DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT
P.O. BOX 2288
MOBILE, AL 36628-0001

CESAM-PD-EI

May 30, 2024

U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT
NOTICE OF AVAILABILITY FOR THE
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE
TENNESSEE-TOMBIGBEE WATERWAY PROJECT MASTER PLAN
ALABAMA AND MISSISSIPPI

TO ALL INTERESTED PARTIES:

The U.S. Army Corps of Engineers (USACE), Mobile District requests your review and comment on the proposed Programmatic Environmental Assessment (PEA) for the Tennessee-Tombigbee Waterway Project Master Plan. Copies of the PEA and Master Plan are located on the following website: https://www.sam.usace.army.mil/Missions/Planning-Environmental/Environmental-Assessments/. The document is being circulated to resource agencies and interested members of the public for a 30-day comment period.

Correspondence concerning this PEA and Master Plan should be directed via email to Ms. Velma Diaz at velma.f.diaz@usace.army.mil or via mail to U.S. Army Corps of Engineers, Mobile District, CESAM-PD-EI, Attention: Ms. Velma Diaz, Post Office Box 2288, Mobile, Alabama 36628. Comments must be received within 30 days of date of this notice.

Sincerely,

Jeremy M LaDart

Digitally signed by Jeremy M LaDart
Date: 2024.05.30 08:44:18 -05'00'

Jeremy M. LaDart
Chief, Planning and Environmental Division

Enclosure

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
FOR
TENNESSEE-TOMBIGBEE WATERWAY
MASTER PLAN
TISHOMINGO, PRENTISS, ITAWAMBA, MONROE, LOWNDES, CLAY AND NOXUBEE COUNTIES, MISSISSIPPI AND PICKENS, GREENE, AND SUMTER COUNTIES, ALABAMA

Prepared by

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

May 2024

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DRAFT PROGRAMMTIC ENVIRONMENTAL ASSESSMENT FOR TENNESSEE-TOMBIGBEE WATERWAY MASTER PLAN TISHOMINGO, PRENTISS, ITAWAMBA, MONROE, LOWNDES, CLAY AND NOXUBEE COUNTIES, MISSISSIPPI AND PICKENS, GREENE, AND SUMTER COUNTIES, ALABAMA

1.0 INTRODUCTION

Federal actions (e.g., approval of Master Plans and modifications of Master Plans) require the preparation of National Environmental Policy Act of 1969 (NEPA) documentation in order to evaluate the potential impacts to health and the human environment of the proposed action.

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

The Council on Environmental Quality (CEQ) published its Final Rule: Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) in the Federal Register July 16, 2020. The new CEQ NEPA Regulations went into effect September 14, 2020. Preparation of this Tennessee-Tombigbee Waterway Master Plan, Alabama and Mississippi commenced prior to enactment of the new NEPA regulations. USACE may only apply the prior CEQ NEPA regulations from 1978, as well as relevant Corps regulations and guidance, to such pending reviews. As such, this EA has been prepared in accordance with the NEPA and the CEQ 1978 regulations.

1.1 LOCATION

The Tennessee-Tombigbee Waterway (TTWW) is located in west central Alabama and northeastern Mississippi. Project lands in Alabama are located in Pickens, Greene, and Sumter Counties while the Mississippi project lands are located in Tishomingo, Prentiss, Itawamba, Monroe, Lowndes, Clay and Noxubee Counties.

1.2 PROPOSED ACTION

The proposed Master Plan update involves documenting improvements and stewardship of natural resources in the project areas. The proposed Master Plan update consist of converting 10 picnic sites into Class C campsites; bank stabilization;

replace pit toilet with prefabricated single user flush/shower facility, install utility lines (water, sewage and electricity), replace bathroom with a prefabricated, ABA compliant, 2 single user restrooms with 2 ADA toilets, reopen swim beach, convert damaged swim beach to picnic area, convert 10 picnic sites to primitive camping sites, reestablish rip rap northeast of boat ramp, sewage hookups, pave minimum flow parking area, install a gate, pave road, convert mowing areas to pollinator field/grasses/native plants, upgrade amphitheater, upgrade restrooms, install interpretive sign, securing bridge's infrastructure, install loading zone, install rubber landing mat, reopen closed restroom and lower picnic sites, reestablish playground area, improve graveyard area, extend length of campsites and increase parking areas near campsites, reconfigure boat docks, install low water crossing, reestablish fishing pier(s), remove volleyball and baseball field, add overflow parking area, fix fishing pier, remove restroom, renovate restroom from sewer system with lift station to septic tank and field line, reconfigure trail into an overlook only, stabilize banks to prevent campsites from damage or lost to erosion, construct waterborne restroom facility, install picnic shelter, add disc golf course, add vehicle compound, expand parking area, add electricity to cabins, add 5 picnic sites, replace playground, install playground, and pave overflow parking area.

Sumter

- Convert picnic sites to Class C campsites. No changes structurally are necessary to convert 10 picnic sites to Class C campsites.
    - Fire pits will be added beside the concrete pads. Three feet circle fire pits with grill grates will be placed in heavily disturbed, highly trafficked areas. Fire pits will be installed by using heavy equipment to remove material 12 feet deep for the foundation, anchored with concrete, and then backfilled. Ground contours will remain unchanged.

Cochrane Campground

- Proposal to stabilize banks near vulnerable campsites or close them.
    - Stabilize bank: 1500ft of metal sheet piling and filling in behind with dirt. Installation would include using the floating plant to get materials on site and installing sheet piling. Heavy equipment including possibly a dozer and excavator for site preparation will also be necessary. Area is heavily trafficked and heavily eroded.
    - Consolidate campground by closing sites 26 – 53 (28 campsites) remove any non-essential features.
- At sites 1 – 10 replace pit toilet with a prefabricated single user flush/shower facility; replacement will require installation of lines for utilities to include Water, sewage, and electricity.

Tom Bevill Lock East

- Replace bathroom that was destroyed by fire with a prefabricated, ABA compliant, 2 single user restrooms with 2 ADA toilets. Prefabricated restroom will be placed on existing footprint of previous restroom. Construction would not disturb any natural features. Prefab unit would be installed that would connect to existing septic system.

Pickensville Day Use Area

- Potentially reopen swim beach by dredging. Dredged material will be disposed in a designated disposal area. To close swim beach we would remove gazebo and establish picnic shelters. No construction necessary.
- Convert damaged swim beach to a picnic area. Conversion would include removal of signs and safety station. Backfilling with locally acquired resources to convert 1.3-acre swimming area to land. Establish native grasses and add picnic sites. Area is already heavily disturbed is a toxic hazard from stagnant water and goose droppings. Approximately 10 picnic tables would be added to the area.
- Primitive camping: convert 10 picnic sites to primitive sites would require no construction. Add fire pits.
    - Add 10 fire pits for primitive camping areas. Fire pits should be added beside the concrete pads. Three feet circle fire pit with a grill grate that will be added to an already heavily disturbed, highly trafficked area. Installed by using heavy equipment to remove material 12 feet deep for the foundation, anchored with concrete, and then backfilled. Ground contours will remain unchanged.

Raleigh Ryan

- Reestablish 150 ft of rip rap northeast of the boat ramp. Work could be accomplished by excavator and dozer and can go around tree line to work site. Materials delivered by truck to the site, area may experience damage from moving riprap to work site. Trees could be impacted by this work but if work is not done, they will be lost from erosion.

Pickensville Campground

- Potentially add sewage hook up accessibility.
    - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a previously disturbed/developed area.
- Proposed adding bank stabilization.
    - Bank stabilization: 500 linear feet of 50 feet sheet piling requiring tie backs and filling in with locally sourced material. Installation would include use of the floating plant.

Stennis West Bank

- Proposed pave minimum flow parking area.
    - Wouldn’t change footprint of parking area, construction would include paving a preexisting 0.3-acre gravel park area. Would probably be tied into repaving the road and existing asphalt parking area.

Stennis East Bank

- Prepare for connection to Riverwalk by adding a gate.

    - Look at the plans from the city. Could possibly add some concrete walking path to connect parking lot to path. Gate won't create a substantial footprint impact.
- Potentially pave the road to the fishing area past the boat ramp.
    - Construction would include paving a preexisting gravel parking area, increasing the accessibility for the handicapped people who this area is supposed to serve.
- Potentially convert mowing areas to pollinator field/grasses/native plants.
    - To change the grass to native area, kill the grass and burn to replace with native. In an area that was created by the dumping of removed material, so it is difficult to grow things there.
- Maintain amphitheater. Potentially cover it and/or make the stage bigger.
    - Covering the amphitheater won't have an impact environmentally. Expanding the amphitheater would push the footprint back to accommodate larger groups on stage at one time.

<u>Waverly Ferry Boat Ramp</u>

- Potentially upgrade restrooms to add air conditioning and increase accessibility.
    - No construction
- Potential installation of an interpretive sign for the old train bridge.
    - No construction
- Potential securing of the old bridge's infrastructure.
    - A part of historical maintenance.
- Potential increase of ease of access to the river for kayakers by installing a loading zone.
    - Install a rubber landing mat.

<u>Waverly Ferry</u>

- Potentially reopen closed restroom and lower picnic sites.
    - Construction would only impact already established areas.
- Potentially reestablish a playground area.
    - Sand is still there. Clear out the weeds and just put the playground equipment back there.
- Potentially improve the graveyard area, including placing an interpretive sign about the cultural significance of the area.
    - No construction needed.

<u>Dewayne Hayes Campground</u>

- Potentially add sewage hook up accessibility, extend the length of some campsites, and increase parking areas near campsites.
    - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a

previously disturbed/developed area. Decision on where to add these hook ups will be on a site by site basis and isn't known at this time.

- Stabilize banks that are eroding to prevent campsites from being damaged or lost to erosion along the waterway and/or reworking vulnerable campsites.
    - 500 linear feet of rip rap, sloping the bank where it is eroding substantially. Work will be accomplished using the floating plant and an excavator. Vegetation could be impacted but will be lost if no action is taken.
- Potentially reconfigure boat docks.
    - Install 30 feet of sheet piling using an excavator and cap in concrete creating a permanent courtesy dock that is perpendicular to the bank. The area this would be added to would be minimally impacted. The reason for this reconfiguration is to make access in and out of the boat ramp easier for the public.
- Potentially install a low water crossing for maintenance access to primitive area.
    - Dump 3-4 inches rip rap to create 400 feet long by 12 feet wide est. Will impact early sessional species, but access is necessary to provide service to the primitive area.

<u>Dewayne Hayes Day Use</u>

- Potentially reestablish add fishing pier(s) to picnic area.
    - Already has/had a concrete path out to it. Construction would include four pilings and wooden deck to be built.
- Potentially convert grass field to 11-acre pollinator field and/or introduce more native plants.
    - No construction necessary.
- Potentially remove volleyball and baseball field.
    - No construction.
- Potentially add an overflow parking area for the campground in the field.
    - Paving/gravel for approximately 20-25 parking spaces taking up approximately ¼ - ½ of an acre in the 11-acre field. Already a cleared area. Could be tied into repaving the road.

<u>Town Creek Campground</u>

- Potentially add sewage hook up accessibility.
    - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a previously disturbed/developed area. Decision on where to add these hook ups will be on a site by site basis and isn't known at this time.
- Stabilize banks that are eroding to prevent campsites from being damaged or lost to erosion along the waterway or move vulnerable campsites.

    - 500 linear feet of rip rap, sloping the bank where it is eroding substantially. Work will be accomplished using the floating plant and an excavator. Vegetation could be impacted but will be lost if no action is taken.
- Remove restroom near Kennedy Lake; request removal from real property listing and upon approval have maintenance contractor demolish building.
- Potentially upgrade primitive area restroom to a waterborne unit.
    - Tie into existing water line. Estimated 100 feet of water line needs to be buried. Proposed structure would sit on the footprint of an existing structure. Construction would be adding a prefabricated restroom. Wastewater would be handled through standard septic tank and field line. Hole needs to be dug and septic tank buried. Trees would be avoided at all costs.

<u>Barton's Ferry Access Area</u>

- Potentially pave the road 0.61 miles, parking area, and boat ramp.
    - Convert all existing pervious road to impervious.
- At boat ramp parking area install a prefabricated, ABA compliant, 2 single user restrooms with 2 ADA toilets or if utilities make it cost prohibitive install an environmentally supportive restroom such as a prefabricated, ADA compliant, Green Flush Facility.
    - 100% new footprint however installation will be at parking lot which is a predisturbed site.
- Potentially expand access to the river for kayakers by creating a launching site.
    - Install a rubber mat.

<u>Aberdeen East Bank</u>

- Fix the fishing pier.

<u>Blue Bluff Day Use Area</u>

- Potential increase of ease of access to the river for kayakers by installing a loading zone.
    - Add a rubber mat.
- Potentially remove restroom at the end of the road.
- Potentially renovate Blue Bluff Boat Ramp Restroom from sewer system with lift station to septic tank and field line.
    - Trees will be avoided at all costs. Field line will be added to bare area. Installation includes burying a septic tank and field line.
- Reconfigure trail into an overlook only by closing portions that are hazardous and removing footbridges, stairs, and water access. This process will convert part of a maintained trail back to a natural environment and increase the safety of recreators.

Blue Bluff Campground

- Potentially add sewage hook up accessibility.
    - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a previously disturbed/developed area. Decision on where to add these hook ups will be on a site by site basis and isn't known at this time.
- Stabilize banks that are eroding to prevent campsites from being damaged or lost to erosion.
    - Replace the wooden bulkhead with 1,000 feet of sheet piling and backfill. Installation would be done using an excavator.
    - For Bank erosion 1,000 feet of sheet piling and backfill to stabilize the bank. Installation would be done using excavator.

Becker Boat Ramp

- Potentially construct a water borne restroom facility.
    - New footprint for building. Water meter exists, run line to new facility. Electric hook up required. Trees are not in this area
- Potentially install a picnic shelter.
    - New footprint, concrete floor with roofing.

Amory Lock East Bank

- Potentially add a disc golf course.
    - Design is already proposed and will avoid culturally and environmentally significant resources.
    - Install a prefabricated single user flush facility; lines for utilities to include Water, sewage, and electricity may be connected to existing lines servicing Amory Lock. 100% new footprint, in a cleared area. No trees disturbed.

