Eastern Red Cedar	<i>Juniperus virginiana</i>
Red Mulberry	<i>Morus rubra</i>
Waxmyrtle	<i>Myrica cerifera</i>
Eastern Hop Hornbeam, Ironwood	<i>Ostrya virginiana</i>
Sourwood	<i>Oxydendron arboreum</i>
Black Cherry	<i>Prunus serotina</i>
Wild Plum	<i>Prunus sp.</i>
Winged Sumac	<i>Rhus copallina</i>
Blacklocust	<i>Robinia pseudoacacia</i>
Palmetto	<i>Sabal minor</i>
Black Willow	<i>Salix nigra</i>
Sassafras	<i>Sassafras albidum</i>
Sparkleberry	<i>Vaccinium sp.</i>
Blueberry	<i>Vaccinium corymbosum</i>

## Ground Covers

Common Name	Scientific Name
Trumpet Creeper	<i>Campsis radicans</i>
Yellow jessamine	<i>Gelsemium sempervirens</i>
Virginia Creeper	<i>Parthenocissus quinquefolia</i>
Ferns	<i>Polystichum sp.</i>
Poison Oak	<i>Rhus quercifolia</i>
Poison Ivy	<i>Rhus radicans</i>
Poison Sumac	<i>Rhus vernix</i>
Black Berry	<i>Rubus sp.</i>
Greenbrier, Smilax	<i>Smilax sp.</i>
Wood grass	<i>Uniola sessiliflora</i>
Periwinkle	<i>Vinca minor</i>
Muscadine	<i>Vitis rotundifloia</i>

## Aquatic Plants

Common Name	Scientific Name
Water primrose	<i>Ludwigia hexapetala</i>
Parrotfeather	<i>Myriophyllum aquaticum</i>
American lotus, lotus lily	<i>Nelumbo lutea</i>
Alligatorweed	<i>Alternanthera philoxeroides</i>
Fanwort	<i>Cabomba caroliniana</i>
Coontail, hornwort	<i>Ceratophyllum demersum</i>
Chara, musk grass	<i>Chara sp.</i>
Marsh Hibiscus	<i>Hibiscus moscheutos</i>
Southern watergrass	<i>Hydrochloa caroliniensis</i>
Water pennywort	<i>Hydrocotyle umbellata</i>
Waterwillow	<i>Justicia americana</i>
Southern naiad	<i>Najas guadalupensis</i>
Slender naiad, spiny-leaf naiad	<i>Najas minor</i>
Fragrant waterlily	<i>Nymphaea odorata</i>
Water paspalum	<i>Paspalum fluitans</i>
Pickerelweed	<i>Pontederia cordata</i>
Pondweed	<i>Potamogeton sp.</i>
Arrowheads	<i>Sagittaria sp.</i>
Cattail	<i>Typha sp.</i>
Bladderwort	<i>Utricularia sp.</i>

## Exotics

Common Name	Scientific Name
Japanese honeysuckle	<i>Lonicera japonica</i>
China-berry	<i>Melia azedarach</i>
Kudzu	<i>Pueraria lobata</i>
Wisteria	<i>Wisteria frutescens</i>
Chinese Tallow	<i>Sapium sebiferum</i>
Giant Reed	<i>Arundo donax</i>
Chinese Privet	<i>Ligustrum sinense</i>
Old World Climbing Fern	<i>Lygodium microphyllum</i>
Johnson Grass	<i>Sorghum halepense</i>
Autumn Olive or Eleagnus	<i>Eleagnus umbellata</i>
Bamboo	<i>Phyllosachys sp</i>
Alligator Weed	<i>Alternanthera philoxeroides</i>
Parrot Feather	<i>Myriophyllum aquaticum</i>

### Commonly Occurring Bird Species

Common Name	Scientific Name	
Wood Duck	<i>Aix sponsa</i>	Summer
Mallard	<i>Anas platyrhynchos</i>	Summer
Canada Goose	<i>Branta canadensis</i>	Summer
Hooded Merganser	<i>Lophodytes cucullatus</i>	Summer
Blue-winged Teal	<i>Anas discors</i>	Winter
Green-winged Teal	<i>Podilymbus podiceps</i>	Winter
Northern Shoveler	<i>Anas clypeata</i>	Winter
Canvasback	<i>Aythya valisineria</i>	Winter
Redhead	<i>Aythya americana</i>	Winter
Ring-necked Duck	<i>Aythya collaris</i>	Winter
Greater Scaup	<i>Aythya marila</i>	Winter
Lesser Scaup	<i>Aythya affinis</i>	Winter
Long-tailed Duck	<i>Clangula hyemalis</i>	Winter
Bufflehead	<i>Bucephala albeola</i>	Winter
Common Golden eye	<i>Bucephala clangula</i>	Winter
Common Merganser	<i>Mergus merganser</i>	Winter
Red Breasted Merganser	<i>Mergus serrator</i>	Winter
Ruddy Duck	<i>Oxyura jamaicensis</i>	Summer
Pacific Loon	<i>Gavia Pacifica</i>	Winter
Common Loon	<i>Gavia immer</i>	Winter
Red Throated Loon	<i>Gavia stellata</i>	Winter
Pied Billed Grebe	<i>Podilymbus podiceps</i>	Summer/Winter
Horned Grebe	<i>Podiceps auritus</i>	Winter
Eared Grebe	<i>Podiceps nigricollis</i>	Winter
American Coot	<i>Fulica americana</i>	Winter
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	Summer/Winter
Anhinga	<i>Anhinga anhinga</i>	Summer
Belted Kingfisher	<i>Megaceryle alcyon</i>	Summer
Great Egret	<i>Ardea alba</i>	Summer
Great Blue Heron	<i>Ardea herodias</i>	Summer/Winter
Green Heron	<i>Butorides virescens</i>	Summer
White Ibis	<i>Eudocimus albus</i>	Summer
Least Bittern	<i>Ixobrychus exilis</i>	Summer
Wood Stork	<i>Mycteria americana</i>	Late summer
Brown Pelican	<i>Pelecanus occidentalis</i>	Winter
White Pelican	<i>Pelecanus erythrorhynchos</i>	Winter
Chimney Swift	<i>Chaetura pelagica</i>	Summer
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	Summer
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	Summer
Whip-poor-will	<i>Caprimulgus vociferus</i>	Summer
Common Nighthawk	<i>Chordeiles minor</i>	Summer

<b>Continued</b>		
Killdeer	<i>Charadrius vociferus</i>	Summer
Cooper's Hawk	<i>Accipiter cooperii</i>	Summer
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Summer
Red-tailed Hawk	<i>Buteo jamaicensis</i>	Summer
Broad-winged Hawk	<i>Buteo playtypterus</i>	Summer
Red-shouldered Hawk	<i>Buteo lineatus</i>	Summer
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Summer/Winter
Osprey	<i>Pandion haliaetus</i>	Summer/Winter
Turkey Vulture	<i>Cathartes aura</i>	Summer/Winter
Black Vulture	<i>Coragyps atratus</i>	Summer/Winter
Peregrine Falcon	<i>Falco peregrinus</i>	Winter
American Kestrel	<i>Falco sparverius</i>	Winter
Mourning Dove	<i>Zenaida macroura</i>	Summer/Winter
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Summer
Northern Bobwhite	<i>Colinus virginianus</i>	Summer/Winter
Wild Turkey	<i>Meleagris gallopavo</i>	Summer/Winter
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Winter
Northern Cardinal	<i>Cardinalis cardinalis</i>	Summer/Winter
American Crow	<i>Corvus brachyrhynchos</i>	Summer/Winter
Fish Crow	<i>Corvus ossifragus</i>	Summer/Winter
Blue Jay	<i>Cyanocitta cristata</i>	Summer/Winter
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	Summer/Winter
American Goldfinch	<i>Carduelis tristis</i>	Summer/Winter
House Finch	<i>Carpodacus mexicanus</i>	Summer/Winter
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Summer
Orchard Oriole	<i>Icterus spurius</i>	Summer
Brown-headed Cowbird	<i>Molothrus ater</i>	Summer
Common Grackle	<i>Quiscalus quiscula</i>	Summer
Eastern Meadowlark	<i>Sturnella magna</i>	Summer
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Summer
Northern Mockingbird	<i>Mimus polyglottos</i>	Summer/Winter
Brown Thrasher	<i>Toxostoma rufum</i>	Summer/Winter
Tufted Titmouse	<i>Baeolophus bicolor</i>	Summer/Winter
Carolina Chickadee	<i>Poecile carolinensis</i>	Summer/Winter
Pine Warbler	<i>Dendroica pinus</i>	Summer/Winter
Yellow-breasted Chat	<i>Icteria virens</i>	Summer
Prothonotary Warbler	<i>Protonotaria citrea</i>	Summer
American Redstart	<i>Setophaga ruticilla</i>	Summer
Hooded Warbler	<i>Wilsonia citrina</i>	Summer
Ovenbird	<i>Seiurus aurocapilla</i>	Summer
Louisiana Waterthrush	<i>Seiurus motacilla</i>	Summer
Black-and-White Warbler	<i>Mniotilta varia</i>	Summer
Kentucky Warbler	<i>Oporornis formosus</i>	Summer
Common Yellowthroat	<i>Geothlypis trihas</i>	Summer

<b>Continued</b>		
Hooded Warbler	<i>Wilsonia citrina</i>	Summer
Northern Parula	<i>Parula Americana</i>	Summer
Pine Warbler	<i>Dendroica pinus</i>	Summer
Yellow-throated Warbler	<i>Dendroica dominica</i>	Summer
Prairie Warbler	<i>Dendroica discolor</i>	Summer
Yellow-Breasted Chat	<i>Icteria virens</i>	Summer
Bachman's Sparrow	<i>Aimophila aestivalis</i>	Summer/Winter
Chipping Sparrow	<i>Spizella passerine</i>	Summer/Winter
Field Sparrow	<i>Spizella pusilla</i>	Summer/Winter
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Summer/Winter
Song Sparrow	<i>Melospiza melodia</i>	Summer/Winter
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Winter
Summer Tanager	<i>Piranga rubra</i>	Summer
Northern Cardinal	<i>Cardinalis cardinalis</i>	Summer/Winter
Blue Grosbeak	<i>Passerina caerulea</i>	Summer/Winter
Indigo Bunting	<i>Passerina cyanea</i>	Summer
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Summer/Winter
Eastern Meadowlark	<i>Sturnella magna</i>	Summer
House Finch	<i>Carpodacus mexicanus</i>	Summer/Winter
American Goldfinch	<i>Carduelis tristis</i>	Summer/Winter
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Winter
Brown-headed Nuthatch	<i>Sitta pusilla</i>	Summer/Winter
European Starling	<i>Sturnus vulgaris</i>	Summer/Winter
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>	Summer
Summer Tanager	<i>Piranga rubra</i>	Summer
Carolina Wren	<i>Thryothorus ludovicianus</i>	Summer/Winter
Wood Thrush	<i>Hylocichla mustelina</i>	Summer
Eastern Bluebird	<i>Sialia sialis</i>	Summer/Winter
American Robin	<i>Turdus migratorius</i>	Summer/Winter
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	Summer
Eastern Phoebe	<i>Sayornis phoebe</i>	Summer
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Summer
Red-eyed Vireo	<i>Vireo olivaceus</i>	Summer
White-eyed Vireo	<i>Vireo Grieus</i>	Summer
Pileated Woodpecker	<i>Dryocopus pileatus</i>	Summer/Winter
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	Summer/Winter
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Summer/Winter
Downy Woodpecker	<i>Picoides pubescens</i>	Summer/Winter
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Winter
Great Horned Owl	<i>Bubo virginianus</i>	Summer/Winter
Eastern Screech-Owl	<i>Megascops asio</i>	Summer/Winter
Barred Owl	<i>Strix varia</i>	Summer/Winter

\*\*compiled from "Georgia Breeding Bird Atlas", Georgia Ornithological Society Records, UGA Museum of Natural History Records, and field observations.