Jamie L Whitten Park and Visitor Center

- Potentially add a vehicle compound.
    - Four vehicles at the most. Dimensions will be included in the expansion below. Install access control gate and security fencing in compliance with current security standards. Adjacent to the current parking lot. Small trees will need to be removed. Pave with asphalt. Estimated size 3,600 square feet.
- Potentially expand parking area.
    - Between the multi-use court and the grassy area. Adjacent to the current parking lot. Small trees will need to be removed. Pave with asphalt. Estimated size 3,000 square feet.
- Stabilize banks that are eroding.

- 100 feet of rip rap delivered via truck and placed with excavator. No trees would have to be moved; bank would not have to be sloped.

Jamie L Whitten Campground

- Stabilize banks that are eroding to prevent campsites from being damaged or lost to erosion.
  - 300 feet of rip rap delivered via truck and placed with excavator. No trees would have to be moved; bank would not have to be sloped.
- Potentially add sewage hook up accessibility for campsites.
  - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a previously disturbed/developed area. Decision on where to add these hook ups will be on a site by site basis and isn't known at this time.

Rankin Fishing Area

- Potentially upgrade restrooms to a waterborne facility.
  - Potable water could be tied in to existed water line that feeds Rankin Lock. Estimated 250 feet of water line needs to be buried. Proposed structure would sit on the footprint of an existing structure. Construction would be adding a prefabricated restroom. Wastewater would be handled through standard septic tank and field line. Hole needs to be dug and septic tank buried. No trees would be impacted.
- Potentially pave the access road and parking area.
  - Length of road 0.1 mile and area of parking area 0.14 acres/6,300 square feet.

GV Sonny Montgomery Lock and Dam Fishing Area

- Potentially upgrade restroom to a waterborne facility.
  - Potable water could be tied in to existed water line that feeds Montgomery Lock. Estimated 175 feet of water line needs to be buried. Proposed structure would sit on the footprint of an existing structure. Construction would be adding a prefabricated restroom. Wastewater would be handled through standard septic tank and field line. Hole needs to be dug and septic tank buried. No trees would be impacted.

Saucer Creek Public Access Area

- Potentially upgrade restrooms to a waterborne facility.
  - Potable water could be tied into local utility lines. Estimated 275 feet of water line needs to be buried. Proposed structure would sit on the footprint of an existing structure. Construction would be adding a prefabricated restroom. Wastewater would be handled through standard septic tank and field line. Hole needs to be dug and septic tank buried. No trees would be impacted.

Bay Springs Site Office and Visitor Center

- Potentially add electricity to cabin.
    - Tie into existing utility services. May potentially need to add a transformer. Would require Estimated 175 feet of line to be buried and electrical paneling to be installed in compliance with the national electric code.
- Potentially add a picnic shelter.
    - Concrete path 60 inch wide connecting from parking lot approximately 75 feet in compliance with ABA. 52 feet by 72 feet concrete slab for pavilion which would be 40 feet by 60 feet. Pavilion would be constructed with steel posts and tresses with metal roof to extend usable life with minimal maintenance. Trees will be minimally impacted 2-3 large trees possibly removed.

Old Bridge Beach

- Potentially pave overflow parking area.
    - Approximate size .86 acres
- At existing facility site replace existing comfort station with a prefabricated, ADA Compliant, 2 multi-user restrooms with 4 separate change rooms.
    - Footprint of building will increase from 840 sq ft to approximately 940 square feet in an area that is already heavily developed and disturbed.

Cotton Springs Access Area

Potentially add five picnic sites.

- 8 feet by 6 feet picnic table. 12 feet by 12 feet concrete slab with steel posts and tresses with metal roof to extend usable life with minimal maintenance. Trees will be avoided in planning the locations of these picnic sites.

Piney Grove Campground

- Stabilize banks that are eroding as a result of wind and wave action.
    - Where needed place class 3 Rip rap to protect shoreline, shoreline for Piney Grove Campground is 11,500 feet long and shoreline for Piney Grove Island is 6,500 feet long.
- Potentially add sewage hook up accessibility for campsites.
    - Adding sewage hookups includes installing sewage lines and lift stations. Backhoe to excavate, add pipes and lift stations. Trees will be impacted by the disturbance, but lines will be tied to existing paths. Adding to a previously disturbed/developed area. Decision on where to add these hook ups will be on a site by site basis and isn't known at this time.

Piney Grove Beach

- Potential increase of ease of access to the river for kayakers by installing a loading zone.
    - Add rubber mat.

- Add two 120 feet by 65 feet group shelters to accommodate visitation at park.

Paden Park

- Utilize existing footprint to replace playground that was removed due to safety concerns. New playground would be ADA Compliant and obtained through a qualified GSA Vendor.

Holcutt Park

- Add an ADA Compliant playground obtained through a qualified GSA Vendor With the exception of the main support posts the playground will be installed above ground. Area required 50 feet by 50 feet.

Scrugg's Bridge Recreation Area

- Potentially add a picnic shelter at the boat ramp.
    - 100% new feature. Concrete path 60 inch wide connecting from parking lot approximately 75ft in compliance with ABA. 52 feet by 72 feet concrete slab for pavilion which would be 40 feet by 60 feet. Pavilion would be constructed with steel posts and tresses with metal roof to extend usable life with minimal maintenance. Some trees might need to be removed.
- Increase parking by paving the overflow parking area.
    - Pave over existing gravel 0.7 acres/29,000 square feet.

1.3 PURPOSE AND NEED

The U.S. Army Corps of Engineers (USACE), Mobile District is proposing a Master Plan update to provide a programmatic approach for the responsible stewardship of the TTWW project resources for the benefit of present and future generations. While it identifies conceptual types and levels of activities, it is not a design document like the Preliminary Master Plan. All actions by the USACE and the agencies and individuals granted leases to project lands must be consistent with the Master Plan, it must be kept current in order to provide effective guidance for USACE decision-making.

The Master Plan is based on responses to regional and local needs, resource capabilities and suitability, and expressed public interest consistent with authorized project purposes and pertinent legislation and regulations. It provides a District-level policy consistent with national objectives and other state and regional goals and programs. The Master Plan is distinct from the project-level implementation emphasis of the Operational Management Plan (OMP). Policies in the Master Plan are guidelines implemented through provisions of the OMP, specific Design Memoranda, and the Annual Management Plans. The broad intent of this Master Plan is to accomplish the following:

1. Determine the appropriate uses and levels of development of project resources.

2. Provide a framework within which the OMP and Annual Management Plans are developed and implemented.

3. Establish a basis on which outgrants and recreational development proposals are evaluated.

1.4 AUTHORITY

The TTWW was authorized for construction by Congress in the River and Harbor Act of 1946 (P.L. 525) in accordance with the recommendations contained in House Document 486, 79th Congress. Subsequently, the U.S. House of Representatives Appropriations Committee examined the project plans in 1951 and concluded that the project was not economically feasible at that time. A restudy of the project was submitted June 30, 1960. The study was approved April 12, 1962 and designated the Tennessee-Tombigbee Waterway, Alabama and Mississippi Design Memorandum No. I, General Design. However, the House Appropriations Committee considered the margin of economic justification too small for initiating construction without further study. Congress, in the Fiscal Year 1965 Appropriations Act allotted funds to again restudy the TTWW. The report was completed in 1966 and found the TTWW favorable for construction of features associated with the project purposes to provide transportation, recreation, and fish and wildlife enhancement benefits. Construction was completed in 1985.

2.0 ENVIRONMENTAL SETTING WITHOUT THE PROJECT

2.1 GENERAL ENVIRONMENTAL SETTING

The TTWW connects the north-flowing Tennessee River to the south-flowing Tombigbee River and provides additional means of interchange of commerce between the Gulf Intracoastal Waterway (GIWW), Black-Warrior Tombigbee Waterway (BWT), and Gulf of Mexico on the one hand and the Tennessee, Cumberland, Ohio, and Upper Mississippi System on the other. The waterway extends from navigation mile 217 on the BWT near Demopolis, Alabama, to sailing line mile 215 on the Tennessee River in the Pickwick Pool near the common boundary of Mississippi, Tennessee and Alabama. The overall length (navigation miles) of the TTW is 233.6 miles and consists of three distinct sections: 1) the River Section; 2) the Canal Section and 3) the Divide Section.

Ten locks and dams provide the total lift of 341 feet encompassed by the project. Authorized navigation depths of the TTW are nine feet in the river section and twelve feet in the canal and divide sections. The bottom width is 300 feet except in the divide section where it is 280 feet.

2.2 SIGNIFICANT RESOURCES DECRIPTION

2.2.1 FISHERY RESOURCES

The TTWW contains three categories of fish species that inhabit the lake. These warm-water sports fish include striped and largemouth bass, crappie, and assorted bream and sunfish. Commercial fish are primarily catfish, suckers, and carp. Some miscellaneous fish species include shad, darters, drum, gar, minnows, sturgeon, and walleye.

2.2.2 WILDLIFE RESOURCES

Many animal species provide game for hunters and enjoyment for non-consumptive users. Game species include white-tailed deer, eastern wild turkey, cottontail and swamp rabbit, gray and fox squirrel, raccoon, bobwhite quail, mourning dove, wood duck migratory waterfowl, alligators, and furbearers. A variety of non-game birds, mammals, amphibians, and reptiles exists in the fields, forests, and water.

2.2.3 LAND USE

The 1971 Environmental Impact Statement described the land use of the ten counties containing the waterway as approximately 58.0 percent forested, 39.6 percent agricultural, and 2.4 percent residential. The overall land use of the area has not significantly changed during the intervening period of time.

The present land use pattern of project lands has evolved through a series of changes and continues to be transitory. Forested areas suitable for agriculture were cleared, leaving only the steepest slopes uncut. Upland areas were first cleared to avoid bottomland flooding. Poor management practices on many small farms resulted in degraded soil conditions causing severe sheet and gully erosion. Subsequently, agricultural development progressed into many of the bottomlands which were cleared and put into row crops.

In the past 25 to 30 years, many of the steeper slopes have been put back into forest production. Some landowners have planted pines in their old fields, and many abandoned fields have reverted to forest land through natural plant succession. The cycle of clearing, high grading during logging, and land abandonment has been repeated several times since the first European settlers entered the area.

All of the forested areas have been cutover from one to three times. Much of the forested area has been cut in the last five years. Most of the hardwood stands that have not been cut have been high graded during the past. The selective cutting of the best formed trees of the most valuable species has led to the dominance of less desirable species of inferior genetic and phenotypic quality.

2.2.4 GEOLOGY AND SOILS

The TTWW is near the eastern edge of the Mississippi embayment, a structural trough that began subsiding in the Cretaceous and continued into the Tertiary. Strata ranging from Devonian to Quaternary in age underlie the crop out along the course of the Waterway. Paleozoic rock crops out at the extreme northern end of the waterway in the Yellow Creek embayment of the Tennessee River and along the banks of Mackeys Creek near Bay Springs Lock and Dam. These rocks have a regional dip to the south-southeast. Locally, the rocks are structurally deformed and may dip in any direction. The remainder of the waterway is underlain by Cretaceous sediments with a thin veneer of Quaternary alluvial and terrace deposits. Tertiary age deposits form the western boundary of the Cretaceous outcrop belt but are not encountered along the waterway. The Cretaceous strata have a regional strike varying from north-south to N 50 ° W and dip to the west and southwest rather uniformly at a rate of about 30-45 feet per mile. No major faults or anomalous near-surface structures have been identified in the area that would affect the waterway. For most of the waterway's course, the Tombigbee River flows essentially parallel to the strike of the Cretaceous strata on beds of the Eutaw formation. Other Cretaceous formations underlying the waterway are the Gordo formation of the Tuscaloosa Group and the Mooreville Chalk of the Selma Group.

The project lies within the South Atlantic-Gulf Water Resources Region and is composed of three major land resource areas. They are the Southern Coastal Plain, the Alabama and Mississippi Blackland Prairies, and the Sand Mountain. The Southern Coastal Plain soil materials are made up of sands, clays, shale, and some gravel. Most of the soils are acid, low in native fertility, and vary from sandy to clayey in texture. The Alabama and Mississippi Blackland Prairies area has soft limestone or chalk underlying most soils. This chalk or marl has served as parent material for the upland soils. Soils developing from such materials tend to be very clayey. Such soils are tough, sticky, and difficult to work, have high shrink-swell properties, and require special management practices for cultivated crops. The soils of the Sand Mountain are well suited to trees but are not suited to cultivated crops except for small areas. The soils on hillsides are low in fertility. They are shallow over bedrock and erode easily if cleared and cultivated.

2.2.5 WETLANDS

Wetland habitats found on the TTWW Project lands include riverine, lacustrine, and palustrine according to the US Fish and Wildlife Service (USFWS) National Wetlands Inventory database. These wetlands include the lake, freshwater forested/shrub wetland, freshwater emergent wetlands, and freshwater ponds.

2.2.6 FLOODPLAIN

Typically, floodplains are designated and mapped by the National Flood Insurance Program, which is administered by the Federal Emergency Management Agency (FEMA). Official floodplain maps prepared by FEMA delineate intermediate regional flood zones (areas inundated by a flood having an average frequency of occurrence

once in 100 years). The effective flood zone designation for the proposed project area is “Zone AE”, which has an annual 1% chance of flooding. Portions of the Master Plan updates falls within the regulatory floodway of the TTWW.

2.2.7 VEGETATION

The proposed project area is typical floodplain forest habitat, dominated by bottomland hardwood species, bald cypress, and water tupelo. Emergent wetlands also exist in the shallow water areas in the project area.

2.2.8 ENDANGERED AND THREATENED SPECIES

According to the USFWS, Information for Planning and Consultation there are federally listed threatened and endangered species, candidate species and designated critical habitat known to occur in the ten counties that border the TTWW are Gray Bat (*Myotis grisescens*), Indiana Bat (*Myotis sodalis*), Northern Long-eared Bat (*Myotis septentrionalis*), Wood Stork (*Mycteria americana*), Alabama Moccasinshell (*Medionidus acutissimus*), Black Clubshell (*Pleurobema curtum*), Heavy Pigtoe (*Pleurobema taitianum*), Inflated Heelsplitter (*Potamilus inflatus*), Orangenacre Mucket (*Hamiota perovalis*), Ovate Clubshell (*Pleurobema perovatum*), Southern Clubshell (*Pleurobema decisum*), Southern Combshell (*Epioblasma penita*), Mitchell's Satyr Butterfly (*Neonympha mitchellii mitchellii*), Monarch Butterfly (*Danaus plexippus*), Georgia Rockcress (*Arabis georgiana*), Prices Potato-bean (*Apios priceana*), and White Fringeless Orchid (*Platanthera integrilabia*). A brief habitat description for each species is listed below:

Gray Bat (Endangered): Gray bats occupy caves or cave-like structures year-round. While gray bats prefer caves, summer colonies have been documented using dams, mines, quarries, concrete box culverts and the undersides of bridges. Summer caves must be warm or have restricted rooms that can trap the body heat of clustered bats. Winter hibernation sites are often deep vertical caves that trap large volumes of cold air; these caves are naturally very rare. No critical habitat has been designated for this species.

Indiana Bat (Endangered): The Indiana bat hibernates primarily in caves but also, although not as often, in mines, dams, and tunnels. Maternity sites are located in snag trees behind loose bark or in tree cavities. In summer, habitat consists of wooded or semi-wooded areas, often but not always along streams to allow for foraging. Solitary females or small maternity colonies bear their offspring in hollow trees or under loose bark of living or dead trees such as, oak, beech, hickory, maple, ash, cottonwood, and pine. No critical habitat has been designated for this species.

Northern Long-eared Bat (Endangered): During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species

based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds. Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. This bat also feeds by gleaning motionless insects from vegetation and water surfaces. No critical habitat has been designated for this species.

Wood stork (Threatened): The wood stork primarily utilizes freshwater habitats, such as marshes, swamps, lagoons, ponds, flooded fields, and also sometimes brackish wetlands for both foraging and nesting. Nesting occurs mostly in upper parts of cypress trees, mangroves, or dead hardwoods in close proximity to a body of water. No critical habitat has been designated for this species.

Alabama Moccasinshell (Threatened): The Alabama moccasinshell typically occupies sand, gravel or cobble shoals, with moderate to strong currents, in streams and small rivers. Critical habitat has been designated for this species and the location along TTWW overlaps the critical habitat.

Black Clubshell (Endangered): Found in riffles and shoals on sandy gravel to gravel-cobble substrates and with moderate to fast currents in lotic habitat. No critical habitat has been designated for this species.

Heavy Pigtoe (Endangered): The heavy pigtoe is a species occurring in rivers that are characterized by gravel and coarse sand substrates, and have a depth of more than 6 meters. This species historically also occurred in large creeks. No critical habitat has been designated for this species.

Inflated Heelsplitter (Threatened): The preferred habitat of this species is soft, stable substrates in slow to moderate currents. It has been found in sand, mud, silt and sandy gravel, but not in large gravel or armored gravel. It is usually collected on the protected side of bars and may occur in depths over 20 feet. No critical habitat has been designated for this species.

Orangenacre Mucket (Threatened): This species prefers stable sand, gravel, and cobble substrates with moderate to swift current in large streams and small rivers. It is most common in depositional areas along margins or flowing pools. Critical habitat has been designated for this species and the location along TTWW overlaps the critical habitat.

Ovate Clubshell (Endangered): The ovate clubshell occurs in riffles, runs, and shoals of small creeks to large rivers, usually in sand and gravel substrates. Critical habitat has been designated for this species and the location along TTWW overlaps the critical habitat.

Southern Clubshell (Endangered): The southern clubshell lives burrowed in gravel and sand at the bottom of large creeks and rivers where it filters food from the water column. No critical habitat has been designated for this species.

Southern Combshell (Endangered): This species is found in riffles or shoals of medium sized rivers with sandy gravel to gravel-cobble substrates in moderate to swift current. No critical habitat has been designated for this species.

Mitchell's Satyr Butterfly (Endangered): The Mitchell's satyr is restricted to rare wetlands called *fens,* which are low nutrient wetlands that receive carbonate-rich ground water from seeps and springs. The southern populations are typically associated with beaver-influenced wetlands that are sedge dominated, and occasionally semi-open riparian or floodplain forest areas. No critical habitat has been designated for this species.

Monarch Butterfly (Candidate): Whether it's field, roadside area, open area, wet area or urban garden, milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migrations, but they can only lay eggs on milkweed plants.

For overwintering monarchs, habitat with a specific microclimate is needed for protection from the elements, as well as moderate temperatures to avoid freezing. These conditions vary between populations. For the eastern North American population, most monarchs overwinter in oyamel fir tree roosts located in mountainous regions in central Mexico at an elevation of 2,400 to 3,600 meters. Monarchs living west of the Rocky Mountain range in North American primarily overwinter in California at sites along the Pacific Coast, roosting in eucalyptus, Monterey pines and Monterey cypress trees. No critical habitat has been designated for this species.

Georgia Rockcress (Threatened): Georgia rockcress generally occurs on steep river bluffs often with shallow soils overlaying rock or with exposed rock outcroppings. These specialized soil conditions result in micro-disturbances, such as sloughing soils with limited accumulation of leaf litter or canopy gap dynamics, possibly with wind-thrown trees, which provide small patches of exposed mineral soil in a patchy distribution across the river bluff. Critical habitat has been designated for this species and the location along TTWW overlaps the critical habitat.

Prices Potato-bean (Threatened): Price's potato-bean is an inhabitant of open, mixed-oak forests, forest edges and clearings on river bottoms and ravines, being unable to tolerate deep shade. The species occurs on well-drained loams on old alluvium or over calcareous boulders. No critical habitat has been designated for this species.

White Fringeless Orchid (Threatened): This orchid grows in the wet soils of bogs, marshes, fens, swamps, heads of streams, and on sloping areas kept moist by groundwater seeping to the surface. It is often associated with sphagnum in partially shaded areas. No critical habitat has been designated for this species.

2.2.9 CULTURAL REOURCES AND HISTORIC PROPERTIES

To comply with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, and other Federal preservation laws, the USACE, Mobile District maintains thorough records of cultural resources located within TTWW fee-owned lands. The USACE, Mobile District has also implemented an Integrated Cultural Resources Management Plan (ICRMP) which outlines the cultural resources stewardship responsibilities for TTWW and provides procedural guidance for identifying, evaluating, and managing historic properties. The ICRMP also provides environmental and historic contexts and an overview of the cultural properties within the fee-owned lands of TTWW. All implementation plans are considered undertakings according to Section 106 and must be consulted on with the Alabama and Mississippi State Historic Preservation Officers (SHPOs), federally recognized Tribes, and other interested parties at the time of project implementation.

Since 1977, 178 cultural resource investigations have been completed at TTWW including 21 in Alabama, 134 in Mississippi, and 23 within both states. As a result of these investigations, 650 archaeological sites were recorded including 65 in Alabama and 585 in Mississippi. Based on the Alabama Historic Commission (AHC) and Mississippi Department of Archives and History (MDAH) site form data, 97 sites are NRHP eligible (8 in Alabama; 89 in Mississippi), 114 archaeological sites are ineligible for the NRHP (33 in Alabama; 81 in Mississippi), and the NRHP eligibility status of 434 sites is undetermined (24 in Alabama; 410 in Mississippi). Additionally, 24 historic resources (including the snagboat USS Montgomery), 11 historic cemeteries, and 13 bridges, which are 50 years or older, are on TTWW fee-owned land. Two of the these historic resources are also listed on the NRHP (The Waverly Bridge and the USS Montgomery).

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

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

2.2.10 NAVIGATION

The TTWW are federally maintained navigation channels that are actively used for barge navigation. The barge navigation channel is maintained by the operation of the locks and dams on the rivers and by routine channel dredging/disposal operations.

2.2.11 RECREATION

USACE manages a number of recreation areas around the reservoir with picnic tables and pavilions, camping sites, playgrounds, swimming areas, multi-use courts (basketball, tennis, volleyball or bat-mitten), hiking trails, fishing docks, hunting, and boat ramps. Within the TTWW project area, there are also state, county, or privately operated recreation areas (on land leased from USACE) with camp sites, lodging, picnic areas, hiking trails, playgrounds, swimming areas, fishing facilities, boat ramps, and marinas.

2.2.11.1 RECREATION CARRYING CAPACITY

The Recreation Carrying Capacity Study evaluates the ability of the Project to accommodate existing and future recreation uses and assess whether these uses are suitable given the potential effects on recreational, environmental, and social resources. Carrying capacity can be defined as the amount and type of use that an area can sustain over a given period of time. Carrying capacities can protect users' experiences by preventing overcrowding, which causes deterioration of the natural attributes and impedes each user's ability to move freely and to fully enjoy the natural setting without undue stress and distraction. For this analysis, the parking spaces and general visitation data were used to establish general recreation carrying capacity. In order to determine peak season weekend day visitation, the visitation for May through July is summed.

2.2.12 WATER QUALITY

Alabama Department of Environmental Management (ADEM) and Mississippi Department of Environmental Quality (MDEQ) identifies segments of State streams in Alabama's and Georgia's 305(b)/303(d) List of Waters in accordance with Section 305(b) of the Clean Water Act. Section 305(b) requires states to monitor and report water quality conditions on a biannual basis. The 305(b)/303(d) List of Waters provides an assessment of surface water quality by listing assessed waters as either "supporting" or "not supporting" their designated use, and for waters not supporting their designated use, identifying the criterion violated and potential causes of impairment. The list places waters not supporting their designated use into one of five categories, which indicate the status of development of total maximum daily loads (TMDLs), a determination of the amount of a pollutant which can be introduced to a stream without causing the stream to violate its designated use.

The MDEQ classifies the TTWW as recreation and it is listed on the 305(b) list of waters as attaining for aquatic life support (MDEQ, 2022).

The ADEM classifies the TTWW as fish and wildlife and is listed on the 3030(d) list of waters as impaired for metals (mercury) and pathogens (E. coli) (ADEM, 2022).

2.2.13 AIR QUALITY

The U.S. Environmental Protection Agency's (USEPA) Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards (NAAQS) in accordance with the Clean Air Act (CAA) "for pollutants considered harmful to public health and the environment." The CAA identifies two types of NAAQS: primary and secondary. Primary standards provide public health protection and secondary standards provide public welfare protection. The OAQPS has set NAAQS for six principal pollutants called criteria pollutants. These pollutants are carbon monoxide, nitrogen dioxide, ozone, lead, fine particle particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide. The States of Alabama and Mississippi has adopted the NAAQS as the state's air quality criteria.

The General Conformity Rule published by the USEPA on 11/30/1993 designates and implements Section 176(c) of the CAA for geographic areas in CAA non-attainment areas for criteria pollutants and in those attainment areas subject to maintenance plans required by CAA Section 175(a). The CAA General conformity Rule applies to Federal actions.

The ten counties that surround the TTWW are in attainment for all criteria pollutants (USEPA, 2023).

2.2.14 NOISE

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

The primary sources of noise at TTWW are recreational activities such as the use of motorboats and other watercraft as well as barge vessels. Periodic herbicide application to treat hydrilla, Chinese privet, water hyacinth, common salvinia, Cuban club-rush, alligatorweed, Brazilian elodea, slender naiad, American lotus, common cattail, pondweed, Eurasian milfoil, invasive bulrush, and duckweed infestations in high-priority areas requires the use of airboats, which produce noise. These herbicide applications occur only during the growing season during daytime hours.

2.2.15 AESTHETICS

Aesthetic resources are defined as those natural resources, landforms, vegetation, and man-made structures in the environment which generate one or more sensory reactions and evaluations by the observer, particularly in regard to pleasurable response. Of the three senses – visual, auditory, and olfactory – the visual sense is typically the most important sensory resource.

The large expanses of water associated with the wide and elongated impoundment provide numerous locations to enjoy the beauty of the TTWW. The water views provided by the waterway remain the primary focal point of the recreation areas. The water views are also the principal factor that has led to the construction of many homes located on private lands bordering the lake.

Scenic views encompass a wide range of river, stream, and reservoir settings provide valued aesthetic resources to the residents and tourists in the region that are associated with a variety of the water-based recreational pursuits. These aesthetic values are reflected by the establishment of many public access points, public use areas, state, and local parks within the waterway.

2.2.16 HAZARDOUS, TOXIC AND RADIOLOGICAL WASTE

Operating and maintaining USACE projects typically requires the use of hazardous and toxic materials. These materials include pesticides, paints, solvents, and petroleum products such as fuel, oil, and lubricants. These materials are used to control nuisance plants and other pest, and in the operation and maintenance of motorized crafts, vehicles, and equipment. The materials are handled, used, stored, and disposed of in accordance with label recommendations, USACE regulations, and local, state, and federal regulatory guidelines. Personnel applying pesticides are certified applicators as required by USEPA.

2.2.17 SOCIOECONOMICS

The socioeconomic region of impact (ROI) is a geographic area selected as a basis on which social and economic impacts of project alternatives are analyzed. The ROI for the social and economic environment includes ten counties bordering TTWW: Pickens, Greene, and Sumter Counties, Alabama; and Tishomingo, Prentiss, Itawamba, Monroe, Lowndes, Clay and Noxubee Counties, Mississippi.

The ROI income levels are below state and national averages. The ROI median household income in Alabama for Pickens County is $43,389, Greene County is $28,826, and Sumter County is $27,099. The ROI median household income in Mississippi for Tishomingo County is $40,394, Prentiss County is $46,417, Itawamba County is $53,510, Monroe County is $47,353, Lowndes County is $49,660, Clay County is $49,660 and Noxubee County is $38,999. The median household income for Alabama is $54,943 and Mississippi median income is $49,111.

The 2020 population (vintage year V2022), of the ten counties composing the ROI totaled 224, 836 persons. Table 1 shows the 2020 population (vintage year V2022), and the 2020 per capita income in 2021 dollars for each of the counties.