<b>Mammals</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Hispid Cotton Rat	<i>Sigmodon hispidus</i>
Golden Mouse	<i>Ochrotomys nuttalli</i>
Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>
White-footed Mouse	<i>Peromyscus leucopus</i>
Cotton Mouse	<i>Peromyscus gossypinus</i>
Common Muskrat	<i>Ondatra zibethicus</i>
Oldfield Mouse	<i>Peromyscus polionotus</i>
Southern Flying Squirrel	<i>Glaucomys volans</i>
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Southern Short-tailed Shrew	<i>Blarina carolinensis</i>
Least Shrew	<i>Cryptotis parva</i>
Eastern Mole	<i>Scalopus aquaticus</i>
Eastern Cottontail	<i>Sylvilagus aquaticus</i>
Swamp Rabbit	<i>Sylvilagus floridanus</i>
Eastern Pipistrille	<i>Pipistrellus subflavus</i>
Rafineques Big Eared bat	<i>Corynorhinus rafinesquii</i>
Southeastern Myotis	<i>Myotis austroriparius</i>
Northern Long-eared bat	<i>Myotis septentrionalis</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Little Brown Bat	<i>Myotis lucifugus</i>
Silver-haired Bat	<i>Lasionycteris noctivagans</i>
Eastern Red Bat	<i>Lasiurus borealis</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Seminole Bat	<i>Lasiurus seminolus</i>
Evening Bat	<i>Pipistrellus subflavus</i>
Coyote	<i>Canis latrans</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Red Fox	<i>Vulpes vulpes</i>
Bobcat	<i>Lynx rufus</i>
Striped Skunk	<i>Mephitis mephitis</i>
Spotted Skunk	<i>Spilogale putorius</i>
Long-tailed Weasel	<i>Mustela frenata</i>
Mink	<i>Mustela vison</i>
Northern Raccoon	<i>Procyon lotor</i>
Northern River Otter	<i>Lontra canadensis</i>
Virginia Opossum	<i>Didelphis virginiana</i>
American Beaver	<i>Castor canadensis</i>
Nine-banded Armadillo	<i>Dasyus novemcinctus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>

<b>Reptiles</b>	<b>Scientific Name</b>
<b>Snakes</b>	
Eastern Black Racer	<i>Coluber constrictor</i>
Corn Snake	<i>Elaphe guttata</i>
Rat Snake	<i>Elaphe obsoleta</i>
Eastern Hognose Snake	<i>Heterodon platirhinos</i>
Southern Hognose	<i>Heterodon simus</i>
Mole Snake	<i>Lampropeltis calligaster</i>
Eastern King Snake	<i>Lampropeltis getula</i>
Scarlet King	<i>Lampropeltis triangulum elapsoides</i>
Coachwhip	<i>Masticophis flagellum</i>
Plain-bellied Watersnake	<i>Nerodia erythrogaster</i>
Northern Watersnake	<i>Nerodia sipedon</i>
Brown Watersnake	<i>Nerodia taxispilota</i>
Rough Green Snake	<i>Opeodrys aestivus</i>
Queen Snake	<i>Regina septemvittata</i>
Brown Snake	<i>Storeria dekayi</i>
Red-bellied Snake	<i>Storeria occipitomaculata</i>
Southeastern Crowned Snake	<i>Tantila coronata</i>
Eastern Ribbon Snake	<i>Thamnophis suaritus</i>
Common Garter Snake	<i>Thamnophis sirtalis</i>
Rough Earth Snake	<i>Virginia striatula</i>
Smooth Earth Snake	<i>Virginia valeriae</i>
Copperhead	<i>Agkistrodon contortrix</i>
Timber Rattlesnake	<i>Crotalus horridus</i>
Pygmy Rattlesnake	<i>Sistrurus miliarius</i>
<b>Lizards</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Eastern Fence Lizard	<i>Sceloporus undulatus</i>
Green Anole	<i>Anolis carolinensis</i>
Five-lined Skink	<i>Eumeces fasciatus</i>
Southeastern Five-lined Skink	<i>Eumeces inexpectatus</i>
Six-lined Racerunner	<i>Cnemidophorus sexlineatus</i>
Slender Glass Lizard	<i>Ophisaurus attenuatus</i>
Eastern Glass Lizard	<i>Ophisaurus ventralis</i>
Broadhead Skink	<i>Eumeces laticeps</i>
Ground Skink	<i>Scincella lateralis</i>
<b>Turtles</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Common Snapping Turtle	<i>Chelydra serpentina</i>
Eastern Box Turtle	<i>Terrapene carolina</i>
Pond Slider	<i>Trachemys scripta</i>
Painted Turtle	<i>Chrysemys picta</i>
River Cooter	<i>Pseudemys coninna</i>

Eastern Musk Turtle	<i>Kinosternon subrubrum</i>
Common Musk Turtle	<i>Sternotherus odoratus</i>
Spiny Softshell	<i>Apalone spinifera</i>

<b>Amphibians</b>	
<b>Common Name</b>	<b>Scientific Name</b>
<b>Frogs and Toads</b>	
American Toad	<i>Bufo americanus</i>
Fowler's Toad	<i>Bufo fowleri</i>
Northern Cricket Frog	<i>Acris crepitans</i>
Bird-voiced Treefrog	<i>Hyla avivoca</i>
Cope's Gray Treefrog	<i>Hyla chrysoscelis</i>
Green Treefrog	<i>Hyla cinerea</i>
Barking Treefrog	<i>Hyla gratiosa</i>
Squirrel Treefrog	<i>Hyla squirella</i>
Spring Peeper	<i>Pseudacris crucifer</i>
Upland Chorus Frog	<i>Pseudacris feriarum</i>
Southern Chorus Frog	<i>Pseudacris nigrata</i>
Eastern Narrowmouth Toad	<i>Gastrophryne carolinensis</i>
Eastern Spadefoot Toad	<i>Scaphiopus holbrookii</i>
Bullfrog	<i>Rana catesbeiana</i>
Green Frog / Bronze Frog	<i>Rana clamitans</i>
Pickerel Frog	<i>Rana palustris</i>
Southern Leopard Frog	<i>Rana sphenoccephala</i>
<b>Salamanders</b>	
Spotted Salamander	<i>Ambystoma maculatum</i>
Marbled Salamander	<i>Ambystoma opacum</i>
Mole Salamander	<i>Ambystoma talpoideum</i>
Two-toed Amphiuma	<i>Amphiuma means</i>
Spotted Dusky Salamander	<i>Desmognathus conanti</i>
Two-lined Salamander	<i>Eueycea bislineata complex</i>
Three-lined Salamander	<i>Eueycea guttolineata</i>
Atlantic Coast Slimy Salamander	<i>Plethodon chlorobryonis</i>
Savannah Slimy Salamander	<i>Plethodon savannah</i>
Mud Salamander	<i>Pseudotriton montanus</i>
Red Salamander	<i>Pseudotriton ruber</i>

\*\*Compiled utilizing "Amphibians and Reptiles of Georgia" and the UGA Museum of Natural History Records website

### Commonly Occurring Fish Species

Common Name	Scientific Name
<b>Game Fish</b>	
<b>Bass</b>	<b><i>Serranidae</i></b>
Striped bass*	<i>Morone saxatilis</i>
Hybrid bass*	<i>Morone saxatilis x Morone chrysops</i>
White perch	<i>Morone americana</i>
<b>Sunfish</b>	<b><i>Centrarchidae</i></b>
Largemouth bass	<i>Micropterus salmoides</i>
Spotted bass	<i>Micropterus punctulatus</i>
Black crappie	<i>Pomoxis nigromaculatus</i>
White crappie	<i>Pomoxis annularis</i>
Bluegill	<i>Lepomis macrochirus</i>
Redbreast	<i>Lepomis auritus</i>
Green sunfish	<i>Lepomis cyanellus</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
Flier	<i>Centrarchus macropterus</i>
Warmouth	<i>Chaenobryttus coronaris</i>
Redear	<i>Lepomis microlophus</i>
<b>Perch</b>	<b><i>Percidae</i></b>
Yellow perch	<i>Perca flavescens</i>
Walleye	<i>Stizostedion vitreum</i>
<b>Rough Fish</b>	
<b>Catfish</b>	<b><i>Lepisosteidae</i></b>
Channel catfish	<i>Ictalurus punctatus</i>
White catfish	<i>Ictalurus catus</i>
Brown bullhead	<i>Ictalurus nebulosus</i>
Flathead catfish	<i>Pylodictis olivaris</i>
<b>Other</b>	
Longnose gar	<i>Lepososteus osseus</i>
Chain pickerel (jack)	<i>Esox niger</i>
Redhorse sucker	<i>Maxostoma spp.</i>
Northern hogsucker	<i>Hypentelium nigricans</i>
Spotted sucker	<i>Minytrema melanops</i>
Carp	<i>Cyprinus carpio</i>

\* Stocked Species

Commonly Occurring Fish Species

<b>Forage Species</b>	
<b>Shad and herring</b>	<b><i>Clupeidae</i></b>
Gizzard shad	<i>Dorosoma cepedianum</i>
Threadfin shad	<i>Dorosoma petenense</i>
Blueback herring	<i>Alosa aestivalis</i>
<b>Minnows</b>	<b><i>Cyprinidae</i></b>
Spottail shiner	<i>Notropis hudsonius</i>
Golden shiner	<i>Notemigonus chrysoleucas</i>
<b>Livebearers</b>	<b><i>Poeciliidae</i></b>
Mosquito fish	<i>Gambusia affinis</i>

**APPENDIX C**  
**APPLICABLE PUBLIC LAWS (P.L.)**

<b>STATUTE</b>	<b>DESCRIPTION</b>
P.L. 59-209, THE ANTIQUITIES ACT OF 1906	The first Federal law established to protect what are now known as "cultural resources" on public lands. It provides a permit procedure for investigating "antiquities" and consists of two parts: An act for the Preservation of American Antiquities, and Uniform Rules and Regulations.
P.L. 74-292, the Historic Sites Act of 1935	Declares it to be a national policy to preserve for (in contrast to protecting from) the public, historic (including prehistoric) sites, buildings, and objects of national significance. This act provides both authorization and a directive for the Secretary of the Interior, through the National Park Service, to assume a position of national leadership in the area of protecting, recovering, and interpreting national archeological historic resources. It also establishes an "Advisory Board on National Parks; Historic Sites, Buildings, and Monuments, a committee of eleven experts appointed by the Secretary to recommend policies to the Department of the Interior".
P.L. 75-761, the Flood Control Act of 1938	This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
16 U.S. Code §§ 668-668a-d, the Bald Eagle Protection Act of 1940, as amended	This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The Act defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb
P.L. 78-534, Flood Control Act of 1944	Section 4 of the Act as last amended in 1962 by Section 207 of P.L. 87-874 authorizes USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to Federal, State or local governmental agencies

<p>P.L. 79-525, River and Harbor Act of 1946</p>	<p>This Act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes</p>
<p>P.L. 83-780, Flood Control Act of 1954</p>	<p>This Act authorizes the construction, maintenance, and operation of a public park and recreational facilities in reservoir areas under the control of the Department of the Army and authorizes the Secretary of the Army to grant leases of lands in reservoir areas deemed to be in the public interest</p>
<p>P.L. 85-624, Fish and Wildlife Coordination Act 1958</p>	<p>This Act as amended in 1965 sets down the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources and adverse effects on these resources shall be examined along with other purposes which might be served by water resources development</p>
<p>P.L. 86-523, Reservoir Salvage Act of 1960, as amended</p>	<p>This Act provides for: (1) the preservation of historical and archeological data that might otherwise be lost or destroyed as the result of flooding or any alteration of the terrain caused as a result of any Federal reservoir construction projects; (2) coordination with the Secretary of the Interior whenever activities may cause loss of scientific, prehistoric, or archeological data; and (3) expenditure of funds for recovery, protection, and data preservation. This Act was amended by P.L. 93-291</p>
<p>P.L. 86-717, Forest Cover Act</p>	<p>The Forest Cover Act provides a statutory mandate for multiple use forest management and to provide for the continued production and harvest of forest products through sustained yield programs, reforestation, and accepted conservation practices. The Act provides for the protection, conservation, maintenance, and development of other vegetative cover types such as wetlands and grasslands. The Forest Cover Act also provides authority for the Corps to manage project lands and waters for any or all conservation purposes, including fish and wildlife conservation</p>

<p>P.L. 87-874, Rivers and Harbors Act of 1962</p>	<p>This Act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes</p>
<p>P.L. 88-578, Land and Water Conservation Fund Act of 1965</p>	<p>This Act established a fund from which Congress can make appropriations for outdoor recreation. Section 2(2) makes entrance and user fees at reservoirs possible by deleting the words "without charge" from Section 4 of the 1944 Flood Control Act as amended</p>
<p>P.L. 89-90, Water Resources Planning Act of 1965</p>	<p>This Act established the Water Resources Council and gives it the responsibility to encourage the development, conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis</p>
<p>P.L. 89-665, National Historic Preservation Act of 1966</p>	<p>This act provides for: (1) an expanded National Register of significant sites and objects and the (2) establishment of an Advisory Council on Historic Preservation. It mandates procedural steps in consideration of effects to historic properties. Section 106 requires Federal Agencies to consider the effects on historic properties from their undertakings and requires that the Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places</p>
<p>P.L. 90-483, River and Harbor and Flood Control Act of 1968, Mitigation of Shore Damages</p>	<p>Section 210 restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel</p>
<p>P.L. 91-190, National Environmental Policy Act of 1969 (NEPA)</p>	<p>NEPA declared a "continuing policy of the Federal Government... to use all practicable means and measures... to foster and promote the general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be interpreted and administered in accordance with the policies of the Act</p>