Table 1: 2020 Population and Per Capita Income

County	2020 Population	2020 Per Capita Income
	Alabama	
Pickens	18,697	$ 23,896
Greene	7,422	$ 16,282
Sumter	11,853	$ 17,481
	Mississippi	
Tishomingo	18,619	$ 23,051
Prentiss	**24,792**	$ 23,579
Itawamba	**23,903**	$ 31,036
Monroe	**33,577**	$ 25,997
Lowndes	**57,603**	$ 27,032
Clay	**18,380**	$ 22,736
Noxubee	**9,990**	$ 17,315
Total Population	224, 836	

Source: US Census Bureau, 2020

2.2.18 PRIME AND UNIQUE FARMLAND

Prime farmland, or areas with soil types that are most suitable and productive for agricultural purposes, have been identified and mapped by the US Department of Agriculture. There are prime farmlands and farmlands of state importance located in Pickens, Greene, and Sumter Counties, Alabama and Tishomingo, Prentiss, Itawamba, Monroe, Lowndes, Clay and Noxubee Counties, Mississippi. There are no farmlands located within the parks or recreational areas of TTWW.

3.0 ALTERNATIVE TO THE PROPOSED ACTION

3.1 NO ACTION

With the No Action Alternative, there would be no changes to the current conditions at the TTWW. No further development would occur. These actions are intended as updates and upgrades to the TTWW Projects which would increase the value of existing recreational resources by increasing the significant economic and social benefits for the region and the Nation.

4.0 POTENTIAL ENVIRONMENT IMPACT

4.1 FISHERY RESOURCES

Fishery resources would not be significantly impacted by the proposed Master Plan update future developments at the projects. Temporary displacement is expected during the construction phases of the proposed Master Plan future developments. Recreational fishing will potentially increase due to the increased number of fishing piers proposed.

4.2 WILDLIFE RESOURCES

The proposed Master Plan update future developments at the projects will have minor impacts on wildlife resources during construction. Wildlife will be temporarily displaced during construction. However, wildlife will migrate to nearby habitat and once construction is complete, the species will return to the area.

4.3 LAND USE

No changes to land use are proposed as a result of the Master Plan update. Land use surrounding the lakes will not be affected as no changes are being proposed that will alter the designated use of the land.

4.4 GEOLOGY AND SOILS

The proposed Master Plan update future developments will have no impact on geology and soils. Some disturbance to soils will occur from the construction of the playgrounds, parking spaces, restrooms, converting trail to overlook, fishing piers, picnic shelter, campsites, and vehicle compound. Heavy equipment will be used to move and compact soils and remove debris in construction areas. Disturbed areas will be minimized, and the work will be confined to the final site boundaries. Sedimentation and erosion controls will be implemented to minimize erosion of surrounding soils due to soil/ground disturbance. Potential impacts to soils will be controlled and avoided through the use of appropriate BMPs and soil stabilization/grass re-vegetation techniques following construction. Appropriate BMPs will be selected based on site-specific conditions and could include, but are not limited to, sediment barriers (silt fence or straw bales), grade stabilization with seed and mulch, and geotextile slope stabilization.

4.5 WETLANDS

It is not anticipated that any wetland areas will be affected by the proposed Master Plan update future developments. The proposed additions are not located in or adjacent to wetland areas. However, BMPs implemented during construction may include, but are not limited to, vegetation cover, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels,

and sedimentation basins to minimize the potential for indirect impacts to offsite wetlands.

4.6 FLOODPLAINS

There are no adverse impacts to floodplains as much of the proposed future developments will not alter flow regime in the area, nor will they increase the lake elevation.

4.7 VEGETATION

There are no adverse impacts to floodplains as much of the proposed future developments will not alter flow regime in the area, nor will they increase the lake elevation.

4.8 ENDANGERED AND THREATENED SPECIES

Federally listed species with potential to occur in the proposed projects areas are the Gray Bat, Indiana Bat, Northern Long-eared Bat, Wood Stork, Alabama Moccasinshell, Black Clubshell, Heavy Pigtoe, Inflated Heelsplitter, Orangenacre Mucket, Ovate Clubshell, Southern Clubshell, Southern Combshell, Mitchell's Satyr Butterfly, Monarch Butterfly, Georgia Rockcress, Prices Potato-bean, and White Fringeless Orchid.

Due to the nature of the proposed action, the USACE, Mobile District has determined that the proposed actions may affect but not likely to adversely affect the Gray Bat, Indiana Bat, Northern Long-eared Bat, Wood Stork, Alabama Moccasinshell, Black Clubshell, Heavy Pigtoe, Inflated Heelsplitter, Orangenacre Mucket, Ovate Clubshell, Southern Clubshell, Southern Combshell, Mitchell's Satyr Butterfly, Monarch Butterfly, Georgia Rockcress, Prices Potato-bean, and White Fringeless Orchid in the project areas. The USFWS Alabama and Mississippi site offices will be consulted regarding this determination. However, given the programmatic use of this EA and the potential additions of federally protected species by the USFWS under the Endangered Species Act (ESA), the USACE will evaluate each implementation plan submitted for approval to ensure compliance with the ESA.

4.9 CULTURAL RESOURCES AND HISTORIC PROPERTIES

The proposed actions under this Master Plan revision will involve improvements to existing facilities. Therefore, it is unlikely that historic properties will be adversely impacted by the proposed revision of this MP. However, all improvements at the TTWW identified in this MP would undergo review prior to any construction. The USACE, Mobile District’s archaeologists will identify all historic properties within the proposed project areas and determine if the properties would be adversely affected by the action. Should additional fieldwork be necessary, USACE, Mobile District’s archaeologist would identify survey area(s) and requirements and coordinate on the results of these investigations with the SHPOs and the Tribes in compliance with Section 106 of the NHPA.

4.10 NAVIGATION

Navigation will be temporarily impacted due to reconfiguring swim areas, reopening swim areas, repairing boat docks, and reestablishing fishing piers. However, normal navigation would resume upon completion of the proposed project.

4.11 RECREATION

The proposed Tennessee-Tombigbee Waterway Master Plan updates to the project would not adversely impact boating, fishing, camping, picnicking, water skiing, hunting, biking and hiking trails, and sightseeing. There will be beneficial recreation opportunities for the recreational facilities (playgrounds, camping areas, picnic shelters, etc.) because they would have increased availability upon completion of the proposed actions.

4.11.1 RECREATION CARRYING CAPACITY

The recreation carrying capacity establishes the appropriate parking and facilities, and the quality of the recreation experience is maintained. Recreation carry capacity can be analyzed in several ways. For this analysis, the parking spaces and general visitation data were used to establish general recreation carrying capacity. A decrease in population of 16,900 is expected over the next 25 years (2020-2045). The analysis of parking demand and supply shows there is likely adequate parking project wide through 2045.

4.12 WATER QUALITY

Increased turbidity and sediment runoff will temporarily impact areas from the construction of the proposed docks, fishing piers, fishing decks, and swimming areas. These impacts will be minor and will return to normal conditions upon completion of the construction. Best management practices will be implemented during construction to reduce the volume of turbidity and sediment runoff entering the lakes.

Section 401 of the Clean Water Act Water Quality Certification permits will be obtained from the states of Alabama and Mississippi for construction activities occurring in the water that require dredge or fill materials. A Notice of Intent for a National Pollutant Discharge Elimination System (NPDES) Stormwater Construction Permit will be filed with the ADEM and MDEQ for the proposed Master Plan update future developments will disturb greater than one acre of land once the projects go to construction. An erosion and sedimentation and pollution control plan will be implemented to meet requirements of the NPDES stormwater permit.

4.13 AIR QUALITY

There would be short-term and minimal impacts to air quality in the immediate vicinity of the proposed Master Plan update future developments at the projects. These impacts

would be temporary increases in particulates and emissions from the construction equipment. These impacts would subside upon completion of the work.

4.14 NOISE

Typical construction noise would be limited to the timeframe of clearing and construction. The noise will be that of machinery associated with clearing, grubbing and grading of material, pouring of concrete, cutting of timber, and bulldozing. All of these impacts are anticipated to be minor, temporary, and in low to no population areas and will cease upon completion of the action. Therefore, there are no significant impacts associated with noise at Tennessee-Tombigbee Waterway.

4.15 AESTHETICS

There would be no permanent aesthetic impacts associated with the proposed action. Aesthetic impacts would be temporary, associated with the construction activities, and revert to pre-project conditions upon completion of the actions.

4.16 HAZARDOUS, TOXIC AND RADIOLOGICAL WASTE

The proposed updates included in the Tennessee-Tombigbee Waterway Master Plan may result in the generation, transport, treatment, storage, or disposal of hazardous or toxic waste.

4.17 SOCIOECONOMICS

The proposed TTWW Master Plan update at the project would provide some economic benefits to the area. Economic benefits can be realized through temporary employment of laborers and support of local businesses for the purchase and/or rental of equipment and supplies.

4.18 PRIME AND UNIQUE FARMLAND

No prime or unique farmland would be impacted by the proposed project.

4.19 PROTECTIONOF CHILDREN

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

ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. The recommended additions of the Tennessee-Tombigbee Waterway Master Plan do not pose any disproportionate environmental health risk or safety risk to children.

4.20 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (11 February 1994) requires that Federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin. The recommended additions of the Tennessee-Tombigbee Waterway will not create disproportionately high or adverse human health or environmental impacts on any low-income populations of the surrounding area.

4.21 CUMULATIVE EFFECTS

The CEQ regulations define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action” 40 C.F.R. § 1508.7. Actions considered in the cumulative impacts analysis include implementation of the recommended action and other Federal, State, Tribal, local or private actions that impact the resources affected by the recommended action.

Within the project area, various past Federal, State, and private actions have impacted the TTWW habitat and natural flow regime including construction of the USACE dam, urban development, and agricultural activities. Urban development and agricultural activities have adversely affected water quality.

There would be cumulative impacts by the proposed actions to soil, vegetation and wildlife habitat from construction of the proposed actions. However, the actions would not significantly contribute to the cumulative impacts affecting the TTWW Project.

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

The proposed TTWW Master Plan update could be removed and restored to current conditions if future conditions are warranted. Therefore, any irreversible or irretrievable commitments of resources involved in the proposed action have been considered and are either unanticipated at this time, or have been considered and determined to present minor impacts.

6.0 ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Clearing and grubbing of vegetation to converting picnic sites into Class C campsites, bank stabilization, installing sheet piles, reconfigure trail into an overlook only, and backfilling swimming area to land represents impacts that cannot be avoided should the project be implemented. These impacts, as previously discussed are expected to be minor individually and cumulatively.

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

The proposed project constitutes a short-term use of man's environment and is not anticipated to affect long-term productivity. The proposed TTWW Master Plan update at the project would provide increased values of existing recreational resources by growing the significant economic and social benefits for the region and Nation. Therefore, the proposed Tennessee-Tombigbee Waterway Master Plan update would be beneficial to the community and surrounding areas.

8.0 COORDINATION

As required by the National Environmental Policy Act, the USACE, Mobile District will coordinate this project with the various local, state, and Federal agencies.

Coordination with the general public will be accomplished by making the EA available through means of a notice of availability being placed on the USACE, Mobile District website and emailing to interested parties. Substantial comments received from the public and agencies on the proposed action will be incorporated into the EA.

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ATTACHMENT A: TENNESSEE-TOMBIGBEE WATERWAY PROJECT MASTER PLAN

TENNESSEE-TOMBIGBEE WATERWAY PROJECT

Tennessee-Tombigbee Waterway
Tishomingo, Prentiss, Itawamba, Monroe, Jackson, Sharkey, Issaquena, Warren, Neshoba, Lowndes, Clay, and Noxubee Counties, MS
Pickens, Greene, Hale, Marengo, Lowndes, Baldwin, Mobile, and Sumter Counties, AL

Master Plan

Prepared by the
Mobile District
US Army Corps of Engineers

May 2024 (DRAFT)

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Tennessee-Tombigbee Waterway Project
Master Plan

[Month day, year]

The attached Master Plan for the Tennessee-Tombigbee Waterway Project is in compliance with ER/EP 1130-2-550, *Project Operations: Recreation Operations and Maintenance Policies*, and no further action is required.

Master Plan is approved.

Jeremy J. Chapman, P.E.
Colonel, US Army
District Commander

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EXECUTIVE SUMMARY

A Master Plan (MP) is required for each Civil Works project and all fee-owned lands for which the US Army Corps of Engineers (USACE) has administrative responsibility. It serves as a planning document that anticipates what could and should happen at a USACE project, but it is flexible enough to address changing conditions.

The primary goals of this Tennessee-Tombigbee Waterway (TTW) Master Plan 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 to 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.

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1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The idea of the Tennessee-Tombigbee Waterway (TTW) was first conceived in the early 1800s as a way to provide a shorter, more reliable water route to the Gulf of Mexico for the developing eastern states. However, 111 years elapsed between the time the project was first officially studied by the Government and when it became a reality. In the interim, it saw 23 Presidential administrations (from Ulysses S. Grant to Ronald Reagan), 55 terms of Congress, eight major studies and restudies, and two major lawsuits. Construction of the waterway began in 1972 and was completed in January 1985. The largest Civil Works project ever undertaken by the US Army Corps of Engineers (USACE), it involved moving 307 million cubic yards of earth, pouring 2.2 million cubic yards of concrete, and placing 33,000 tons of steel. The project employed 75 prime contractors and 1,200 subcontractors; at the peak of construction, some 3,000 workers were on the job. Overall, the project required more than 25 million hours of labor.

Operated by USACE, the TTW connects the north-flowing Tennessee River with the south-flowing Tombigbee River, providing a direct route for modern barge traffic from the Tennessee, upper Mississippi, and Ohio Valleys to the tidewater port of Mobile, AL, and other areas on the eastern Gulf Coast. It is 234 miles long, extending from Demopolis, AL (on the existing canalized Black Warrior-Tombigbee Waterway, 217 miles above Mobile) upstream via the Tombigbee River, the East Fork of the Tombigbee River, Mackey's Creek, a deep cut through the basin divide into Yellow Creek, and then Yellow Creek to Pickwick Lake on the Tennessee River near the common boundary of Alabama, Tennessee, and Mississippi.

The project, which includes 233.7 miles of navigation channel with 10 locks and dams, can be divided into three distinct sections—a 149.3-mile River Section with 9' by 300' channel dimensions, a 45.6-mile Canal Section with 12' by 300' channel dimensions, and a 38.8-mile Divide Section with 12' by 280' channel dimensions.

1.2 PROJECT AUTHORIZATION

Although the Tennessee-Tombigbee Waterway (TTW) project was authorized by Public Law (PL) 525, River and Harbor Act of 1946, the US House of Representatives Appropriations Committee examined the project plans in 1951 and concluded that the project was not economically feasible at that time. A restudy of the project was submitted 30 June 1960. This study was approved on 12 April 1962 and designated *General Design, Tennessee-Tombigbee Waterway, AL and Mississippi, Design Memorandum No. 1*. However, the House Appropriations Committee considered the margin of economic justification too small for initiating construction without further study. Congress allotted funds to restudy the TTW again in the Fiscal Year (FY) 1965

Appropriations Act. This report, which was completed in 1966, found the TTW favorable for construction of the features associated with the project purposes to provide transportation, recreation, and fish and wildlife enhancement benefits.

1.3 PROJECT PURPOSES

The Tennessee-Tombigbee Waterway (TTW) has three Federally authorized purposes—navigation, wildlife mitigation and recreation.

1.3.1 NAVIGATION

Navigating the Tennessee-Tombigbee Waterway (TTW), as opposed to using the Mississippi River through New Orleans, saves time and money by reducing the trip to the Gulf Coast by more than 800 miles.

1.3.2 RECREATION

Section 4 of the Flood Control Act of 1944, as amended in 1946, 1954, 1962, and 1975, authorizes the use of water resource development project lands for public recreation by specifically allowing the Chief of Engineers, under the supervision of the Secretary of the Army " ... to construct, maintain, and operate public park and recreational facilities at water resource development projects under the control of the Department of the Army, [and] to permit the maintenance and operation of such facilities by local interests." Additional authorizations for development of public recreation at power, flood control and navigation projects are included in Section 209 of the Flood Control Act of 1954, Section 207 of the Flood Control Act of 1962, and the Land and Water Conservation Fund Act of 1965, as amended.

1.3.3 WILDLIFE MITIGATION

Construction of the Tennessee-Tombigbee Waterway (TTW) resulted in significant but unavoidable losses of wildlife resources. To offset these losses, the Tennessee-Tombigbee Waterway Wildlife Mitigation Project was authorized by the Water Resources Development Act of 1986 (WRDA), Public Law 99-662. The WRDA required that a plan for management be developed, outlining the initial development measures and day-to-day management for the Existing Project Lands Increment in the Mitigation Project. The WRDA also authorized the acquisition of 88,000 acres of separable lands. The 1983 Wildlife Mitigation Feasibility Study (WMFS) Report, which documented the impacts of the TTW on wildlife resources, served as the basis for the mitigation plan authorized by the WRDA. It identified approximately 92,600 acres of existing project lands for management in a manner consistent with existing project purposes. These lands were designated at the TTW, Okatibbee Lake, Black Warrior and Tombigbee Lakes, and Alabama River Lakes Projects.

1.4 PURPOSE AND SCOPE OF THE MASTER PLAN

1.4.1 PURPOSE

This Master Plan provides a programmatic approach for the responsible stewardship of Tennessee-Tombigbee Waterway (TTW) resources to benefit present and future generations. While it identifies conceptual types and levels of activities, it is not a design document like previous Master Plans. All actions by USACE and the agencies and individuals granted leases to project lands must be consistent with the Master Plan; therefore, the Master Plan must be kept current in order to provide effective guidance for USACE decision-making.

This Master Plan is based on responses to regional and local needs, resource capabilities and suitability, and expressed public interest consistent with authorized project purposes and pertinent legislation and regulations. It provides a USACE District-level policy consistent with National objectives and other State and regional goals and programs. It is distinct from the project-level implementation emphasis of the Operational Management Plan (OMP). Policies in the Master Plan are guidelines implemented through provisions of the OMP, specific Design Memoranda (DMs), and the Annual Management Plans. A list of project reports is included in Appendix B.

The broad intent of this Master Plan is to accomplish the following:

- Determine appropriate uses for and levels of development of project resources.
- Provide a framework within which the OMP and Annual Management Plan are developed and implemented.
- Establish a basis on which outgrants and recreational development proposals may be evaluated.

1.4.2 SCOPE

USACE is responsible for managing, conserving, and enhancing environmental and cultural resources at all USACE reservoir projects while providing quality public recreational experiences to serve the needs of present and future generations. This Master Plan includes guidance for the appropriate use, development, enhancement, protection, and conservation of the natural, cultural, and human-made resources at the Tennessee-Tombigbee Waterway (TTW). The specified land classifications, recreation development, and management practices apply to all project lands at USACE-managed lakes.

To ensure consideration of the natural and cultural resources throughout the Master Plan, a Programmatic Environmental Assessment (PEA) is included in Appendix F. This document specifies the most appropriate degree of stewardship, management activities,

and types and levels of recreational use for TTW project lands. It also identifies any potential impacts on the human or natural environment related to the proposed programmatic management approach and indicates how these impacts can be avoided or minimized.

1.4.3 MASTER PLANNING PROCESS

This Master Plan and the associated Programmatic Environmental Assessment (PEA) were prepared in accordance with the following guidance:

- Engineer Manual (EM) 1110-1-400, *Engineering and Design—Recreation Planning and Design Criteria*, 01 November 2004.
- Engineer Pamphlet (EP) 1130-2-550, *Project Operations—Recreation Operations and Maintenance Guidance and Procedures*, 15 November 1996, 01 Oct 1999 (Change 1), 01 Mar 2002 (Change 2), 15 Aug 2002 (Change 3), 30 Aug 2008 (Change 4), 30 Jan 2013 (Change 5).
- Engineer Regulation (ER) 200-1-5, *Environmental Quality—Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers Environmental Operating Principles and Doctrine*, 30 October 2003.
- Engineer Regulation (ER) 200-2-2, *Environmental Quality—Procedures for Implementing the National Environmental Policy Act (NEPA)*, 4 March 1988.
- Engineer Regulation (ER) 1105-2-100, *Planning Guidance*, 22 April 2000, 30 Jun 2004, 31 Jan 2007, 30 Jun 2004, 20 Nov 2007.
- Engineer Regulation (ER) 1130-2-550, *Project Operations—Recreation Operations and Maintenance Guidance and Procedures*, 15 November 1996, 1 Oct 1999 (Change 1), 1 Mar 2002 (Change 2), 15 Aug 2002 (Change 3), 30 Aug 2008 (Change 4), 30 Mar 2009 (Change 5), 30 Sep 2013 (Change 6), 30 Jan 2013 (Change 7).

2 PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

2.1 DESCRIPTION OF THE NAVIGATION PROJECT

2.1.1 PROJECT CHARACTERISTICS

The Tennessee-Tombigbee Waterway (TTW) project is comprised of three distinct segments—the River Section, the Canal Section, and the Divide Section. It contains 10 locks, which are required to overcome an elevation difference of 341' between the Tombigbee River and the Tennessee River, and 10 dams. Except for Bay Springs,

which has a lift of 84', the locks have an average lift of 28'. Each lock has inside dimensions of 110' x 600'.

2.1.1.1 RIVER SECTION

The 149.3-mile River Section is the southernmost section of the TTW. It was constructed by dredging a 300' wide by 9' deep channel in the Tombigbee River. In some cases, it was also necessary to cut through or widen bends in the river. The River Section includes four locks with a combined lift of 117'. In ascending order, they are Howell Heflin Lock and Dam near Gainesville, AL; Tom Bevill Lock and Dam near Pickensville, AL; John C. Stennis Lock and Dam near Columbus, MS; and the future Donald G. Waldon Lock and Dam near Aberdeen, MS.

2.1.1.2 CANAL SECTION

The Canal Section is the middle segment of the TTW. It is 45.6 miles long, and its five locks provide a total lift of 140'. It was constructed by building a “chain of lakes” canal east of the Tombigbee River. This chain of lakes was created by constructing a levee on the west side of the canal’s route and allowing the canal waters to flow naturally to high ground on the east side. Excavation on the east side of the levee provides a channel that is a minimum of 9' deep and 300' wide. The five locks in the Canal Section, in ascending order, are Thad Cochran Lock near Amory, MS; Glover Wilkins Lock near Smithville, MS; Fulton Lock near Fulton, MS; John Rankin Lock; and G.V. “Sonny” Montgomery Lock.

2.1.1.3 DIVIDE SECTION

The northernmost section of the project, the 38.8-mile Divide Section, has a 280' wide and 9' deep navigation channel. The maximum cut through the natural divide between the Tennessee River and Tombigbee River basins is 175' deep and occurs near the town of Paden, MS, 23 miles south of the waterway’s northern terminus. The average depth of cut through the divide, however, is 50'. At the actual divide, the width across of the top of the cut is 1,500'. Bay Springs Lock and Dam, the only navigation structure in the divide cut, has a lift of 84'. The cut through the divide required 150 million yards of excavation, or roughly one-half that required for the entire waterway. Fortunately, the only significant rock outcropping encountered on the waterway occurred at the Jamie L. Whitten Lock and Dam site near Bay Springs, MS, where it was used to anchor the massive lock walls.

2.2 HYDROLOGY AND GROUND WATER

2.2.1 DRAINAGE BASIN

The drainage basin encompasses an area of approximately 13,762 square miles and is about 85 miles wide and 250 miles long. It comprises all or part of 19 counties in eastern Mississippi and 16 counties in western Alabama. Approximately 4.9 million acres are in Alabama while the remaining 3.9 million acres are in Mississippi. The basin

is bounded on the west by the Escatawpa, Chickasawhay, Pearl, Big Black, Yalobusha, Yocona, and Tallahatchie River systems; on the north by the Tennessee and Hatchie Rivers; and on the east by the Warrior and Alabama River systems. The principal rivers and creeks are the east and west forks of the Tombigbee, Bull Mountain, Buttahatchie, Tibbee, Luxapalila, Noxubee, Sipsey, Sucarnoochee, Chickasaw Bogue, Satilpa, Bassets, Santa Bogue, and Bilbo.

2.3 TOPOGRAPHY, GEOLOGY, AND SOILS

2.3.1 Topography

From Aliceville Lake northward, the area is characterized by fairly rugged dissected uplands with a maximum relief of about 200'. The highest altitudes, reaching about 800', occur at the northern end of the waterway in the region of the Divide Section. Altitude and relief generally decrease toward the south and west. From Aliceville Lake southward, the region is characterized by gently rolling to nearly flat terrain with altitudes ranging from 100' to 400'.

2.3.2 GEOLOGY

The Tennessee-Tombigbee Waterway (TTW) is near the eastern edge of the Mississippi embayment, a structural trough that began subsiding in the Cretaceous and continued into the Tertiary. Strata ranging from Devonian to Quaternary in age underlie the crop out along the course of the waterway. Paleozoic rock crops out at the extreme northern end of the waterway in the Yellow Creek embayment of the Tennessee River and along the banks of Mackey’s Creek near Bay Springs Lock and Dam. These rocks have a regional dip to the south-southeast. Locally, the rocks are structurally deformed and may dip in any direction. The remainder of the waterway is underlain by Cretaceous sediments with a thin veneer of Quaternary alluvial and terrace deposits. Tertiary-age deposits form the western boundary of the Cretaceous outcrop belt but are not encountered along the waterway. The Cretaceous strata have a regional strike varying from north-south to N50°W and dip to the west and southwest rather uniformly at a rate of about 30–45' per mile. No major faults or anomalous near-surface structures have been identified in the area that would affect the waterway. For most of the waterway’s course, the Tombigbee River flows essentially parallel to the strike of the Cretaceous strata on beds of the Eutaw formation. Other Cretaceous formations underlying the waterway are the Gordo formation of the Tuscaloosa Group and the Mooreville Chalk of the Selma Group.

2.3.3 SOILS

The TTW project lies within the South Atlantic-Gulf Water Resources Region and is composed of three major land resource areas—the Southern Coastal Plain, the Alabama and Mississippi Blackland Prairies, and the Sand Mountain. The Southern Coastal Plain soil materials are made up of sands, clays, shale, and some gravel. Most

of the soils are acid, low in native fertility, and vary from sandy to clayey in texture. The Alabama and Mississippi Blackland Prairies area has soft limestone or chalk underlying most soils. This chalk or marl has served as parent material for the upland soils, which tend to be very clayey. Such soils are tough, sticky, and difficult to work, have high shrink-swell properties, and require special management practices for cultivated crops. The soils of the Sand Mountain are well suited to trees but not to cultivated crops except for small areas. The soils on hillsides are low in fertility; they are shallow over bedrock and erode easily if cleared and cultivated.

2.4 RESOURCE ANALYSIS

The Tennessee-Tombigbee Waterway (TTW) Natural Resource Management Plan (NRMP) identifies the current conditions of natural resources at the project and describes the management programs designed to conserve renewable natural resources, preserve rare and unique resources, and provide long-term sustainability of ecosystems. It outlines natural resource management (NRM) activities occurring at the project level that support and are consistent with the Congressionally authorized project purposes while protecting and managing natural resources in accordance with accepted stewardship principles. Because the NRMP is a living document that is updated more frequently than the Master Plan, it includes the most current information regarding the following topics, including species lists.

2.4.1 FISH AND WILDLIFE RESOURCES

Three categories of fish species inhabit the TTW. Warm-water sports fish include striped and largemouth bass, crappie, and assorted bream and sunfish while commercial fish are primarily catfish, suckers, and carp. Some miscellaneous fish species include shad, darters, drum, gar, minnows, sturgeon, and walleye.

Many animal species provide game for hunters and enjoyment for non-consumptive users. Game species include white-tailed deer, eastern wild turkey, cottontail and swamp rabbit, gray and fox squirrel, raccoon, bobwhite quail, mourning dove, migratory waterfowl, alligators, and furbearers. A variety of non-game birds, mammals, amphibians, and reptiles exist in the fields, forests, and water.

Wildlife and fisheries are managed cooperatively by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP), the Alabama Department of Conservation and Natural Resources (ADCNR), the US Fish and Wildlife Service (USFWS), and USACE.

More information, including complete species lists and control management plans, can be found in the Tennessee-Tombigbee Waterway NRMP.

2.4.2 VEGETATIVE RESOURCES

Elevation, slope, and soils vary across the TTW project and afford a wide variety of growing conditions. Abundant rainfall and a long growing season also contribute to the diversity of plant species present. More information—including species lists of common trees, shrubs, grasses, forbs, and aquatic and herbaceous species as well as control management plans—can be found in the Tennessee-Tombigbee Waterway NRMP.