<p>P.L. 91-611, River and Harbor and Flood Control Act of 1970</p>	<p>Section 234 provides that persons designated by the Chief of Engineers shall have authority to issue a citation for violations of regulations and rules of the Secretary of the Army, published in the Code of Federal Regulations</p>
<p>P.L. 92-500, Federal Water Pollution Control Act Amendments of 1972.</p>	<p>The Federal Water Pollution Control Act of 1948 (P.L. 845, 80th Congress), as amended in 1956, 1961, 1965 and 1970 (P.L. 91- 224), established the basic tenet of uniform State standards for water quality. P.L. 92-500 strongly affirms the Federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."</p>
<p>P.L. 92-347, Golden Eagle Passbook and Special Recreation User Fees</p>	<p>This Act revises P.L. 88-578, the Public Land and Water Conservation Act of 1965, to require Federal agencies to collect special recreation user fees for the use of specialized sites developed at Federal expense and to prohibit the Corps of Engineers from collecting entrance fees to projects</p>
<p>P.L. 93-81, Collection of Fees for Use of Certain Outdoor Recreation Facilities</p>	<p>This Act amends Section 4 of the Land and Water Conservation Act of 1965, as amended to require each Federal agency to collect special recreation use fees for the use of sites, facilities, equipment, or services furnished at Federal expense</p>
<p>P.L. 93-205, Conservation, Protection, and Propagation of Endangered Species Act of 1973, as amended</p>	<p>This law repeals the Endangered Species Conservation Act of 1969. It also directs all Federal departments/agencies to carry out programs to conserve endangered and threatened species of fish, wildlife, and plants and to preserve the habitat of these species in consultation with the Secretary of the Interior. This Act establishes a procedure for coordination, assessment, and consultation. This Act was amended by P.L. 96-159</p>
<p>P.L. 93-291, Archeological Conservation Act of 1974</p>	<p>The Secretary of the Interior shall coordinate all Federal survey and recovery activities authorized under this expansion of the 1960 act. The Federal Construction agency may transfer up to one percent of project funds to the Secretary with such transferred funds considered non-reimbursable project costs</p>

<p>P.L. 93-303, Recreation Use Fees</p>	<p>This Act amends Section 4 of the Land and Water Conservation Act of 1965, as amended, to establish less restricted criteria under which Federal agencies may charge fees for the use of campgrounds developed and operated at Federal areas under their control.</p>
<p>P.L. 94-422, Amendment of the Land and Water Conservation Fund Act of 1965</p>	<p>Expands the role of the Advisory Council. Title 2 - Section 102a amends Section 106 of the Historical Preservation Act of 1966 to say that the Council can comment on activities which will have an adverse effect on sites either included in or eligible for inclusion in the National Register of Historic Places</p>
<p>P.L. 95-217, Clean Water Act of 1977, as amended</p>	<p>This Act amends the Federal Water Pollution Control Act of 1970 and extends the appropriations authorization. The Clean Water Act is a comprehensive Federal water pollution control program that has as its primary goal the reduction and control of the discharge of pollutants into the nation's navigable waters. The Clean Water Act of 1977 has been amended by the Water Quality Act of 1987, P.L. 100-4.</p>
<p>P.L. 95-341, American Indian Religious Freedom Act of 1978</p>	<p>The Act protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites</p>
<p>P.L. 95-632, Endangered Species Act Amendments of 1978</p>	<p>This law amends the Endangered Species Act Amendments of 1973. Section 7 directs agencies to conduct a biological assessment to identify threatened or endangered species that may be present in the area of any proposed project. This assessment is conducted as part of a Federal agency's compliance with the requirements of Section 102 of NEPA</p>
<p>P.L. 96-95, Archeological Resources Protection Act of 1979</p>	<p>This Act protects archeological resources and sites that are on public and tribal lands and fosters increased cooperation and exchange of information between governmental authorities, the professional archeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archeological resource located on public or NATIVE AMERICAN lands</p>

P.L. 98-63, Supplemental Appropriations Act of 1983	This Act authorized the Corps of Engineers Volunteer Program. The United States Army Chief of Engineers may accept the services of volunteers and provide for their incidental expenses to carry out any activity of USACE, except policymaking or law or regulatory enforcement
P.L. 99-662, The Water Resources Development Act 1986	Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure

# **APPENDIX D**

## **Resource Plans**

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## 1 ANDERSONVILLE ISLAND, SC

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located near the confluence of the Tugaloo and Seneca Rivers; access is by boat only.

**Description:** Andersonville Island consists of 455 acres. This island is flat to gently sloping and heavily covered with pines and some hardwoods. It is used by boaters, picnickers, and some primitive campers. Hunting occurs on this island in the winter since it does have a small population of deer and rabbits. Kudzu control is needed to prevent loss of other vegetation. The site offers primitive camping and day use activities. No facilities exist here.

**Future Development:** This area will continue to serve as a boat-in camping and day use area.

## 2 APPLE ISLAND RECREATION AREA, SC

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Little Beaverdam Creek due north of Andersonville Island at the end of Hickory Ridge Road off Smith Chapel Road near Exit 11 on Interstate 85.

**Description:** Apple Island is a gently sloping to almost level 107-acre site having a scattered tree cover of pines and some hardwoods. The site presently offers boat launching facilities consisting of 1 boat ramp and a paved parking area. Previously existing day use and primitive camping area was closed in 1982 as part of closure consolidation efforts.

**Future Development:** Necessary maintenance of existing facilities. No future expansion is anticipated.

## 3 ASBURY, SC

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located at the confluence of Twenty-Three Mile and Twenty-Six Mile Creeks at the end of Asbury Park Road near Centerville Road in Anderson County, SC.

**Description:** Asbury Recreation Area is a 27-acre moderately sloping site covered with a dense mix of pine and hardwood. The site presently is outgranted to Anderson County with an approved development plan to include a campground office, convenience store, caretaker residence, camp sites, mini cabins, treehouses, yurts, a water park anchored in the lake, and picnic shelters, and boat launching facilities to include: 1 boat ramp, and 1 courtesy dock. The site was previously operated as a campground but closed during Closure and Consolidation in the early 1980's and the operational area was reduced and converted to day-use only with a boat ramp.

**Future Development:** Anderson County leases the site and operates it as a campground, with primitive sites, full-service sites, yurts, small cabins and treehouses. Improvements were made to the existing roads, parking lots, and utilities supporting the park.

## 4 BARTON'S MILL ACCESS, SC

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** The 0.17-acre site is located adjacent in the Tugaloo Shores subdivision.

**Description:** This area contains a single launch ramp only with no parking or turnaround located between two private residences.

**Future Development:** No future development is proposed.

## **5 BIG OAKS RECREATION AREA, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River at the west end of Hartwell Dam on U.S. Highway 29 and immediately adjacent to the Operations Project Manager's Office in Hart County, Georgia.

**Description:** Big Oaks Recreation Area is a 12-acre gently sloping site with good grass cover and scattered pine and hardwood trees throughout. The area experiences high levels of intense public use during peak recreation season and serves to host numerous large special events annually, e.g. Hartwell Dam Run, Pre-Fourth Fireworks, etc. The large grass field behind the Operations Project Manager's Office is utilized for additional parking during large special events. The site presently offers day use and boat launching facilities to include 3 picnic shelters (2 with water and electric service), 26 picnic sites, a two lane boat ramp, 1 courtesy dock, 1 comfort station, 1 playground, and associated paved roads and parking areas throughout. The area is also the access point to the paved walking trail located atop the Georgia earthen embankment of Hartwell Dam.

All picnic sites need general rehabilitation which is accomplished as necessary and as funding allows. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality. Area is on municipal water service. Shoreline erosion is mitigated by the presence of retaining walls and riprap along the entirety of shoreline within the developed area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

## **6 BRADBURY ACCESS, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Located on Highway 51 Reed Creek Highway adjacent to the bridge.

**Description:** The 2.42-acre site presently offers boat launching facilities consisting of a single lane boat ramp and small gravel parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **7 BROWN ROAD ACCESS, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located on Brown Road approximately 1.2 miles from its intersection with Highway 76 in Anderson, South Carolina.

**Description:** This 2.18-acre site contains a single lane launching ramp, paved parking for vehicles and trailers, a picnic area, and a floating fishing pier.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **8 BROYLES RECREATION AREA, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located just southwest of the confluence of the Seneca and Savannah Rivers at the end of Smyzer Road off SC Highway 24 approximately 1 mile from Interstate 85, Exit 11 in Anderson County, South Carolina.

**Description:** Broyles Recreation Area consists of 24 acres with a gentle to moderate slope and vegetation consisting primarily of pine. The site presently offers day use and boat launching facilities consisting of 1 volunteer host campsite, 14 picnic sites, 1 standard picnic shelter with water and electric service, 1 three-lane boat ramp, 1 courtesy dock, 1 comfort station, 1 playground, 1 designated swim area/beach, 1 fishing dock, and associated paved roads and parking areas throughout.

Parking expansion was completed in 2018 resulting in a total of 57 single car spaces and 92 trailer spaces. All facilities are in a good condition. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular pumping of septic systems. Area is on municipal water service. Some riprap located along areas of shoreline to reduce minimal erosion concerns. The area experiences high levels of intense public use during peak recreation season, especially

the ramp area and parking. Area is a favorite location for large fishing tournaments throughout spring and summer annually.

**Future Development:** Necessary maintenance/upgrade of existing facilities. Proposed construction of gatehouse/entrance area as funding allows. No space for further expansion.

## **9 BRUCE CREEK RECREATION AREA, GA**

**Management Agency:** Stephens County, GA

**Land Classification:** Recreation

**Location:** Located on Bruce Creek, 2.3 miles off GA Highway 336. This 41-acre wooded area has room for further development.

**Description:** Bruce Creek has limited facilities developed on site covered with a mixture of pines and hardwoods. Slopes around the picnic area and launching ramp are gentle while the southern end of the park has steeper slopes. Electrical service is available at the park entrance. A good natural beach exists on the west side of the causeway in this area. The site offers day-use and boat-launching facilities with 21 picnic sites, five fishing piers, one vault toilet, and parking for vehicles and trailers.

**Future Development:** No future development is planned.

## **10 CAMP CREEK ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Seneca River at the end of county road 193 off SC Highway 24, 2.7 miles north of Exit 11 on Interstate 85 in Anderson County, SC.

**Description:** Camp Creek is a 47-acre, moderately sloping site heavily covered with pines and hardwoods. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **11 CARTER'S FERRY ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River near its confluence with Little Lightwood Log Creek and at the end of Carter's Ferry Road in Hart County, Georgia.

**Description:** Carter's Ferry is a 20-acre gently sloping site covered almost entirely with pines. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **12 CHANDLERS FERRY RECREATION AREA, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River at its confluence with Reed Creek in Hart County, Georgia.

**Description:** Chandlers Ferry is a 48-acre site that was closed in 1982 as part of closure consolidation efforts. No facilities are available for public use.

**Future Development:** No future development is proposed.

## **13 CHOESTOEAE RECREATION AREA, SC**

**Management Agency:** Oconee County, SC and USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River at its confluence with Choestoea Creek and 0.7 miles off Dr. John's Road in Oconee County, South Carolina.

**Description:** Choestoea is a 369-acre heavily wooded site with steep to moderate slopes. Day use and boat launching facilities, consisting of 1 boat ramp, 1 courtesy dock, and paved parking area were leased to Oconee County in 2014 for operation and maintenance. USACE maintains operation and maintenance of the large undeveloped wildlife management area which includes several food plots. USACE has a perpetual easement and associated maintenance responsibilities for the 0.7-mile access road that provides legal access to the Choestoea site from Dr. John's Road as long as USACE maintains a management interest in the Choestoea area (presently wildlife management).

**Future Development:** Necessary maintenance of access road and wildlife management area. No future expansion or further development is anticipated.

**14 CLEMSON CITY PARK, SC**

**Management Agency:** City of Clemson, SC

**Land Classification:** Recreation

**Location:** Located on Twelve Mile Creek 1 mile off SC Highway 133. This 35-acre area is located on a wooded area at the end of a dead-end street. Residential areas are next to the site.