2.4.3 THREATENED AND ENDANGERED SPECIES

Management activities to address threatened and endangered species are coordinated with Federal and State agencies. The TTW project provides protection and special habitat management for threatened and endangered plant and animal species and their critical habitat as they are identified on or near the property.

The most current list of identified endangered, threatened, or recently listed species known to either inhabit or visit the TTW, along with control management plans, can be found in the Tennessee-Tombigbee Waterway NRMP and with the applicable Federal and State agencies.

2.4.4 INVASIVE SPECIES

Exotic, invasive species pose a costly management challenge because they have the capacity to cause considerable damage to the natural environment. Project efforts are focused on preventing the introduction of harmful species; coordinating with Federal, State, and local partners; and educating the general public. Some common exotic, invasive species known to occur on the TTW project are water hyacinth, Eurasian watermilfoil, hydrilla, alligator weed, and common and giant salvinia. Since these "exotic" plants do not have the natural "enemies," which control them in their native countries, they tend to overpopulate the aquatic environments. Some invasive animal species known to occur on the project include feral hogs, silver carp, and red imported fire ants.

The most current list of identified exotic and invasive species known to either inhabit or occur along the TTW, along with control management plans, can be found in the Tennessee-Tombigbee Waterway NRMP and with the applicable Federal or State agencies.

2.4.5 ECOLOGICAL SETTING

The 234-mile stretch of the Tennessee-Tombigbee Waterway is comprised of four ecosystems—the Tennessee-Tombigbee Divide Hills Ecosystem, the Eutaw Sand Hills Ecosystem, the Tombigbee Sand Hills Ecosystem, and the Prairie Ecosystem. The Canal Section Wildlife Management Area (WMA), Divide Section WMA, David K. Nelson WMA, and Lowndes WMA are located within these ecosystems. These

ecosystems vary in geologic history. For a detailed analysis of the geologic history of each ecosystem, refer to the Tennessee-Tombigbee Waterway NRMP.

2.4.6 WETLANDS

Wetlands are among the most biologically productive natural ecosystems, providing a nutrient-rich environment that supports abundant and diverse habitat types for fish and wildlife. Although they may be only occasionally wet, they are the interface of water flow, nutrient cycling, and sunlight, which makes them critical aspects of a watershed. They also improve water quality, recharge water supplies, reduce flood risk, reduce soil sedimentation and erosion, and provide recreational aesthetics. Wetlands generally include swamps, marshes, bogs, and similar areas, and are differentiated primarily by woody or non-woody vegetation types. At USACE Civil Works projects, existing wetlands are protected, conserved, and maintained (ER 1130-2-540, Chapter 2) in cooperation with the USACE Regulatory Division, which holds regulatory authority over jurisdictional wetlands.

More information, including a detailed analysis of the different types of wetlands present on the project, can be found in the Tennessee-Tombigbee Waterway NRMP.

2.5 CULTURAL RESOURCES

To comply with Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, and other Federal preservation laws, the USACE Mobile District maintains thorough records of cultural resources located within TTW fee-owned lands. USACE has also implemented an Integrated Cultural Resources Management Plan (ICRMP), which outlines the cultural resources stewardship responsibilities for TTW and provides procedural guidance for identifying, evaluating, and managing historic properties. The ICRMP also provides an overview of the cultural properties within the fee-owned lands of the TTW project and includes information on site types, site locations, site conditions, and historical significance.

From 1977 to 2017, 168 cultural resource investigations were completed at the TTW. While 97,964.36 of the 110,262.83 acres of fee-owned lands have been surveyed, only 16,187.74 acres were subjected to surveys that meet current Alabama Historic Commission (AHC) or Mississippi Department of Archives and History (MDAH) standards. A total of 650 archaeological sites have been recorded, 65 of which are located in Alabama and 585 in Mississippi. Five of these archaeological sites are listed in the National Register of Historic Places (NRHP)—sites 22CL809, 22CL810, 22MO500, 22MO572, and 22MO569/1011. Archaeological sites within the TTW that have not been NRHP-listed include 97 sites that are potentially NRHP eligible, 114 sites that have been determined as ineligible for the NRHP, and 434 sites for which NRHP eligibility is unknown or undetermined.

Historic period resources present in the TTW project consist of 24 historic structures (including the U.S. Snagboat Montgomery), 13 bridges that are 50 years or older, and 11 historic cemeteries. Two of these historic features have been listed in the NRHP—the U.S. Snagboat Montgomery and Waverly Bridge.

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

While the ICRMP serves as a detailed planning tool for the TTW project, coordination with cultural resources staff at the Mobile District remains necessary to comply with Section 106 of the National Historic Preservation Act (NHPA), including consultation with the AHC, the MDAH, and interested Federally recognized tribes regarding any potential effects on historic properties from undertakings on USACE fee-owned lands.

2.6 RECREATION FACILITIES, ACTIVITIES, AND NEEDS

The TTW recreation component is comprised of 74 project site areas. Of these, 54 recreation or project site areas are managed by USACE, 12 are managed by local Government agencies, two are managed by a business (concessionaire, company, or sole proprietorship), and three are managed by a nonprofit, quasi-public, or community organization.

The TTW's options for resource use are limited primarily to lands not encumbered by mitigation requirements. As a result, there are limited opportunities for new development.

2.6.1 ZONES OF INFLUENCE

Zones of influence, which represent the study areas for evaluating recreation capacities, fall into two classifications: Zone 1 is the area falling within a 25-mile radius of a project area, and Zone 2 is the area falling within a 50-mile radius of a project area.

Within Zone 1 are the cities and towns of Demopolis, Aliceville, Linden, Union Town, York, Livingston, Greensboro, Eutaw, Gordo, Reform, Vernon, Sulligent, Hamilton, and Red Bay, AL; Macon, Columbus, Starkville, West Point, Aberdeen, Amory, Okolona, Nettleton, Fulton, Tupelo, Saltillo, Baldwyn, Belmont, Booneville, Jacinto, Iuka, and Corinth, MS; and Selmer and Savannah, TN. Large parks within the 25-mile radius include Chickasaw State Park in Alabama; Pickwick Lake, J.P. Coleman State Park, Natchez Trace Parkway, Tishomingo State Park, Tombigbee State Park, Noxubee Wildlife Refuge, and Lake Lowndes State Park in Mississippi; and Shiloh National Battlefield in Tennessee.

Within Zone 2 are the cities and towns of Thomasville, Camden, Butler, Selma, Marion, Brent, Moundville, Tuscaloosa, Fayette, Winfield, Haleyville, Phil Campbell, Russellville, and Florence, AL; Meridian, Louisville, Ackerman, Eupora, Calhoun City, Vardaman, Houston, Bruce, Pontotoc, New Albany, and Ripley, MS; and Bolivar, Henderson, Lexington, Parsons, Clifton, Waynesboro, and Loretto, TN. Parks within the 50-mile radius include Lake Lurleen, William B. Bankhead National Forest, and Joe Wheeler State Park in Alabama; Tombigbee National Forest, Clarkco State Park, Trace State Park, and Holly Springs National Forest in Mississippi; and Big Hill Pond State Park, Chickasaw State Park and Forest, Pinson Mound State Park, Natchez Trace State Park, Tennessee National Wildlife Refuge, and Lewis State Forest in Tennessee.

2.6.2 VISITATION PROFILE

The TTW is visited predominately by local residents; however, transient visitation is common in the campgrounds as many of the areas lie close to major interstates. Peak recreation season is from May to July. Visitation is concentrated during the weekends in both peak and non-peak seasons. The Carrying Capacity Study in Appendix C discusses the TTW visitation patterns in detail.

2.6.3 RECREATION ANALYSIS

The recreation analysis evaluated overall visitation. It looked at future population and forecasted future visitation based on current use data as well as proposed changes occurring at the TTW project. This recreation analysis is included in full in the Carrying Capacity Study in Appendix C.

2.6.4 RECREATIONAL CARRYING CAPACITY

Recreational carrying capacity has been established for general recreation capacity. The carrying capacity estimates were based on use data, current and proposed infrastructure, and best professional judgment at the TTW project. The full analysis is included in the Carrying Capacity Study in Appendix C.

2.7 REAL ESTATE/ACQUISITION POLICY

Land acquisitions for the TTW occurred over approximately 20 years, from about 1970 to about 1990. Property was acquired from Demopolis, Alabama, northward to the Tennessee River. Acquisitions occurred in Greene, Sumter, and Pickens Counties in Alabama and in Noxubee, Lowndes, Clay, Monroe, Itawamba, Prentiss, and Tishomingo Counties in Mississippi. Land was acquired in fee simple, primarily for navigational and recreational purposes. Perpetual easement estates were acquired for the purpose of both permanent and periodic inundation, dependent upon the variant topography of the different pools. Easement estates were also acquired for disposal sites and access purposes. In addition, in conjunction with land acquisition activities in advance of construction, numerous utility/facility and cemetery relocations were

completed across the project area. These relocation activities required the acquisition of fee simple and easement estates, some of which subsequently were disposed.

Table 1 was compiled from information contained in the Real Estate Management Information System (REMIS), the USACE system of record. Note that acquisition records are maintained for each individual lock and dam with the exception of those in the Canal Section, which includes the Thad Cochrane, Glover Wilkins, Fulton, John Rankin, and G.V. "Sonny" Montgomery Lock and Dam projects.

Table 1. TTW Project Acreage as Defined in REMIS

	A	B	C	D	E	F	G	H	I
1	**Project**	**Easement Acres Acquired**	**Easement Acres Disposed**	**Easement Acres Current**	**Fee Acres Acquired**	**Fee Acres Disposed**	**Fee Acres Current**	**Total Acres Current**	**Counties**
2	Demopolis Lock & Dam	491.50	—	491.50	5,175.80	—	5,175.80	5,667.30	Alabama—Greene, Sumter
3	Howell Heflin Lock & Dam (Gainesville, AL)	8,219.58	55.50	8,164.08	7,124.19	1.00	7,123.19	15,287.27	Alabama—Green Sumter, Pickens
4	Tom Bevill Lock & Dam (Aliceville, AL)	6,728.26	172.01	6,556.25	5,787.88	162.29	5,625.59	12,181.84	Alabama—Pickens Mississippi—Noxubee, Lowndes
5	John C. Stennis Lock & Dam (Columbus, MS)	4,243.26	27.80	4,215.46	11,996.83	265.47	11,731.36	15,946.82	Mississippi—Lowndes, Clay, Monroe
6	Aberdeen Lock & Dam	1,390.46	49.69	1,340.77	6,026.04	1.00	6,025.04	7,365.81	Mississippi—Monroe
7	Canal Section	3,145.96	58.00	3,087.96	21,486.07	369.57	21,116.50	24,204.46	Mississippi—Monroe, Itawamba, Prentiss, Tishomingo
8	Jamie L. Whitten Lock & Day (Bay Springs Lake)	145.14	7.38	137.76	13,976.77	172.55	13,804.22	13,941.98	Mississippi—Prentiss, Tishomingo
9	Divide Cut Section	235.42	29.96	205.46	15,629.65	580.80	15,048.85	15,254.31	Mississippi—Prentiss, Tishomingo
10	**Total**	**24,599.58**	**400.34**	**24,199.24**	**87,203.23**	**1,552.68**	**85,650.55**	**109,849.79**	

According to REMIS, the total current TTW project acreage for navigation and recreational purposes stands at 109,849.79 acres—85,650.55 acres in fee simple and 24,199.24 acres in easement estates. (Note: A very minor number of acres utilized for specific project purposes through licenses and leases are not included in this summary). Project acreage continues to be adjusted through minor land acquisitions and disposals. As of this date, approximately 1,552.68 fee acres and 400.34 easement acres have been disposed of. If needed for project purposes, flowage easements are routinely reserved over tracts when fee simple property is conveyed.

Section 601 of the Water Resources Development Act (WRDA) of 1986 authorized the Tennessee-Tombigbee Waterway Wildlife Mitigation Project. This authorization mandated the intensive wildlife management of certain designated project lands previously purchased for construction and operation of water resource development projects in Alabama and Mississippi. It also initiated the acquisition and management of

an additional 88,000 acres of separable lands to mitigate for wildlife habitat losses resulting from the construction and operation of the waterway. The act required that the 88,000 acres of separable mitigation lands consist of predominantly bottomland hardwoods, with the exception that a minimum of 34,000 acres of bottomland hardwood were to be replaced in-kind. Furthermore, it was stipulated that the land had to be acquired from willing sellers.

Geographically, the act required a minimum of 20,000 acres to be acquired in the Mobile-Tensaw River Delta in Alabama and a minimum of 25,000 acres to be acquired in the Pascagoula, Pearl, and Mississippi River Deltas in Mississippi. The remaining acreage could be acquired anywhere in the states of Alabama and/or Mississippi.

Table 2 shows the status of acquisitions to date. As a result of the project, new State-managed Wildlife Management Areas (WMAs) have been established, providing opportunities for outdoorsmen that are not otherwise available. New strategically located mitigation lands are purchased as funds are available as provided for in the WRDA 2000 legislation.

Table 2. Status of TTW Mitigation Acquisitions to Date

	A	B	C
1	**Area**	**Total Acres**	**Counties**
2	David K. Nelson Wildlife Management Area	2,421.46	Alabama—Greene, Hale
3	Lowndes County Wildlife Management Area	10,564.84	Alabama—Lowndes
4	Mobile-Tensaw River Delta	21,275.34	Alabama—Mobile, Baldwin
5	Tennessee-Tombigbee Waterway—Alabama	538.46	Alabama—Monroe, Sumter, Pickens
6	Mahannah Wildlife Management Area	12,695.16	Mississippi—Issaquena, Warren
7	Pascagoula River State Wildlife Management Area	13,433.26	Mississippi—Jackson
8	Nanih Waiya Wildlife Management Area	8,089.62	Mississippi—Neshoba, Winston
9	Twin Oaks Wildlife Management Area	5,847.41	Mississippi—Sharkey
10	Tennessee-Tombigbee Waterway—Mississippi	14,796.76	Mississippi—Lowndes, Monroe, Itawamba
11	**Total**	**89,662.31**	

Acres mentioned in the rest of this document have been calculated using GIS software. The acres that appear in this section are the acres of record for the project. To learn more about GIS derived acreages and the error associated with them, please reference Chapter 6.2.