**Description:** Clemson Park is a steeply sloping site of limited potential. Use at the park is primarily for boating access. The picnic areas suffer from soil compaction and sheet erosion. Tree cover and vegetative mix is good. Roads within the area are in good shape. Utilities are available at the park entrance. A one lane boat ramp, walking trail, and parking for vehicles and trailers are available for the public.

**Future Development:** No future development is planned.

**15 CLEVELAND ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Flat Shoals Creek just west of the city of Hartwell off Highway 51/77 then North 1.5 miles on Old Beacon Light Road.

**Description:** Cleveland is a small 2-acre, gently sloping site with a scattered pine cover. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, paved access road, and parking area.

**Future Development:** Necessary maintenance of existing facilities. There is no room for expansion and further development is not anticipated.

**16 COVE INLET, SC**

**Management Agency:** Anderson County

**Land Classification:** Recreation

**Location:** Located between private residences at the end of Sunrise Circle off Old Dobbins Bridge Road in Anderson County, SC.

**Description:** This 0.36-acre site has a single lane ramp with turnaround and no parking.

**Future Development:** No future expansion or development is possible due to small land base.

## **17 CRAWFORD'S FERRY ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River at its confluence with Crane's Creek at the end of Crawford's Ferry Road in Hart County, Georgia.

**Description:** Crawford's Ferry is a 36-acre heavily wooded site primarily of mixed hardwood with steep slopes. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and a paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **18 DARWIN H. WRIGHT PARK, SC**

**Management Agency:** City of Anderson, SC

**Land Classification:** Recreation

**Location:** Darwin H. Wright Park is located north of Anderson; access is via Highway 28.

**Description:** This 28-acre site is gently sloping peninsula has a scattered tree cover of mostly hardwoods. This popular area has some erosion around the picnic tables caused by user impacts and soil compaction. All roads in this area are paved. The site offers picnicking and swimming facilities.

**Future Development:** No future development is proposed.

## **19 DENVER ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the north shore of 26 Mile Creek and accessible from either U.S. Highway 76 north of Exit 19 on Interstate 85 or Centerville Road in Anderson County, South Carolina (Highway 71).

**Description:** Denver Recreation Area is a 19-acre moderately sloping site covered heavily with pines and some hardwoods. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **20 DOUBLE SPRINGS ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located near the confluence of Little Beaverdam Creek and the Tugaloo River due north of Shaw Island. Approximately 3.6 miles from Exit 11 on Interstate:85, via SC Highway 24 to Hatton's Ford Road to Double Springs Road in Anderson, SC.

**Description:** Double Springs Recreation Area is an 18-acre gently sloping site with hardwoods and pines. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **21 DUNCAN BRANCH ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Old Highway 29, 2.7 miles off U.S. Highway 29 in Hart County, Georgia.

**Description:** Duncan Branch is an 11-acre gently sloping site with an open grass area and mixed hardwoods. The site offers boat launching facilities consisting of 1 boat ramp and associated paved parking area.

**Future Development:** No future development is proposed.

## **22 DURHAM ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the north shore of the Tugaloo River southeast of the town of Fair Play, South Carolina. From Fair Play, take Durham Road off SC Highway 243.

**Description:** Durham is a 4-acre gently sloping site consisting of a mixture of pine and hardwood. The site offers boat launching facilities consisting of 1 boat ramp and paved parking area. A water intake structure for municipal water supply was constructed on the site in 2018.

**Future Development:** Necessary maintenance of existing facilities. There is no room for further expansion and further development is not anticipated.

### **23 EIGHTEEN MILE CREEK ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located north of Interstate 85, 1.2 miles off Highway 187 at the end of Knox Rd. in Anderson County, South Carolina.

**Description:** This access area is a 6.73-acre site situated on a gentle sloping point on Eighteen Mile Creek. Vegetation consists mostly of a dense canopy of pines and mixed hardwoods. This site currently provides a single lane boat launching ramp, 1 courtesy dock, and a paved parking lot that will accommodate 11 vehicles with trailers.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

### **24 ELROD FERRY RECREATION AREA, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the north shore of Little Powderbag Creek at its confluence with the Savannah River 1.3 miles off U.S. Highway 29 at the end of Elrod Ferry Road in Hart County, Georgia.

**Description:** Elrod Ferry Recreation Area is a 39-acre site situated on a gently sloping point that overlooks the lake near Hartwell Dam. Vegetation consists of a relatively dense canopy of pines and mixed hardwoods. The site offers day use and boat launching facilities consisting of 1 gatehouse/entrance, 37 picnic sites, 2 standard picnic shelters with water and electric service, 1 boat ramp, 1 courtesy dock, 2 comfort stations, 2 playgrounds, 3 designated swim areas/beaches, 1 volleyball pit, and associated paved roads and parking areas throughout.

The area experiences moderate to high levels of intense public use during the peak recreation season. Most of the picnic sites need general rehabilitation which is accomplished as funding allows. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is on municipal water service. Shoreline erosion is reduced by the presence of gabion basket and riprap armoring throughout the developed area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

## **25 FAIR PLAY RECREATION AREA, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** This recreation area is located one mile south of 1-85, access to the site is via SC Highway 59.

**Description:** Fair Play Recreation Area is a 16-acre site with scattered hardwoods and a picnic area with moderately dense pine growth close to the property line along the spur road. The southern picnic area and beach receive the heaviest use and are showing signs of this impact. The gently sloping shoreline is grassed and well maintained. A Private campground is immediately adjacent to the site. The use at the boat ramp parking often exceeds capacity. The site offers day-use and boat-launching facilities with a 2-lane boat ramp, 1 picnic shelter, 16 picnic sites, 2 swim beaches, 1 comfort station, 1 playground, and parking for vehicles and trailers.

**Future Development:** No future development is proposed.

## **26 FRANKLIN COUNTY ACCESS, GA**

**Management Agency:** Franklin County, GA

**Land Classification:** Recreation

**Location:** Located on Franklin County Boat Ramp Road approximately 1.5 miles from its intersection with Highway 328.

**Description:** This 2.10-acre site has a single lane boat launching ramp and a small gravel parking area.

**Future Development:** Necessary maintenance of existing facilities. No future development is proposed.

## 27 FRIENDSHIP RECREATION AREA, SC

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located on Coneross Creek and immediately adjacent to Coneross Creek Road approximately 1.4 miles north of SC Highway 24 in Oconee County, South Carolina. Ramp area located west of Coneross Creek Road and day use area located east of road.

**Description:** Friendship Recreation Area is a gently sloping 27-acre site. Vegetation consist primarily of pine. The site presently offers day use and boat launching facilities consisting of 15 picnic sites, a two-lane boat ramp, a courtesy dock, 2 comfort stations, a playground, a designated swim area/beach, and associated paved roads and parking areas throughout.

The area experiences moderate to high levels of intense public use during the peak recreation season. Many picnic sites are in need of general rehabilitation. Utilities are adequate for present and future needs, requiring routine maintenance to insure functionality, e.g. regular pumping of septic systems. Area is on municipal water service. Minor erosion concerns reduced by placement of riprap around ramp area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

## 28 GEORGIA DAM VIEWING AREA, GA

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located 0.2 mile off U.S. Highway 29 and just west of Hartwell Dam in Hart County, Georgia.

**Description:** This 3.08-acre area is closed. Views of the dam are blocked by adjacent vegetation/trees. Paved parking area and access road remains in place and is utilized as an operational "lay down" area by the Hartwell Power Plant.

**Future Development:** No future development is planned.

## 29 GLENN FERRY RECREATION AREA, SC

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River at the end of Glenn Ferry Road 0.5 miles south of Exit 4 on Interstate-85 in Anderson County, South Carolina.

**Description:** Glenn Ferry Recreation Area is a 211-acre site consisting of a heavy pine and mixed hardwood tree cover. The slopes are quite steep and access to the water is somewhat limited. The site offers boat launching facilities to include 1 boat ramp, 1 courtesy dock, and paved access road and parking area. The old campground area was closed in 1982 as part of closure consolidation efforts.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

### **30 GREEN POND LANDING, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located 1.5 miles west of the intersection of SC Highways 24 and 187.

**Description:** Green Pond Landing consists of 35 acres with a natural beach site. The site is developed as a mega ramp with a 3-lane ramp, courtesy dock, and a single lane ramp and parking for vehicles and trailers.

**Future Development:** Anderson County intends to add a comfort station to this site, amphitheater with weigh-in facilities, breakwater, 3 additional launching lanes and courtesy dock, disc golf course, and a shelter and picnic area.

### **31 GUM BRANCH RECREATION AREA, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Located northeast of Hartwell with access is via Highway 29/8.

**Description:** The 35-acre site is developed as a mega-ramp capable of hosting large fishing tournaments. It has a 3-lane boat ramp, picnic shelter, comfort station, and parking for 100+vehicles with trailers.

**Future Development:** An amphitheater/weigh-in facility is proposed.

### **32 HARTWELL VOLUNTEER VILLAGE, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the southern shore of Little Powderbag Creek approximately 2 miles west of the Hartwell Dam. Access is off U.S. Highway 29 at the end of Little Powderbag Road in Hart County, Georgia.

**Description:** This 22-acre gently sloping site is predominantly covered with pines. The site is utilized as a Volunteer Village with camping facilities for Volunteer use only. Present facilities include: 1 picnic shelter; 5 campsites with full water, sewer, and electric hook-ups; 1 dump station; 1 laundry facility; municipal water; and paved roads and parking throughout.

**Future Development:** Possible expansion to include 2-3 additional campsites for volunteer personnel.

### **33 HATTON'S FORD, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** The ramp is located at the end of Andersonville Road in Anderson County, SC adjacent to Weldon Island Recreation site.

**Description:** Hatton's Ford Access Area consists of 5.4 acres and offers day-use and boat launching facilities consisting of 12 picnic sites, 1 two lane boat ramp, 1 courtesy dock, and paved roads and parking areas. The ramp access area was expanded in 2018.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future development is anticipated.

### **34 HOLCOMB ACCESS, GA**

**Management Agency:** Stephens County, GA

**Land Classification:** Recreation

**Location:** Located at the confluence of the Eastanolle Creek and the Tugaloo River, 0.6 miles off North Holcomb Drive at the end of Holcomb Access Road, Stephens County, Georgia.

**Description:** This 6.6-acre site is a gently sloping area with a dense cover of predominately pine with some mixed hardwoods. This area provides a single lane boat launching ramp and a paved parking lot.

**Future Development:** No future expansion or further development is anticipated.

### **35        HOLDER'S LANDING, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** This 3.57-acre site is located at the end of Holder's Landing Road off Highway 130 in Oconee County, SC.

**Description:** This is a single lane ramp with limited undesignated parking.

**Future Development:** No future development is proposed.

### **36        HONEA PATH ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the southern shore of Twenty-Six Mile Creek at the end of Honea Path Park Road approximately 0.5 miles off Pearman Dairy Road in Anderson County, South Carolina.

**Description:** Honea Path is a 21-acre site located on a moderate to steeply sloping site with a dense cover of mixed hardwoods and some pine. The site offers boat launching facilities consisting of 1 ramp and a small paved parking area. The day use area was closed in 1982 as part of closure consolidation efforts.

**Future Development:** Area maintained by volunteer effort and proposed for closure once facilities degrade to an unsafe condition.

### **37        HOYT TILLEY ACCESS, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located at the end of Dyar Road approximately 2 miles off of Highway 24 in Anderson County, South Carolina on the Seneca River portion of the lake.

**Description:** This 0.93-acre site contains a single lane boat launching ramp and a paved parking lot.

**Future Development:** Necessary maintenance of existing facilities. There is no room for expansion and further development is not anticipated.

### **38 HURRICANE CREEK ACCESS, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located 0.3 miles off Highway 28/Clemson Boulevard at the end of George Smith Mill Road in Anderson County, South Carolina, on the Twenty-Six Mile Creek arm of the lake.

**Description:** This 5.27-acre site contains a single lane boat launching ramp with a paved parking lot.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

### **39 ISLAND POINT RECREATION AREA, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Island Point is located approximately 4 miles east of the Hartwell Dam, access is via Highway 29.

**Description:** Island Point recreation area consists of 32 acres. This gently sloping site has a scattered tree cover of pines and mixed hardwoods. Shoreline erosion continues to be a problem due to exposure to large open areas of water and the northwest winter and spring wave action.

**Future Development:** This site has been closed since 1993 and is overgrown. No future development is planned. Previous facilities have been removed.

### **40 JACK'S LANDING ACCESS, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located on the southern end of Twenty-Six Mile Creek at the confluence of Seneca River at the end of White Hall Road in Anderson County, SC adjacent Tiger Cove Campground, a privately owned facility leasing lakefront property from USACE.

**Description:** This 3.18-acre site contains a single-lane boat launching ramp and paved parking lot.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

#### **41 JARRETT ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Seneca River near its confluence with the Tugaloo River at the end of Sunset Lane off Providence Church Road in Anderson County, SC.

**Description:** Jarrett is a small 2-acre site consisting primarily of pine, infested with Kudzu around the parking area perimeter. The site offers boat launching facilities consisting of 1 boat ramp and paved parking area. Due to steepness of slope, area is not conducive for installation of a courtesy dock.

**Future Development:** Necessary maintenance of existing facilities. There is no room for expansion and further development is not anticipated.

#### **42 JENKINS FERRY ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the upper end of the Tugaloo River near Rock Creek at the end of Jenkins Ferry Road off Brookhaven Circle in Stephens County, Georgia.

**Description:** Jenkins Ferry is a 31-acre moderately sloping site consisting primarily of pine. The site offers boat launching facilities consisting of a two-lane boat ramp, a courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**43 KEOWEE TRAIL, SC**

**Management Agency:** City of Clemson

**Land Classification:** Recreation

**Location:** This 6.14-acre site is located at the intersection of Highway 76 and Highway 123 in Clemson, SC.

**Description:** Walking trail, picnic areas, courtesy docks, kayak launch ramp, picnic shelter, restroom, observation platforms

**Future Development:** No future development is proposed.

**44 LAKE SHORE ACCESS, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located between private residences in the Lake Shore subdivision near Fairplay, SC.

**Description:** This is a single lane ramp with turnaround and no parking.

**Future Development:** No future development is proposed.

**45 LAWRENCE BRIDGE RECREATION AREA, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located on the Keowee River off S.C. Highway 27.

**Description:** This 7-acre site is located on a hill overlooking the river on a steep slope which limits expansion and development. This area has been developed to its capacity. The site is thickly covered with pines and some hardwoods. This is the only access point on this portion of the Keowee River. Any development would have to use sound planning practices to avoid extensive erosion. The site offers day-use and boat-launching facilities with a comfort station, 12 picnic sites, a one-lane boat ramp, and parking.

**Future Development:** No future development is proposed.

#### **46 LONG POINT RECREATION AREA, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Long Point Recreation Area is located at the end of GA Spur 8.

**Description:** This 37-acre site extends approximately 0.6 miles into the lake and offers an excellent view of Hartwell Dam. The northern portion of this site is heavily wooded while the southern portion has scattered tree cover. The area is almost level and heavily used as a swimming and picnic area by residents. The site offers day-use and boat-launching facilities with 1 boat ramp, 2 picnic shelters, 22 picnic sites, 1 comfort station, and 2 playgrounds.

**Future Development:** No future development is proposed.

#### **47 MADDEN BRIDGE, SC**

**Management Agency:** Pickens County, SC

**Land Classification:** Recreation

**Location.** Madden Bridge Road, Pickens, SC

**Description:** This 15-acre site includes paved parking, a picnic shelter, and a kayak launch ramp.

**Future Development:** No future development is proposed.

#### **48 MARTIN CREEK ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Martin Creek near its confluence with the Seneca River at the end of State Road S-37-69 off Martin Creek Road in Oconee County, South Carolina.

**Description:** Martin Creek is a 60-acre moderately sloping site covered mainly with hardwoods. The site presently offers boat-launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**49 MARY ANN BRANCH ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River at the end of Hatton's Ford Road off GA Highway 51 in Hart County, Georgia.

**Description:** Mary Ann Branch is a 16-acre moderately sloping site consisting primarily of mixed hardwoods. The site offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and a paved access road and parking area. The day use/picnic area of the site was closed in 1982 as part of closure consolidation efforts.

**Future Development:** Necessary maintenance of existing facilities. No further expansion or development anticipated.

**50 MT. BAY PARK, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located on the Choestoea Creek, 1.2 miles off Oconee County Road 67.

**Description:** This 1-acre site is located adjacent to the Foxwood Hills subdivision and receives high use. This moderately sloping site has a mostly hardwood tree cover. This area offers day-use and boat-launching facilities with one flush toilet, picnic shelter, playground equipment, and seven picnic sites.

**Future Development:** No future development is proposed.

**51 MULLINS FORD RECREATION AREA, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River, 1 mile off Oconee County Road 20.

**Description:** This 10-acre area is a moderately sloping site with a scattered tree cover of pines and mixed hardwoods that offers boat launching and day-use facilities with 17 picnic units, a comfort station, single lane boat ramp, and parking for vehicles and trailers. The picnic sites are showing some user impacts from high use from local communities. This is the only developed picnic area in this SC portion of the Tugaloo River. Utility services are present and adequate for user needs.

**Future Development:** No future development is proposed.

## **52 NEW PROSPECT ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Lightwood Log Creek off Piney Woods Road 0.5 miles from intersection with New Prospect Road in Hart County, Georgia.

**Description:** New Prospect is a 34-acre gently sloping site with a heavy stand of pine. The site presently offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, paved access road, and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **53 POPLAR SPRINGS RECREATION AREA, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River and 2.1 miles off GA Highway 328 at the end of Poplar Springs Road in Franklin County, Georgia.

**Description:** Poplar Springs Recreation Area is a 24-acre site with moderate slopes with relatively dense stands of pines and mixed hardwoods. The site presently offers day use and boat launching facilities but is primarily used for boat launching and is one of the more popular launch sites in this area of the Hartwell Project. Facilities include 1 volunteer host campsite, 20 picnic sites, 1 standard picnic shelter with water and electric service, 1 two lane boat ramp, 1 courtesy dock, 2 comfort stations, and associated paved roads and parking areas throughout.

Picnic sites are minimally developed with no impact pad and all are in need of general rehabilitation/upgrade. Utilities are adequate for present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is on municipal water service. Shoreline erosion is reduced by presence of riprap armoring at select areas.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

**54 PORT BASS ACCESS, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** This access area is located off Arrington Drive in the Port Bass Subdivision approximately 2 miles off Highway 11 on the Tugaloo River.

**Description:** This 2.59-acre site contains a single-lane boat launching ramp and small paved parking area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

**55 POWDERBAG CREEK ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Powderbag Creek at the end of Powderbag Creek Road off Old Highway 29 in Hart County, Georgia.

**Description:** Powder Bag Creek is a 12-acre moderately sloping site that is heavily wooded with pines and some hardwoods. The site presently offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**56 REED CREEK ACCESS, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Reed Creek Access is located on Reed Creek and 1.35 miles off GA Highway 51 (Reed Creek Highway). This 10-acre site is located on the headwaters of Reed Creek.

**Description:** This gently sloping site has no developed parking area which forces users to park on the road shoulders. This in turn causes traffic congestion problems.

Boat-launching facilities are offered at the site. An open area will accommodate approximately 10 vehicles.

**Future Development:** This area is leased to Hart County. No future development is proposed.

## **57 RICHLAND CREEK ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Seneca River at the end of Richland Creek Road off of Providence Church Road in Anderson County, South Carolina.

**Description:** Richland Creek is a 19-acre moderate to steep sloping site with a dense stand of primarily pine. The site presently offers boat-launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road and parking areas.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **58 RIVER FORKS RECREATION AREA, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located on the Seneca River just north of the confluence of the Seneca and Tugaloo Rivers. Access is via River Forks Road off Highway 187 in Anderson County, South Carolina.

**Description:** River Forks Recreation Area is a 182-acre gently sloping site with a relatively dense tree cover consisting primarily of pines. The site presently offers day use and boat launching facilities consisting of 1 gatehouse/entrance, 38 picnic sites, 2 standard picnic shelters with water and electric service, 1 two lane boat ramp, 1 courtesy dock, 2 comfort stations, 3 playgrounds, 3 designated swim areas/beaches, 1 volleyball pit, and associated paved roads and parking areas throughout.

The area experiences high levels of intense public use during peak recreation season. Many of the picnic sites are in need of general rehabilitation. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Shoreline erosion is reduced by the presence of retaining wall, gabion basket, and riprap structures throughout the area.

**Future Development:** Necessary maintenance/upgrades to existing facilities. No future expansion or further development is anticipated.

**59      ROCK SPRINGS ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located in Hart County, Georgia near the confluence of Shoal Creek and the Tugaloo River at the end of Rock Springs Road off Mount Olivet Road.

**Description:** Rock Springs is a 59-acre gently sloping site with a heavy stand of mixed hardwoods and pines. The site presently offers boat launching facilities consisting of one boat ramp and paved access road and parking area. The site is not conducive for installation of a courtesy dock near the boat ramp.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**60      ROCKY FORD ACCESS, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Located in Hart County on Shoal Creek at the end of Rocky Ford Road approximately 2 miles from Highway 77.

**Description** – This 2.99-acre site has a single lane boat launching ramp and a small paved turn-around/parking area with no designated parking spaces.

**Future Development** – Necessary maintenance of existing facilities. There is no room for expansion and further development is not anticipated.

**61      SENECA CREEK ACCESS, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located at the confluence of Seneca Creek and the Seneca River off Seneca Creek Road approximately 1 mile from its intersection with Highway 93.

**Description** – This 3.99-acre access area currently has a single lane boat launching ramp and a paved parking lot.

**Future Development** Oconee County has obtained approval to add additional parking, a fishing pier, a new boat launching ramp, and a comfort station at the site.

## **62 SINGING PINES RECREATION AREA, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River approximately 2 miles east of the Hartwell Dam. Access is by U.S. Highway 29 in Anderson County, South Carolina.

**Description:** Singing Pines Recreation Area consists of 42 acres. Vegetation on this gently sloping site is almost entirely pine. The site presently offers day-use and boat-launching facilities consisting of 1 gatehouse/entrance, 57 picnic sites, 2 standard picnic shelters with water and electric service, 5 mini-shelters, 1 boat ramp, 1 courtesy dock, 2 comfort stations, 2 playground areas, 2 designated swim areas/beaches, 1 fishing dock, and associated paved roads and parking areas throughout.

The area experiences high levels of intense public use during peak recreation season. Most of the picnic sites need general rehabilitation which is being accomplished as necessary and as funding allows. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g., regular septic system pumping. Area is on municipal water service. Area is fully exposed to high winds and resulting wave action. Shoreline erosion is reduced by the presence of riprap and retaining wall structures throughout the area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or development is anticipated.

## **63 SC RIVER ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located 1 mile east of Hartwell Dam, access for this area is via Highway 29 in Anderson County, South Carolina.

**Description:** South Carolina River Recreation Area consists of 500 acres and is made up of three separate developed areas; the Overlook, Dam Viewing, and the River Recreation Area. The Overlook and Dam Viewing areas are open with good grass cover but few trees and located immediately adjacent to U.S. Highway 29. The River Recreation area is in the tailrace area of Hartwell Dam with access via Utz Road from of U.S. Highway 29. This gravel road is in fair condition and passes through a heavily

wooded area with slopes from 0 to 35 percent. Upper section of road is maintained by Anderson County and lower portion is maintained by USACE. There are no utilities provided within the three component areas.

Fishing piers at the River Recreation area need general rehabilitation or replacement and gravel access road and parking requires routine maintenance to prevent washouts, especially on steepest slopes. The lower portion of the River Recreation Area road located along the riverbank becomes inundated requiring closure of the area during periods of Hartwell Dam spillway gate operations during flood control conditions and/or gate testing.

The three areas presently offer viewing, and fishing facilities as listed below.

1. Dam Viewing Area: 1 paved parking area with steps that access the top of the South Carolina earthen embankment of Hartwell Dam.
2. Overlook: 1 concrete shelter with benches, 2 concrete information markers, 1 granite information marker, and 1 paved parking area.
3. SC River Access: 3 fishing piers, and 2 gravel parking areas.

**Future Development:** Improvement to parking and installation of picnic sites as funding allows.

#### **64 SOUTH CAROLINA DAM OVERLOOK, SC**

**Management Agency:** USACE

**Land Classification:** Project Operations and Administrative

**Location:** Highway 29 in Anderson County, South Carolina near the Hartwell Dam.

**Description:** This 1.76-acre site is part of the SC river access above and has 1 concrete shelter with benches, 2 concrete information markers, 1 granite information marker, and 1 paved parking area with access to the walking trail on the South Carolina embankment of Hartwell Dam.

**Future Development** – Necessary maintenance of existing facilities. Further development is not anticipated

#### **65 SOUTH CAROLINA DAM VIEWING AREA, SC**

**Management Agency:** USACE

**Land Classification:** Project Operations-Administrative

**Location:** Highway 29 in Anderson County, South Carolina at the Hartwell Dam.

**Description:** This 1.9-acre site has a paved parking area with steps that access the top of the South Carolina earthen embankment of Hartwell Dam.