2.8 PERTINENT PUBLIC LAWS

- **Public Law 59-209, Antiquities Act of 1906**—The first Federal law established to protect cultural resources on public lands. This law 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.
- **Fish and Wildlife Coordination Act (FWCA) of 1934, ch. 55, 48 Statute 401**—Authorizes the Secretaries of Agriculture and Commerce to provide assistance

to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals.

- **Public Law 74-292, Historic Sites Act of 1935**—Declares it policy to preserve historic (including prehistoric) sites, buildings, and objects of national significance for (in contrast to protecting from) the public. 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 archaeological historic resources. It also establishes an Advisory Board on National Parks, Historic Sites, Buildings, and Monuments—a committee of eleven experts in the fields of history, archaeology, architecture, and human geography who are appointed by the Secretary to recommend policies to the Department of the Interior.
- **Public Law 78-534, Flood Control Act (FCA) of 1944**—Authorizes the USACE Chief of Engineers to construct, maintain, and operate public park and recreational facilities in reservoir areas (Section 4, as last amended by Section 207 of Public Law 87874, Flood Control Act of 1962). This act further authorizes the Secretary of the Army to grant leases and licenses for lands, including facilities, preferably to Federal, State, or local governmental agencies.
- **Public Law 85-624 and Public Law 89-72, Amendments to the Fish and Wildlife Coordination Act (FWCA) of 1934**—Provides that fish and wildlife conservation receive equal consideration with other project purposes and that they be coordinated with other features of water resource development programs. It also states that opportunities for improving fish and wildlife resources and adverse effects on these resources should be examined along with other purposes which might be served by water resources development.
- **Public Law 86-717, 74 Statute 817, Forest Conservation**—Provides for the protection of forest cover for reservoir areas under the jurisdiction of the Secretary of the Army and the USACE Chief of Engineers.
- **Public Law 14, River and Harbors Act of 2 March 1945**— Authorizes the construction, repair, and preservation of certain public works on rivers and harbors. This law also authorizes other purposes, including land acquisition at Fort Gaines Lock and Dam.
- **Public Law 525, River and Harbor Act of 24 July 1946**—Authorizes further land acquisition at Fort Gaines Lock and Dam.
- **Public Law 87-874, River and Harbor Act of 1962**—Authorizes the establishment of a National wildlife refuge at the Walter F. George Lake Project.

- **Public Works Appropriation Act of 1964**—Authorizes funds for the acquisition of additional lands for the National wildlife refuge.
- **Public Law 88-578, Land and Water Conservation Fund (LWCF) Act of 1965**—Establishes a fund from which Congress can make appropriations for outdoor recreation. Section 2(2) makes possible entrance and user fees at reservoirs by deleting the words "without charge" from Section 4 of the 1944 Flood Control Act, as amended.
- **Public Law 89-90, Water Resources Planning Act of 1965**—Establishes the Water Resources Council, giving it the responsibility for encouraging the development, conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis.
- **Public Law 89-665, National Historic Preservation Act (NHPA) of 1966**—Provides for (1) an expanded National Register of significant sites and objects, (2) matching grants to States undertaking historic and archaeological resource inventories, (3) a program of grants-in-aid to the National Trust for Historic Preservation, and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed on, nominated for, or considered important enough to be included on the National Register of Historic Places.
- **Public Law 90-483, River and Harbor and Flood Control Act (RHFCA) of 1968**—Restricts the collection of entrance fees at USACE lakes and reservoirs to users of highly developed facilities requiring the continuous presence of personnel (Section 210).
- **Public Law 91-190, National Environmental Policy Act (NEPA) of 1969**—Declares it a National policy to "encourage productive and enjoyable harmony between man and his environment." Specifically, it declares it a "continuing policy of the Federal o ernment to use all practicable means and measures . . . to foster and promote the general welfare, to create and maintain 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 authorizes and directs that, to the fullest extent possible, the policies, regulations and public law of the United States be interpreted and administered in accordance with the policies of the Act.
- **Public Law 91-611, River and Harbor and Flood Control Act (RHFCA) of 1970**—States that people designated by the USACE Chief of Engineers have the

authority to issue citations for violations of regulations and rules of the Secretary of the Army, published in the Code of Federal Regulations (Section 234).

- **Public Law 92-500, Federal Water Pollution Control Act (FWPCA) Amendments of 1972**—The Federal Water Pollution Control Act of 1948 (PL 845, 80th Congress), as amended in 1956, 1961, 1965 and 1970 (PL 91- 224), established the basic tenet of uniform State standards for water quality. Public Law 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."
- **Public Law 92-516, Federal Environmental Pesticide Control Act (FEPCA) of 1972**—Completely revises the Federal Insecticide, Fungicide and Rodenticide Act by providing for complete regulation of pesticides, including restrictions on their use, actions within a single State, and strengthened enforcement.
- **Public Law 93-81, Amendment to the Land and Water Conservation Fund (LWCF) Act of 1965**—Amends Section 4 of the Land and Water Conservation Act of 1965 to require each Federal agency to collect special recreation use fees for sites, facilities, equipment, or services furnished at Federal expense.
- **Public Law 93-205, Endangered Species Act (ESA) of 1973**—Repeals the Endangered Species Conservation Act, Public Law 91-135, and provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. Section 7 of this act requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of the listed species or modify their critical habitat.
- **Public Law 93-291, Archaeological Conservation Act of 1974**—Tasks the Secretary of the Interior with coordinating all Federal survey and recovery activities authorized under this expansion of the 1960 act. The Federal construction agency may transfer up to 1% of project funds to the Secretary, with such transferred funds considered non-reimbursable project costs.
- **Public Law 93-303, Amendment to the Land and Water Conservation Act (LWCA) of 1965**—Amends Section 4 of the Land and Water Conservation Act of 1965, as amended, to establish less restrictive criteria under which Federal agencies may charge fees for the use of campgrounds developed and operated at Federal areas under their control.
- **Public Law 93-523, Safe Drinking Water Act (SDWA)**—Ensures that water supply systems serving the public meet minimum National standards for the protection of public health, authorizes the Environmental Protection Agency

(EPA) to establish Federal standards applicable to all public water systems for protection from all harmful contaminants, and establishes a joint Federal-State system for ensuring compliance with these standards and for protecting underground sources of drinking water.

- **Public Law 94-422, Amendment of the Land and Water Conservation Fund (LWCF) Act of 1965**—Expands the role of the Advisory Council; Title 2– ection a amends ection of the istorical Preser ation Act of by allowing the Council to 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.
- **Public Laws 94-587, Water Resource Development Act (WRDA) of 1976**—Gives USACE District Commanders the authority to contract and/or enter into cooperative agreements with States and their political subdivisions to obtain increased law enforcement services at Civil Works water resource projects to meet needs during peak visitation periods and to augment the citation authorities granted to A E under hapter Part Title
- **Public Law 98-63, Chapter IV General Provisions**—Allows the USACE Chief of Engineers to accept the services of volunteers (and to provide for their incidental expenses) to carry out any USACE activity except policymaking, law enforcement, and regulatory enforcement.
- **Public Law 98-616, Resource Conservation and Recovery Act (RCRA) of 1976**—Establishes Federal standards and requirements for State and regional authorities in regard to solid waste disposal.
- **Public Law 99-662, Water Resources Development Act (WRDA) of 1986**—Provides for the conservation and development of water and water-related resources and for the improvement and rehabilitation of the Nation's water resources infrastructure.
- **Native American Graves Protection and Repatriation Act (NAGPRA) of 1990**—Provides for the protection of Native American graves, including human remains, funerary objects, sacred objects, and objects of cultural patrimony. This act also establishes procedures for both the inadvertent discovery of and the planned excavation of Native American cultural items on Federal lands.
- **Public Law 106-580, Water Resources Development Act (WRDA) of 1992**—Authorizes the Secretary of the Army to accept contributions of cash, funds, materials, and services from people, including Governmental entities, but excluding the project sponsor, in connection with carrying out a water

resources project for environmental protection and restoration or a water resources project for recreation.

- **Public Law 110-325, Americans with Disabilities Act (ADA) of 1990**—Provides that public entities must provide physical and programmatic access to Americans with disabilities in accordance with U.S. Department of Justice regulations (Title II).
- **Public Law 96-95, Archaeological Resources Protection Act (ARPA) of 1979**—Protects for the present and future benefit of the American people archaeological resources and sites which are on public and Indian lands and fosters increased cooperation and exchange of information between Governmental authorities, the professional archaeological community, and private individuals.
- **Public Law 94-541, Architectural Barriers Act (ABA) of 1968**—Requires that buildings and facilities that are designed, constructed, or altered with Federal funds, or that are leased by a Federal agency, comply with Federal standards for physical accessibility. ABA requirements are limited to architectural standards in new and altered buildings and in newly leased facilities; they do not address the activities conducted in those buildings and facilities. This law was established under Section 502 of the Rehabilitation Act.

3 RESOURCE OBJECTIVES

The Tennessee-Tombigbee Waterway Project Master Plan is not a construction document for future recreational facilities. Instead, it provides a programmatic approach to managing project resources by classifying project lands, developing general and site-specific resource objectives, and identifying appropriate development needs. Sound stewardship requires the development and management of project resources for the public benefit, consistent with resource capabilities.

An important component of this approach is the establishment of viable resource objectives—realistically attainable goals for the use, development, and management of natural and manmade resources. These objectives serve as guidelines for attaining maximum public benefit within USACE safety guidelines and security levels (while minimizing the potential for adverse impacts) and for protecting and enhancing environmental quality. They are developed with full consideration of authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local Governmental units, and expressed public desires.

The project-wide resource objectives for the Tennessee-Tombigbee Waterway (TTW), not in order of priority, are as follows:

- Develop and manage project lands in full cooperation and coordination with other public management agencies and appropriate private sectors.

- Develop and manage project lands to support various types and levels of recreation activities consistent with carrying capacities, aesthetics, and cultural and ecological values.

- Provide public education about the history of the area, project resources, and USACE's role in developing and managing these resources.

- Develop and manage project lands to support a diversity of wildlife habitat, using suitable silvicultural practices.

- Preserve and enhance threatened and endangered species as well as unique and important ecological and aesthetic resources.

- Maintain and manage project lands to support regional management programs, such as regional water quality initiatives.

- Preserve, monitor, and protect significant cultural resource sites in accordance with the Integrated Cultural Resource Management Plan (ICRMP).

- Manage resources in response to changing conditions in a developing region.

- Carry out natural resource management activities in accordance with the Tennessee-Tombigbee Waterway Natural Resource Management Plan (NRMP).

- Mitigate future loss of shoreline and infrastructure by employing various methods to prevent erosion.

- Maintain boundary lines to ensure that all boundaries and easements are clearly delineated in order to prevent encroachment and provide clear boundary marks for hunters.

Specific resource objectives for each land classification are found in Section 4.2. Site-specific resource objectives are listed for the individual management units in Section 5.

4 LAND ALLOCATION AND CLASSIFICATION

Land use at the Tennessee-Tombigbee Waterway (TTW) is governed by the land use category to which each parcel is assigned based on the resource capability as set forth in EP 1130-2-550, Change 5, dated 30 Jan 2013. Combined with the project-wide and site-specific resource objectives presented in this section, this land use plan provides a programmatic approach to the use, management, and development of all project lands. Together, these elements are the core of this Master Plan.

4.1 LAND ALLOCATION

All project lands at USACE water resource development projects are allocated by USACE into one of four categories in accordance with the Congressionally authorized purpose for which the projects lands were acquired. The following four land allocation categories are applicable to USACE projects:

- **Operations**—Lands acquired for the Congressionally authorized purpose of operating the project. The TTW has 132,450 acres authorized for this purpose, which includes all lands other than those authorized for recreation and or mitigation, as discussed below.

- **Recreation**—Lands acquired for the Congressionally authorized purpose of recreation. The TTW did not purchase any lands specifically authorized for this purpose.

- **Fish and Wildlife**—Land acquired specifically for the Congressionally authorized purpose of fish and wildlife management. The TTW did not purchase any lands specifically authorized for this purpose.

- **Mitigation**—Lands acquired or designated specifically for the Congressionally authorized purpose of offsetting losses associated with development of the project. These are referred to as separable mitigation lands. The TTW has 91,233 acres authorized for this purpose. These lands are operated and maintained under license with the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Alabama Department of Conservation and Natural Resources (ADCNR).

4.2 LAND CLASSIFICATION

4.2.1 RESOURCE OBJECTIVES FOR SPECIFIC LAND CLASSIFICATIONS

Resource objectives are attainable goals for resource development and/or management, which are consistent with authorized project purposes, Federal laws and directives, regional needs, resource capabilities, and expressed public preferences and needs. They consolidate the information presented in the previous sections of this Master Plan and are met, whether wholly or partially, through the implementation of the site-specific resource objectives established for each management area (identified in Section 5). The resource objectives developed for each land classification at the TTW Project, and the rationale used to develop them, are discussed below.

4.2.2. PROJECT OPERATIONS

This classification category includes those lands that are required and used solely for the operation of the project. Examples include lands required for the locks and dams,

spillways, overflow structures, levees, offices, and maintenance facilities. In addition to the operational activities taking place on these lands, limited recreational use may be allowed for activities such as public fishing access. Regardless of any limited recreation use allowed on these lands, however, the primary classification of Project Operations takes precedence over other uses. Approximately 613.6 acres at the TTW are classified as Project Operations lands.

Resource Objectives for Project Operations Lands:

- Operate and maintain project structures in a manner that allows them to effectively fulfill project purposes.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Reserve adequate areas for operations activities that are required to meet overall project purposes.
- Provide for public use and access within USACE safety guidelines and security levels, where such use is feasible and does not interfere with other project purposes.

4.2.3 HIGH-DENSITY RECREATION

This classification category includes those lands that are developed for intensive recreational activities for the visiting public, including day use areas, campgrounds, marinas, and related concession areas. Approximately 1,015.0 acres at the TTW are classified as High-Density Recreation lands.