**Future Development:** Necessary maintenance of existing facilities. Further development is not anticipated.

## **66 SOUTH UNION ACCESS, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located at the end of Boat Ramp Road approximately 2 miles from Highway 11 on the Tugaloo River arm of the lake.

**Description:** This 13.99-acre site has a single lane boat launching ramp and paved/gravel parking.

**Future Development:** Necessary maintenance of existing facilities. Further development is not anticipated.

## **67 SPRING BRANCH ACCESS, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the upper end of the Tugaloo River north of Rock Creek at the end of East Silver Shoals Road off Brookhaven Circle in Stephens County, Georgia.

**Description:** Spring Branch is a 12-acre moderately to steep sloping site consisting of mixed hardwoods with some pine. The site presently offers boat launching facilities consisting of 1 boat ramp, 1 courtesy dock, and paved access road with parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

## **68 STEPHENS COUNTY PARK, GA**

**Management Agency:** Stephens County, GA

**Land Classification:** Recreation

**Location:** Stephens County Park is located on the headwaters of the Tugaloo River and just off U.S. Highway 123. This is a 7-acre site is used primarily for fishing and boat launching.

**Description:** Stephens County Park is a long narrow site located along the roadbed when U.S. Highway 123 was relocated. Very little tree cover or additional land for development is available. Access to the water is restricted almost exclusively to the ramp area. The old bridge pier is used quite extensively by fishermen. Parking is inadequate in the springtime when the use of this area by fishermen is heavy. Presently, there are boat launching and day-use facilities available. A boat ramp, comfort station, 20 picnic sites, and parking for vehicles and trailers are offered to the public. The western end of the old Highway 123 Bridge is within this recreation site and is used as a public fishing pier. The eastern end of the bridge is also used as a public fishing pier although it is not a part of this recreational area.

**Future Development:** No future development is proposed.

## **69      SUNSHINE POINT ACCESS, SC**

**Management Agency:** SCDNR

**Land Classification:** Recreation

**Location:** Sunshine Point Recreation Area consists of 13 acres, located 2 miles south of SC Highway 24, access is via Highway 187.

**Description:** Sunshine Point is a gently sloping knoll jutting into the Seneca River portion of the lake. This area is licensed SCDNR.

**Future Development:** No future development is proposed.

## **70      TABOR ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the upper end of the Tugaloo River at the end of Tabor Ramp Road 1.2 miles off County Road 179 in Oconee County, South Carolina.

**Description:** Tabor is a gently sloping 20-acre site heavily wooded with hardwoods. The site presently offers boat-launching facilities with 1 boat ramp and a paved turnaround/approach area. Area has very limited, non-designated parking.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**71        TIMBERLAKE ACCESS, SC**

**Management Agency:** Oconee County, SC

**Land Classification:** Recreation

**Location:** Located at the end of Timberlake Circle approximately 1 mile off Highway 24 on the Coneross Creek portion of the lake.

**Description:** This 18.04-acre site has a single lane boat launching ramp and a paved parking area.

**Future Development** – Necessary maintenance of existing facilities. Further development is not anticipated.

**72        TOWNVILLE ACCESS, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the southern shore of Coneross Creek near its confluence with the Seneca River. Site is at the end of Coneross Road off SC Highway 24 in Anderson County, South Carolina.

**Description:** Townville is a 23-acre, moderately sloping site with a dense stand of pines and mixed hardwoods. The site presently offers boat-launching facilities consisting of 1 boat ramp, 1 courtesy dock, paved access roads and parking areas.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

**73        TWELVE MILE RECREATION AREA, SC**

**Management Agency:** City of Clemson, SC

**Land Classification:** Recreation

**Location:** Located on Twelve Mile Creek immediately off SC Highway 133 approximately 1.6 miles north of U.S Highway 123 in Clemson, South Carolina (Pickens County).

**Description:** Twelve Mile Recreation Area consists of 26 acres of pine and mixed hardwood. The interior portion of Twelve Mile is moderately sloping although the picnic area itself is quite gentle. The site presently offers day use and boat launching facilities including 1 gatehouse/entrance, 49 picnic sites, 2 standard picnic shelters with water

and electric service, 1 two lane boat ramp, 1 courtesy dock, 2 comfort stations, 2 playgrounds, 1 designated swim area/beach with 60' iron framed footbridge for access, and associated paved roads and parking areas throughout. The area experiences extremely high levels of intense public use during peak recreation season.

Many of the picnic sites are in need of general rehabilitation. Parking is minimal for picnicking/day use and needs to be expanded to better accommodate use, although space for expansion is minimal. Boat trailer parking has been expanded and is adequate for such use. Utilities are adequate for current and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is on municipal water service. Shoreline erosion is reduced by the presence of gabion basket and riprap structures throughout the area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. Proposed future development includes the addition of a volunteer park host campsite and single car parking spaces as available space allows.

#### **74 WALKER CREEK ACCESS, GA**

**Management Agency:** Stephens County, GA

**Land Classification:** Recreation

**Location:** Located on the upper end of the Tugaloo River off GA Highway 184 just below Yonah Dam in Stephens County, Georgia.

**Description:** Walker Creek is a 9-acre, relatively level site with a scattered tree cover located at the extreme upper end of the project. The site presently offers boat-launching facilities only with 1 boat ramp and associated paved parking area.

**Future Development:** Necessary maintenance of existing facilities. No future expansion or further development is anticipated.

#### **75 WELDON ISLAND RECREATION AREA, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River near its confluence with Little Beaverdam Creek. Access is via Andersonville Road 1.5 miles off Old Dobbins Bridge Road in Anderson County, South Carolina.

**Description:** Weldon Island Recreation Area is a 138-acre site consisting of mixed hardwoods and pines, with steep terrain. The old campground area was closed as part of closure consolidation efforts in 1982. Weldon Island presently offers day-use and

boat launching facilities consisting of 11 picnic sites, 1 picnic shelter with water and electric service, 1 comfort station, 1 boat ramp, 1 courtesy dock and associated paved roads and parking areas throughout.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

## **76 WHITE CITY ACCESS, SC**

**Management Agency:** Anderson County, SC

**Land Classification:** Recreation

**Location:** Located on the Twenty-Six Mile Creek arm of the lake. Access is via Lakewood lane approximately 2 miles off Whitehall Road in Anderson County, South Carolina.

**Description:** This 1.26-acre site has a single lane boat launching ramp and a small paved parking area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future development is anticipated.

## **77 CONEROSS CAMPGROUND, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the southern shore of Coneross Creek. Access via Coneross Creek Road.

**Description:** Coneross Campground is a moderately sloping, heavily wooded 136-acre site of mixed hardwoods and pines. The site presently offers camping and boat launching facilities and includes 1 gatehouse/entrance, 2 park attendant campsites, 106 public use campsites (94 with full water and electric hookups and 12 primitive sites with impact pad only), 4 comfort stations with showers, 2 dump stations, 1 boat ramp, 1 courtesy dock, 4 playgrounds, 2 designated swim areas/beaches, and associated paved roads and parking areas throughout.

Campsites are in an overall good condition with approximately 10% in need of general rehabilitation annually. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is on municipal water service. Shoreline erosion, especially on campsite loop 77-104, is reduced by the presence of riprap armoring.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future development is anticipated.

## **78 CRESCENT GROUP CAMPGROUND, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River approximately 2.5 miles east of the Hartwell Dam on Camper's Way off U.S. Highway 29 in Anderson County, South Carolina.

**Description:** Crescent Group Campground is a 41-acre site located on a narrow peninsula with gentle slopes and a scattered tree cover of pine and mixed hardwoods. The campground is specifically designated for group camping, consisting of two separate reservable loops. The site presently offers 2 park attendant/volunteer host campsites, 10 campsites on Loop A and 22 campsites on Loop B with full water and electric hookups, 2 standard shelters with water and electric service (1 on each loop), 2 comfort stations (1 with showers), 1 dump station, 1 playground, and associated paved and gravel roads and parking areas throughout.

No boat ramp and associated courtesy dock is available at this site. Campsites are in overall good condition with approximately 10% in need of general rehabilitation annually. Area is on municipal water service. Utilities are adequate to handle present and future needs with the exception that additional/upgraded shower facilities are needed. All utilities require routine maintenance to insure functionality, e.g. regular septic system pumping. Shoreline erosion at this area which is exposed to a broad area of open water and prevailing winds is reduced by the presence of riprap and gabion basket walls.

**Future Development:** Necessary maintenance/upgrade of existing facilities, including additional shower facilities. No room for expansion or further development of site.

## **79 GA RIVER RECREATION AREA and CAMPGROUND, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River in the tailrace area of the Hartwell Dam in Hart County, Georgia. Access is by the Hartwell Power Plant Entrance Road off U.S. Highway 29.

**Description:** Georgia River Recreation Area is a 43-acre gently sloping site that is densely populated with bottomland hardwoods. The site presently offers camping, picnicking, and fishing facilities to include: 3 fishing piers and 12 primitive campsites.

One campsite with water and electric service serves as a Volunteer host site when volunteers are available. Four picnic sites, 1 flush restroom, 1 vault restroom, and associated paved roads and parking areas are found throughout the area. Fifty percent of picnic sites are in need of general rehabilitation/upgrade which will be completed as funding allows.

Utilities are adequate to handle present needs, but require routine maintenance to maintain functionality, e.g. regular septic system pumping. Area is on municipal water service. Erosion is reduced by presence of riprap along the riverbank. Area roads become inundated requiring closure of the area during periods of Hartwell Dam spillway gate operations during flood control conditions and/or gate testing.

**Future Development:** Necessary maintenance/upgrade of existing facilities, including campsite upgrades, e.g. impact pad improvements and possible addition of water/electric service, and possible construction of a shower/restroom facility to replace existing flush restroom. No further expansion or further development is anticipated.

## **80 MILLTOWN CAMPGROUND, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** The site is located northeast of Hartwell; access is via Highway 51.

**Description:** Milltown recreation area consists of 43 acres. All sites in Milltown have easy access to the water. Water and electrical services are available in the area and are adequate for the user's needs. Milltown has a scattered pine hardwood tree cover. The site has been developed almost to capacity. The existing sites are showing signs of soil compaction.

The site is presently not being actively operated as a campground and is closed. Area offers camping and boat-launching facilities. Existing facilities include: 51 campsites, 2 attendant campsites, 1 shower house, 2 flush restrooms, 2 picnic shelters, 1 playground, 1 pump and well, 1 drinking fountain, 1 concrete boat-launching ramp, 1 sanitary dump station, 1 gate attendant building.

**Future Development:** No future development is planned.

## **81 OCONEE POINT CAMPGROUND, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located at the confluence of Coneross Creek and the Seneca River off South Friendship Road 7 miles southeast of Seneca, SC in Oconee County, SC.

**Description:** Oconee Point Campground consists of 70 acres of gently sloping area with a relatively dense cover of pines and mixed hardwoods. The site presently offers camping and boat-launching facilities including 1 gatehouse/entrance, 2 park attendant campsites, 70 public use camp sites with full water and electric hookups, 5 comfort stations (3 with showers), 1 dump station, 1 boat ramp, 1 courtesy dock, 2 playgrounds, 1 designated swim area/beach, and associated paved roads and parking areas throughout. Campsites are in good condition. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular pumping of septic systems. Area is on municipal water service. Shoreline erosion is reduced by the presence of riprap and gabion basket structures throughout the area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is proposed.

## **82      PAYNES CREEK CAMPGROUND, GA**

**Management Agency:** Hart County, GA

**Land Classification:** Recreation

**Location:** Located on the Tugaloo River off Paynes Creek Road in Hart County, GA.

**Description:** Paynes Creek is a steep to moderately sloping 399-acre site covered with mixed pines and hardwoods. The site presently offers camping and boat launching facilities as well as a multi-purpose trail. Existing facilities include: 1 gatehouse/entrance, 2 park attendant campsites, 44 public use camp sites with full water and electric hookups, 3 comfort stations (2 with showers), 1 dump station, 2 boat ramps (1 inside campground and 1 outside), 1 courtesy dock at ramp within campground, 3 playgrounds, 2 designated swim areas/beaches, 1 ten-mile multi-purpose trail, and associated paved roads and parking areas throughout.

Campsites are in an overall good condition with approximately 10% in need of general rehabilitation annually. Utilities are adequate for present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is serviced by existing well which has been unreliable at times in the past. Shoreline erosion is reduced by the presence of riprap at select locations.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion is anticipated. Proposed improvement would be the acquisition of municipal water supply to the area.

## **83      SPRINGFIELD CAMPGROUND, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on Providence Church Road 2 miles from intersection with SC Highway 187 on the north shore of Sadler's Creek in Anderson County, South Carolina.

**Description:** Springfield Campground is one of Hartwell's most popular camping destinations consisting of 60 acres of primarily Virginia pine and some mixed hardwoods. A timber sale was conducted in the winter of 2018-2019 to remove the majority of Virginia Pines in a proactive effort to remove hazards and reduce storm damage maintenance needs after each occurrence of severe weather and to improve the overall diversity and health of the vegetation within the area. The area presently offers 1 gatehouse/entrance, 2 park attendant campsites, 79 public campsites with full water and electric hookups, 6 comfort stations (4 with showers), 1 dump station, 1 boat ramp, 1 courtesy dock, 3 playgrounds, 1 designated swim area/beach, and associated paved roads and parking areas throughout.

Campsites are in an overall good condition with approximately 10% in need of general rehabilitation annually. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular pumping of septic systems. Area is on municipal water service. Shoreline erosion is reduced by riprap and gabion basket structures located throughout the area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. No future expansion or further development is anticipated.

## **84 TWIN LAKES CAMPGROUND & RECREATION AREA, SC**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located at the end of State Road S-39-150 approximately 3 miles from U.S. Highway 76 in Pickens County, South Carolina on the eastern shore of the Seneca River across the river at its confluence with Martin Creek.

**Description:** Twin Lakes Recreation Area is a 152-acre site consisting of a dense overstory of pines and mixed hardwoods. The site presently offers camping and a separate day use and boat launching area. Campsites are in an overall good condition with approximately 10 percent in need of general rehabilitation annually. Day use and camping facilities are separated to prevent user conflicts. The area is moderate to gently sloping with the northernmost campsites being located on the steepest terrain.

Campgrounds facilities presently include a gatehouse/entrance, 2 Park Attendant campsites, 102 public campsites, 1 picnic shelter, 5 comfort stations with showers, 2

dump stations, 5 playgrounds, 1 designated swim area/beach, and associated paved roads and parking areas throughout. Day Use facilities presently include a new gatehouse/entrance installed in 2017, 1 volunteer host campsite, 27 picnic sites, 2 standard picnic shelters with water and electric service, 1 two lane boat ramp, 1 courtesy dock, 2 comfort stations, 1 playground, 2 designated swim areas/beaches, and associated paved roads and parking areas throughout. The campground experiences very high occupancy rates throughout the year and is Hartwell's highest producer of camping revenue.

The day use area experiences moderate to high levels of intense public use during the peak recreation season, especially the ramp area that is heavily used during spring and summer and is a popular launch point for numerous fishing tournaments. Most of the picnic sites need general rehabilitation which is completed as necessary and as funding allows. Utilities are adequate to meet present and future needs, requiring routine maintenance to insure functionality, e.g. regular pumping of septic systems. Shoreline erosion is reduced by the presence of retaining wall, gabion basket, and riprap structures throughout the area.

**Future Development:** Necessary maintenance/upgrades to existing facilities. No future expansion or further development is anticipated.

## **85 WATSADLER CAMPGROUND, GA**

**Management Agency:** USACE

**Land Classification:** Recreation

**Location:** Located on the Savannah River 0.5 miles west of the Operations Project Manager's Office on Watsadler Road off U.S. Highway 29 in Hart County, Georgia.

**Description:** Watsadler Campground is a 36-acre site consisting of a relatively dense cover of pine and mixed hardwoods. The area is open year-round and is one of Hartwell's most popular camping destinations. The site presently offers camping and boat launching facilities to include 1 gatehouse/entrance, 2 park attendant campsites, 51 public campsites with full water/electric hookups, 3 comfort stations (2 with showers), 1 dump station, 1 boat ramp, 1 courtesy dock, 2 playgrounds, and associated paved roads and parking areas throughout.

Campsites are in overall good condition with approximately 10% in need of general rehabilitation annually. Utilities are adequate to handle present and future needs, requiring routine maintenance to insure functionality, e.g. regular septic system pumping. Area is on municipal water service. Shoreline erosion is reduced by the presence of retaining walls and riprap armoring throughout the area.

**Future Development:** Necessary maintenance/upgrade of existing facilities. Area is fully developed with no expansion or further development possible.

**86            SADLERS CREEK STATE PARK, SC**

**Management Agency:** SCPRT

**Land Classification:** Recreation

**Location:** Sadlers Creek State Park consists of 394 acres. Located approximately 2 miles north of SC Highway 29, access is via Highway 187.

**Description:** This heavily wooded site has moderate slopes everywhere except around the beach and bathhouse area. The site presently offers camping, picnicking, boat-launching, and swimming facilities. The park offers a fishing pier, 2 boat ramps, 51 RV sites, 14 tent-only sites, 5 group camp areas, 6 miles of bike/walking trails, 0.3-miles nature trail, 2 shelters, and 1 pavilion.

**Future Development:** No future development is proposed.

**87            LAKE HARTWELL STATE PARK, SC**

**Management Agency:** SCPRT

**Land Classification:** Recreation

**Location:** The Interstate 85 Destination Park consists of 690 acres of land leased to the State of SC's Department of Parks, Recreation and Tourism. The park is located on a large peninsula on the Tugaloo arm of the lake where Interstate 85 crosses from GA into SC.

**Description:** This heavily wooded peninsula contains land which ranges from flat ridge tops to slopes up to 40 percent. The 365 acres north of Interstate 85 is developed with a campground, comfort stations, shelter, office, shop, two boat ramps, a courtesy dock, and a day use area. The remaining 325 acres located south of Interstate 85 are undeveloped.

**Future Development:** The State has proposed to develop the 325 acres south of Interstate 85 as a major destination resort park but has not moved forward with the concept.

## 88 TUGALOO STATE PARK, GA

**Management Agency:** GADNR

**Land Classification:** Recreation

**Location:** Tugaloo State Park consists of 396 acres, located 2 miles north of 1-85 in Franklin County, access to the site is via Highway 328.

**Description:** This steep to moderately sloping site has an excellent pine-hardwood tree cover. Most of the interior roads are paved. The site presently offers camping, picnicking, boat launching, swimming, and overnight cottage facilities.

**Future Development:** No future development is proposed.

## 89 HART STATE PARK, GA

**Management Agency:** GADNR – Subleased to the City of Hartwell

**Land Classification:** Recreation

**Location:** Hart State Park consists of 147 acres. Located 1 mile northeast of Hartwell, access is via Highway 29.

**Description:** The site presently offers camping, picnicking, and boat-launching facilities.

**Future Development:** The City of Hartwell subleases the park with planned improvements to the site to include, cabins, yurts, zip-line, shelters, amphitheater, restaurant, and conference center/hotel. All these improvements are dependent upon market studies supporting their development.

## 90 BIG WATER MARINA, SC

**Management Agency:** Big Water Marina, LLC

**Land Classification:** Recreation

**Location:** The area is located approximately 3 miles east of the Hartwell Dam, access is by U.S. Highway 29.

**Description:** Big Water Marina consists of 49 acres. This mixed hardwood and pine site has a gentle sloping terrain. The site is developed as a full-service marina.

**Future Development:** Future development of the site will be dependent upon market conditions.

## **91 CLEMSON MARINA, SC**

**Management Agency:** Clemson Marina

**Land Classification:** Recreation

**Location:** Clemson Marina, SC, consists of 36 acres to accommodate boaters on Hartwell Lake. This site is approximately 6 miles from Seneca, SC, via Oconee County Road 37.

**Description:** This heavily wooded site has gentle slopes. This site is developed as a full-service marina.

**Future Development:** Future development of the site will be dependent upon market conditions. The marina has requested to modify their existing site development plan to convert an area previously identified as campsites to boat storage and add an additional boat launching ramp.

## **92 HARBOR LIGHT MARINA, GA**

**Management Agency:** The New Harbor Light Marina, Inc.

**Land Classification:** Recreation

**Location:** Harbor Light Marina consists of 54.10 acres with two locations within two miles of Interstate 85, one north (14 acres) and one expansion site south (40 acres) of the Interstate 85 Bridge, near the SC and GA state line. Both locations can be accessed via exit 177 off Interstate 85.

**Description:** The USACE portion of the northern site is gently sloping with a small land base and scattered tree coverage. The southern site has extensive tree cover outside of the developed portion and has additional room for development. Harbor Light is a full-service marina with docks and fuel service at both locations.

**Future Development:** Future development will be dependent upon market conditions.

### **92-A HARBOR LIGHT EXPANSION SITE**

**Management Agency:** The New Harbor Light Marina, Inc.

**Land Classification:** Recreation

**Location:** Harbor Light Expansion Site consists of 40 acres south of the Interstate 85 Bridge, near the SC and GA state line. Both locations can be accessed via exit 177 off Interstate 85.

**Description:** The USACE portion of the northern site is gently sloping with a small land base and scattered tree coverage. The southern site has extensive tree cover outside of the developed portion and has additional room for development. Harbor Light is a full-service marina with docks and fuel service at both locations.

**Future Development:** Future development will be dependent upon market conditions.

### **93 HARTWELL MARINA, GA**

**Management Agency:** Hartwell Marina and Boat Sales, Inc.

**Land Classification:** Recreation

**Location:** Hartwell Marina consists of 22 acres. The marina is located 1 mile north of Hartwell, GA.

**Description:** This gently sloping site has a scattered to thick tree cover. This site is developed as a full-service marina.

**Future Development:** Future development of the site will be dependent upon market conditions.

### **94 PORTMAN MARINA, SC**

**Management Agency:** Portman Marina, Inc.

**Land Classification:** Recreation

**Location:** Portman Shoals Marina consists of 44 acres of USACE land as well as some adjacent private property. Located 0.5 mile from intersection of Highways 24 and 187, near the Highway 187 exit from Interstate 85.

**Description:** This gently sloping site is heavily wooded away from the developed portion of the marina. This site is developed as a full-service marina.

**Future Development:** Future development of the site will be dependent upon market conditions.

# **APPENDIX E**

## **Summary of Comments**

	Date Received	Commenter	Comment	Response
1	5/20/2021	Eric F. Bauer, PhD US FWS	<p>Based on the information provided, the Corps has determined that no federally listed Threatened or Endangered species occur within the project boundary. However, the Corps notes that habitat may exist for Northern long-eared bat, smooth purple coneflower, and the recently listed Eastern Black Rail but notes that there are no known occurrences on Hartwell Project. The Corps' Master Plan also specifies that if a survey for a project site discovers any Threatened or Endangered species that the Corps will consult with the Service. The Service agrees with this approach.</p> <p>The Service suggests that the Corps follow the Service's provided guidelines for disturbance activities within 660 ft of bald eagle nests if any project actions would occur near this confirmed nest. The Service's guidelines can be found at <a href="https://www.fws.gov/pacific/ecoservices/documents/NationalBaldEagleManagementGuidelines.pdf">https://www.fws.gov/pacific/ecoservices/documents/NationalBaldEagleManagementGuidelines.pdf</a>. Obligations of section 7(a)(2) of the Act have been satisfied, and formal consultation is not required. However, obligations under the Act must be reconsidered if: (1) the project is modified in a manner not considered by this assessment; (2) a new species is listed or critical habitat is determined that may be affected by the project; or (3) new information indicates that the project may affect listed species or critical habitat in a manner not previously considered.</p>	<p>Thank you for your letter verifying the Corps approach. The Corps will review each proposed project for compliance with the May 2007 National Bald Eagle Management Guidelines and consult with the Service if necessary.</p>
2	5/24/2021	John and Donna Black	<p>Request a change in zoning to the USACE property adjacent to our property located in Reed Creek, on the Tugaloo branch of Lake Hartwell. Most all of the property in our area are in the green zone, and dockable lots.</p>	<p>The Corps cannot make site specific allocation changes. Any allocation changes could only be made as part of a comprehensive review of all shoreline allocations to ensure a balance between permitted private uses and resource protection for general public use is maintained. A comprehensive review of shoreline allocation was not funded as part of the recent Master Plan revision. Shoreline Use Permits do not fall within the purview of the Master Plan. Those issues would be addressed during the next revision of the Shoreline Management Plan (SMP). The current SMP, which became effective November 15, 2020, can be viewed at <a href="https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/">https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/</a></p>
3	5/25/2021	Bruce Burnett	<p>I noticed after reading the JP you have a master plan devoted to erosion, but you do not seem to have any interest in controlling the use of wakeboard boats in the creeks that are less than 200 yds across. Living in on of these creeks the wakes from these boats tear up the shoreline and the private docks of the residents. These boats should be confined to the big water and not allowed in these smaller creeks where enormous erosion damage is done. Please advise what the Corp would propose to limit this destructive activity.</p>	<p>The erosion section in the Master Plan is not considered as an erosion control plan but rather a snap shot of the existing erosion around the lake. The Corps installs erosion control features adjacent to our parks to protect infrastructure and we also can authorize adjacent property owners to install rip rap on public land adjacent to their private property. The operation of wake board vessels on state waterways is regulated by the states and their respective legislature. Currently there is state law that requires all vessels to be at slow/no wake speed within 50/100 ft (SC &amp; GA) of the shoreline or dock. Department of Natural Resources (DNR) – Law Enforcement Division for each state regulates distance boats may operate near a dock or other vessels. Georgia DNR Region 2 in Gainesville can be reached at 770-535-5499. South Carolina DNR Region 1 in Clemson can be reached at 864-654-1671.</p>
4	5/25/2021	Greg Ayers	<p>I have property (red zone) across the cove from the cabins formerly Hart State Park. I purchased the property in 2020 believing it to be yellow zone according to the map online. Due to Covid, the management office was not open to visitors so I could not examine the map. I was informed afterwards that the yellow zone ended at the lot next door to my property. It's my understanding that it was not green zone due to close proximity to the State park. Can I get a variance to change my lot to yellow if not green since it was indicated as being yellow online and the State park no longer exists.</p>	<p>The Corps cannot make site specific allocation changes. Any allocation changes could only be made as part of a comprehensive review of all shoreline allocations to ensure a balance between permitted private uses and resource protection for general public use is maintained. A comprehensive review of shoreline allocation was not funded as part of the recent Master Plan revision. Shoreline Use Permits do not fall within the purview of the Master Plan. Those issues would be addressed during the next revision of the Shoreline Management Plan (SMP). The current SMP, which became effective November 15, 2020, can be viewed at <a href="https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/">https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/</a></p>

5	5/26/2021	David Thompson Chairman Hart County Board of Assessors	I have been on the Board of Assessors for about 6 years (Chairman for last 2 years) and Hart County has seen a significant increase in population and growth in 5 of the last 6 years and we expect this trend to continue well into the future. In 2019 and 2020 we have seen about a 10% increase, 2021 is trending to be a larger increase, in home sales for the entire county and a explosion of home sales around Lake Hartwell. Hart County has also seen a significant increase in business and commercial companies moving into the county. I tell a lot of people in Hart County that Lake Hartwell and Hart County is the only lake in Georgia/South Carolina that still has developable land and where the USACE is still issuing new dock permits. We are seeing a lot of established home and land being bought and either completed remodel or torn down and new home being constructed. We are also seeing a significant increase of people moving from other states and relocating to Hart County and the surrounding area.	The data has been updated with the most current information available. The Corps assessed percent growth from 2010 – 2019, the 2060 column was renamed to Growth from 2010-2019 using this data. The census has the population growth for Hart County as 0.51% for 2019, 2020 and 2021.
6	5/26/2021	Hart County Board of Commissioners	We are writing chiefly to urge you to correct what we believe to be the substantially incorrect projection in Table 7 which appears on page 21 of the draft Master Plan. That table shows Hart County (unlike the other five counties discussed) will lose population by the year 2060. We also write to request that you consider the "Zone of Interest" about Lake Hartwell to include the two major cities within a two- hour drive of the lake: Greenville SC and Atlanta GA.	The data has been updated with the most current information available. The Corps assessed percent growth from 2010 – 2019, the 2060 column was renamed to Growth from 2010-2019 using this data. The census has the population growth for Hart County as 0.51% for 2019, 2020 and 2021. The "Zone of Interest" refers to those adjacent counties that would be directly impacted by the management of Hartwell lake. The "Zone of Interest" population demographics are, in part, used in our consideration of impacts of our management to adjacent communities and includes poverty levels, employment, age, and race demographics. However, we also acknowledge in the MP that there is a "zone of influence" that does include a 100-mile radius that impacts visitation which is in Section 2.10.2 of MP. Statements of clarification have been added to Section 3.2.9 of EA and 2.9.2 of the MP.
7	5/27/2021	Dixie Cordell SEPA	While the proposed changes to the Master Plan contain no specific references to reallocations of storage from Hartwell lake, any potential reallocations that are results of the updated Master Plan are of great interest to SEPA.	The Master Plan does not address hydropower, water levels, storage, or availability. The Corps will coordinate closely with SEPA on any potential reallocation requests.
8	5/28/2021 with attachment	Linda Goodman	My particular interest, in this correspondence, is the enjoyment of Lake Hartwell by all who live in, and visit our community. More specifically, Accessibility, as defined by the Architectural Barriers Act and the Americans with Disabilities Act; to all the amenities our beautiful lake has to offer. In reading the draft I did not see included in the body of the Master Plan language regarding Accessibility. As a result, I would like to see language included in the body of the Master Plan highlighting the Department of Defense Memorandum, Subject: Access for People with Disabilities, dated October 31, 2008, (and attached for your reference) and thereby elevating through the Master Plan the importance of accessibility improvements to our beautiful lake's amenities.	Thank you for bringing this to the Corps attention. Revisions have been made to the Master Plan as requested. The Corps has added the following statement regarding project-wide resource objectives to the Master Plan, Section 3.1. Develop and manage the area for maximum enjoyment of the recreating public to the extent compatible with other authorized purposes. It is a goal of the Corps to make its facilities accessible to persons with disabilities. The Corps will comply with standards of the Architectural Barriers Act (ABA) of 1968 to the maximum extent practicable and feasible without compromising the facility's function.
9	5/28/2021	Tim Wieson	The lakefront that borders my property is currently a red zone. I am writing to lobby for it to be converted to a yellow zone, as (unfortunately) I do not think that this section of shoreline is suitable for a dock. Converting it to a yellow zone will maintain natural/unblemished quality of the shoreline while simultaneously, allowing homeowners adjacent to this section to apply for an underbrush permit. This would greatly improve the view of the lake from the houses located on this section of the peninsula. For reference, a similar zoning arrangement has already been implemented on the other side of the road. From my perspective, I don't see a reason as to why we would be unable to mimic that setup on our side of the road. I believe this logic can be applied to the section of shoreline highlighted in the yellow box, but as it is visible from the state park, I could understand having some reservations about changing it.	The Corps cannot make site specific allocation changes. Any allocation changes could only be made as part of a comprehensive review of all shoreline allocations to ensure a balance between permitted private uses and resource protection for general public use is maintained. A comprehensive review of shoreline allocation was not funded as part of the recent Master Plan revision. Shoreline Use Permits do not fall within the purview of the Master Plan. Those issues would be addressed during the next revision of the Shoreline Management Plan (SMP). The current SMP, which became effective November 15, 2020, can be viewed at <a href="https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/">https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/</a>
10	5/28/2021 with 2 attachments	Rhea Dignam	Unfortunately, the draft Master Plan relies on outdated and inaccurate data when projecting the population of Hart County in the years to come. The Corps needs to correct this before issuing a final Master Plan. The Corps also needs to recognize that how it manages Lake Hartwell impacts people in the metropolitan Atlanta area, much of which lies within a 100-mile radius of the Hartwell Lake and Dam Project (the "Project"). If you consider metropolitan Atlanta to be within the economic and other "zone of interest" for the Project, you will easily see that Georgia is impacted as much or more than is South Carolina by what the Corps does vis a vis Lake Hartwell.	The data has been updated with the most current information available. The Corps assessed percent growth from 2010 – 2019, the 2060 column was renamed to Growth from 2010-2019 using this data. The census has the population growth for Hart County as 0.51% for 2019, 2020 and 2021. See response to #6 above for zone of interest comments.

11	6/1/2021	Mr. Horn	<p>Bridge clearance is a major obstacle in certain parts of the lake. I think as a long-term perspective it should be evaluated to see if raising the bridges to a minimum of 15 or 20 foot clearance would make economic sense. As use of the lake continues to grow increased clearance would facilitate use instead of cutting off certain sections of the lake.</p>	<p>The Georgia and South Carolina state Department of Transportation (DOT) offices determine bridge height. The Corps participates in the process of bridge replacement as we evaluate easements for the bridge to cross public land and water. The Corps requires the state(s) to maintain a boating corridor during construction to minimize impacts to boaters. Further, the Corps expresses our desire for higher bridge clearances from the lake if possible with DOT funding constraints. However, the DOT has a budget to work within and many times it does not include additional funding to raise the elevation of the approach on either side of the bridge in order to increase the height of the bridge.</p>
12	5/27/2021	Mary D. Shahid	<p>On behalf of Clemson Family Investors, LLC, and Lakeside Lodge-Clemson Owners Association, Inc., the owners desire that this flexibility be applied if Oconee County seeks a lease for purposes of public access. As an alternative to a lease, the flexibility afforded the Corps in the Master Plan justifies Owners' request for a shoreline allocation change to allow additional public access to Lake Hartwell.</p>	<p>Public land adjacent to the Hartwell Village development, to include Lakeside Lodge Clemson is allocated at "protected." Public land must be allocated as "public recreation" to make it available for lease to an government entity. The Corps cannot make site specific allocation changes. Any allocation changes could only be made as part of a comprehensive review of all shoreline allocations to ensure a balance between permitted private uses and resource protection for general public use is maintained. A comprehensive review of shoreline allocation was not funded as part of the recent Master Plan revision. Shoreline Use Permits do not fall within the purview of the Master Plan. Those issues would be addressed during the next revision of the Shoreline Management Plan (SMP). The current SMP, which became effective November 15, 2020, can be viewed at <a href="https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/">https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/</a></p>
13	5/27/2021	David Dixon	<p>Being a government employee, I understand that the number one limiting factor is financial funding for such projects. One way to allocate additional funds for such project would be to lessen the restrictions on issuance of dock permits for certain shoreline protection areas. For instance, yellow shoreline protection zones should be allowed to install docks if all required setbacks can be met. Example, my property at meets all the requirements (ie greater than 75' of property adjacent to Corps line, greater than 50' from neighboring docks, etc...) AND there is clear evidence that a dock was once on this property prior to me purchasing. The dock anchoring hardware is still on the shoreline. Yet I have been told that I'm not allowed to have a dock(?) What makes this even more odd is that there are 10-15 docks presents in this cove and my property and one other property owner continues to be denied a permit. I'm not sure how 1-2 additional docks in this cove will adversely effect the aesthetics of the lake(?) If anything, it would improve aquatic habitat plus generate permit fees needed for proposed projects around the lake. All of which would be beneficial for the entire lake as well as public experience.</p>	<p>We have received your comment regarding the draft Master Plan for the Lake Hartwell Project in a timely manner. There will be a spreadsheet of all the comments and responses added to the Appendix of the Environmental Assessment. Specifically to address your comment, you are correct, there was previously a dock permitted on the lake associated with 3178 Reed Creek Hwy, Hartwell, GA. The dock was originally authorized under the 1998 Shoreline Management Plan (SMP) and a 10x20 dock was approved and installed since there was no requirement for 75' of shared boundary line adjacent to public property zoned for Limited Development (aka green zone). At some point, the approved dock was removed from the lake and was not replaced. In 2008, the Corps announced and gave notice to all persons with permit for docks that did not have a dock currently installed to install their docks before Jan. 1, 2010, since some of these properties would not qualify for a dock under the new SMP. This property was inspected in May 2010 and the dock was not in place and as such, the dock portion of the permit was cancelled. When you purchased the property in 2019, your application for a dock was reviewed under the criteria in the 2008 SMP, which requires 75' of shared boundary line adjacent to public property zoned for Limited Development (aka green zone). Your property only shares 40 of boundary line allocated as Limited Development and therefore does not qualify to reinstall a dock at this location. The Corps cannot make site specific allocation changes. Any allocation changes could only be made as part of a comprehensive review of all shoreline allocations to ensure a balance between permitted private uses and resource protection for general public use is maintained. A comprehensive review of shoreline allocation was not funded as part of the recent Master Plan revision. Shoreline Use Permits do not fall within the purview of the Master Plan. Those issues would be addressed during the next revision of the Shoreline Management Plan (SMP). The current SMP, which became effective November 15, 2020, can be viewed at <a href="https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/">https://www.sas.usace.army.mil/About/Divisions-and-Offices/Operations-Division/Hartwell-Dam-and-Lake/Shoreline-Management/</a></p>
14	6/23/2021	GA HPD	<p>Edits suggested for four sections of the Hartwell Master Plan and one section of Appendix C (Public Laws.)</p>	<p>All modifications were implemented, and GA HPD was notified that all revisions were incorporated on 7/6/2021. Updated versions of the files were sent as attachments to the email for their reference.</p>