Resource Objectives for High-Density Recreation Lands:

- Provide opportunities for camping, day use, and other recreation.
- Maintain and improve recreation infrastructure as parks age and needs change.
- Maintain boating access to the reservoir while enhancing waterfront access for hiking, fishing, and sightseeing.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Maintain diverse natural communities to enhance hiking and sightseeing opportunities and to control shoreline and soil erosion.
- Manage forest resources and other vegetation for balanced uses of recreation, wildlife, and fisheries.
- Monitor forest conditions to document health and to identify pests.

- Control noxious weeds and other pests in a manner that avoids damage to existing desirable vegetation and sensitive areas (wetlands and streams).

- Preserve and protect existing wetlands and other sensitive or unique habitats that support threatened and endangered species along with other wildlife.

- Interpret cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

Rationale:

The location and design of recreation areas and facilities consider the desired recreation experience and standards identified in EM 1110-1-400, *Recreation Facilities and Customer Service Standards*. Areas specifically classified as Recreation are located throughout the project; however, other classifications can also incorporate visitor use for recreation at a less-intensive level while simultaneously maintaining their primary purposes.

4.2.4 MITIGATION LANDS

This classification is typically used only for lands with an allocation of Mitigation, which were acquired specifically for the purposes of offsetting losses associated with development of the project. During the construction of the Tenn-Tom Waterway, wildlife mitigation was added as a requirement to continue project development. Separable lands are classified as Wildlife Mitigation while existing project lands that count towards the wildlife mitigation requirement are classified as Wildlife Management. Approximately 91,233.0 acres at the TTW are classified as Mitigation lands. All of the lands in this classification are operated and maintained under license with the Mississippi Department of Wildlife Fisheries, and Parks (MDWFP) and the Alabama Department of Conservation and Natural Resources (ADCNR).

Resource Objectives for Mitigation Lands:

- Maintain diverse and viable populations of native wildlife.

- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.

- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.

- Conserve endangered and threatened species, pursuant to the Endangered Species Act of 1973.

Rationale:

The resource objectives for Mitigation were established from a joint effort by USACE and the US Fish and Wildlife Service (USFWS). Objectives to fulfill commitments of wildlife mitigation were developed using legislative history, subsequent regulation, tradition, and circumstance distinct to TTW. The ultimate purpose is optimum management of wildlife resources in harmony with other project purposes. These specific objectives are listed in the TTW Mitigation Implementation Plans (MIPs) and Wildlife Management Plan.

4.2.5 ENVIRONMENTALLY SENSITIVE LANDS

The Environmentally Sensitive classification, which may exist within other land classifications, identifies areas where certain physical, ecological, cultural, or aesthetic features have been identified as especially sensitive to adverse environmental impacts. Development of public use on lands within this classification is normally limited or prohibited to ensure that the sensitive areas are not adversely impacted. A significant number of acres under archeological review at Tennessee-Tombigbee Waterway are currently classified as Environmentally Sensitive.

4.2.6 MULTIPLE-RESOURCE MANAGEMENT LANDS

This classification is divided into four sub-classifications—Low-Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. A primary subclassification that reflects the dominant use of the land must be designated, understanding that other compatible uses may also occur on these lands (for example, a trail through an area designated as Wildlife Management). Typically, Multiple Resource Management Lands support only passive, non-intrusive uses with very limited facilities or infrastructure. A total of 75,807.8 acres are specifically classified as Multiple Resource Management Lands at the TTW.

- **Low-Density Recreation**—These lands are designated for dispersed and/or low-impact recreation use. Emphasis is on providing opportunities for non-motorized activities, such as hiking, fishing, hunting, sightseeing, and nature study. Site-specific, low-impact activities, such as primitive camping and picnicking, may also be allowed. Development of facilities on these lands is limited to boat ramps, trails, and parking areas as well as camping and picnic facilities. Human-made intrusions, including utility lines, may be allowed under conditions that minimize their adverse effects on the natural environment. Vegetation management is allowed for a variety of purposes, including erosion control, retention and improvement of scenic qualities, forest health, and wildlife management. Where not in conflict with the safety of visitors and project personnel, hunting and fishing may be allowed in accordance with Federal and State fish and wildlife management regulations. There are 140.2 acres specifically classified as Low-Density Recreation at the TTW.

- **Wildlife Management**— While all project lands are managed for fish and wildlife habitat in conjunction with other land uses, Wildlife Management lands are designated specifically for wildlife management.

  During the construction of the Tennessee-Tombigbee Waterway wildlife mitigation was added as a requirement to continue development of the project. Separable mitigation lands are classified as Wildlife Mitigation while existing project lands that count towards the wildlife mitigation requirement are classified as Wildlife Management. There are 63,284.59 acres of wildlife management at the Tenn-Tom Waterway, all of which count towards the Wildlife Mitigation Program.

  Some of these Wildlife Management acres were also identified at ARL and BWT. There are 4,212.56 acres specifically classified as TTW Wildlife Management at the ARL, and 7,953.00 acres specifically classified as TTW Wildlife Management at the BWT.

  For more information on the Wildlife Mitigation Program see Chapter 6.1.

- **Vegetation Management**—Management activities on Vegetation Management lands focus on the protection and enhancement of forest resources and vegetative cover. Forests are managed as a multipurpose resource for sustained yield when consistent with recreation and wildlife management objectives and approved land uses. Other activities are conducted under the guidance of the project's forest management and wildlife management plans. There are 0 acres specifically classified as Vegetation Management at the Tennessee-Tombigbee Waterway.

- **Inactive and/or Future Recreation Areas**—This subclassification consists of lands that contain existing recreation areas that have been temporarily closed as well as lands for which recreation areas are planned for the future. There are 71.5 acres specifically classified as Inactive and/or Future Recreation Areas at the TTW.

Resource Objectives for Multiple-Resource Management Lands:

- Accommodate and support non-consumptive resource uses, such as hiking, bird watching, photography, nature study, wildlife observation, and/or the pursuit of peace and solitude.

- Maintain diverse and viable populations of native wildlife.

- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.

- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.

- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

- Interpret cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

- Monitor and provide minimum care for low-use or closed recreation areas.

Rationale:

In addition to the intensively developed recreation areas, the TTW provides many opportunities for a variety of dispersed recreation activities, such as boating, fishing, hunting, and hiking. Given the existing and growing demand for these activities on a National, regional, and local scale, the use of these lands is expected to increase.

The resource objectives for Wildlife Management are the same objectives as Wildlife Mitigation. They were established from a joint effort by USACE and the USFWS. Objectives to fulfill commitments of wildlife mitigation were developed using legislative history, subsequent regulation, tradition, and circumstance distinct to TTW. The ultimate purpose is optimum management of wildlife resources in harmony with other project purposes. These specific objectives are listed in the TTW Mitigation Implementation Plans (MIPs) and the Wildlife Management Plan.

4.3 PROJECT EASEMENT LANDS

Project Easement Lands are lands on which easement interests are held but no fee title ownership exists. They typically include three different types of easements—Operations, Flowage, and Conservation. There are 24,968.8 acres of Project Easement Lands on the TTW.

Resource Objectives for Easement Lands:

- Monitor any activities occurring on easement lands to ensure that USACE rights, according to the terms and conditions of the legal easement, remain unimpeded.

- Promote an understanding of the USACE boundary and mission by both the public and the owners of the underlying private property.

Rationale:

Project Easement Lands were specifically acquired for project operational purposes. While these lands are not actively managed to meet other project missions, maintaining the conditions established in the easements is vital to project success.

4.3.1 OPERATIONS EASEMENT

Operations easements are easements purchased for the purpose of project operations.

4.3.2 FLOWAGE EASEMENT

Flowage easements give USACE the right to inundate these lands for project operations.

4.3.3 CONSERVATION EASEMENT

Conservation easements give USACE the rights to lands for aesthetic, recreation, and environmental benefits.

5 RESOURCE PLAN

A wide variety of factors must be considered when developing and operating TTW lands and resources, including physical characteristics; land and lake access; compatibility with adjacent land uses; existing and projected visitation levels and visitor-use patterns; visitor safety and project security; the economics of operation and maintenance; and Federal, State, and local initiatives. The overall objective of the Resource Plan is to maximize recreational benefits while preserving and enhancing the area's natural resources and scenic qualities.

Since the purpose of this Master Plan is to provide a programmatic approach to the use of project lands, it is important to examine the condition and use of the existing facilities and structures as well as each management area within the various segments in order to determine how each area can be developed to fit with the overall goals of the TTW.

The TTW recreation component is comprised of 74 project site areas. Of these, 54 recreation or project site areas are managed by USACE, 12 are managed by local Government agencies, two are managed by a business (concessionaire, company, or sole proprietorship) and three are managed by a nonprofit, quasi-public, or community organization.

This Master Plan and the accompanying Programmatic Environmental Assessment (PEA; Appendix F) provide a programmatic approach, through the land classifications and resource objectives, to allow these plans to move forward. The Master Plan also identifies additional development needs that will improve existing recreation areas within the project boundary while the PEA addresses the impacts of implementing the Master Plan.

The rest of this section provides a detailed description of each management area. The descriptions are organized in the following categories:

- **Management Agency**—The agency responsible for the day-to-day operation of the management area as of the date of this Master Plan.

- **Land Classification**—The designated land use classification (as defined in Section 4.2) for the management area.

- **Recommended Future Use**—The recommended future use of the management area. This may include the existing land classification, a change to a different classification, or a specific activity allowed within the land classification.

- **Rationale**—A discussion of the needs and intent of the management area's identified resource objectives.

- **Location**—A brief description of the management area's location, including visitor access points.

- **Description**—A brief description of the management area, focusing on its natural, cultural, and/or recreational resources.

- **Site-Specific Resource Objectives**—Identification of site-specific resource objectives that build on the project-wide resource objectives identified in Section 3 and the land classification resource objectives identified in Section 4.2. Resource objectives are attainable goals for the development, conservation, and management of natural, cultural, and human-made resources at the TTW project. They establish guidelines for attaining maximum public benefit within USACE safety guidelines and security levels while minimizing the potential for adverse impacts to the local environment. Each recreation area has multiple resource objectives, but they are not prioritized. In some of the areas, the resource objectives may not be implemented for some time.

- **Development Needs**—A summary description of the proposed actions to implement the resource objectives for each area. These needs, which include a range of potential construction projects and management strategies, are based on input from the public as well as from State and Federal agencies. They will be further refined and detailed in subsequent planning and design documents, including the Operational Management Plan (OMP) and future Design Memoranda (DMs). Final decisions regarding the specific actions to be implemented will be made following coordination between USACE; Federal, State, and local agencies; and other interested parties, where appropriate and as opportunities arise. In addition, prior to site-specific development, additional environmental studies will be conducted as required. An evaluation will be made of the current status of Federally listed Threatened and Endangered Species (TES) and the potential impacts on them; consultation with the US Fish and Wildlife Service (USFWS) will be conducted as appropriate.

GAINESVILLE LAKE

5.1 HOWELL HEFLIN LOCK

5.1A HOWELL HEFLIN LOCK (LOWER POOL RAMP)—PLATE TTWMP-GL-001

5.1B HOWELL HEFLIN LOCK EAST BANK—PLATE TTWMP-GL-002

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Inactive and/or Future Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Inactive and/or Future Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Rationale: Howell Heflin Lock requires these land classifications to maintain current operations.

Location: Howell Heflin Lock (Lower Pool Ramp): On the left side of Gainesville Lake at river mile 266 in Greene County, AL. Access is via Howell Heflin Lock Road from AL Highway 39.

Howell Heflin Lock East Bank: On the right side of Gainesville Lake at river mile 266 in Greene County, AL. Access is via an unnamed road directly across from Turkey Paw Branch Road on AL Highway 39.

Description: The Howell Heflin Lock site (previously, Gainesville Lock) is divided between the east and west sides of the lock with the majority of the recreational facilities located in the west bank area. The 34-acre Lower Pool Ramp includes a boat ramp located on the old river cut-off, a comfort station, and the lock control building. The 24-acre East Bank has been closed due to damage from flooding. The park also has a sidewalk for fishing below the lock that has been damaged and hosts a youth hunt area.

Much of the two parks is located on the large open grassy areas created by the construction of the lock just north of the southern confluence of the old river cut-off and the new channel. The entire area is subject to flooding during periods of heavy rainfall. The terrain is relatively flat except for the cutbanks of the channel and the old river cut-off. The limited forested area consists of mixed pine and hardwood.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the road, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.

5.2 HOWELL HEFLIN SPILLWAY AREA

5.2A HOWELL HEFLIN SPILLWAY EAST—PLATE TTWMP-GL-003

5.2B HOWELL HEFLIN SPILLWAY WEST—PLATE TTWMP-GL-004

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Howell Heflin Spillway Area requires these land classifications to maintain current operations.

Location: Howell Heflin Spillway East: On the east bank of Gainesville Lake at river mile 267.5 in Greene County, AL. Access is via Greene County roads from AL Highway 39.

Howell Heflin Spillway West: On the west bank of Gainesville Lake at river mile 267.5 in Sumter County, AL. Access is via Sumter County Road 85 to St. John Road from AL Highway 39.

Description: Howell Heflin Spillway Area (previously Gainesville Spillway) is divided between the east and west sides of the spillway. The 65-acre east bank area includes a fishing deck that was destroyed as a result of flooding and a comfort station. The four-acre west bank area is simply parking for bank fishing access. A fishing deck was previously located on the west side of the spillway, but it has been removed.

The parks are located on the large open grassy areas created by the construction of the spillway just south of the northern confluence of the old river cut-off and the new channel. The entire area is subject to flooding during periods of heavy rainfall. The terrain is relatively flat except for the cutbanks of the old river cut-off. The limited forested area consists of mixed pine and hardwood.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas.
    - Maintain the composting comfort station on the east side of the spillway.

5.3 SUMTER RECREATION AREA

5.3A SUMTER RECREATION AREA PART I—PLATE TTWMP-GL-005

5.3B SUMTER RECREATION AREA PART II—PLATE TTWMP-GL-006

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Sumter Recreation Area requires these land classifications to maintain current operations.

Location: On Gainesville Lake's west bank at river mile 270 in Sumter County, AL. Access is via Sumter County Road 116 to Sumter County Road 85 to St John Road from AL Highway 39. The day-use area is on the left side of St. John Road.

Description: The 54-acre Sumter Recreation Area Part 1 includes all developed assets and a medium-sized tract of forest. The boat ramp facility provides a double-lane ramp for direct access to Gainesville Lake. Car/trailer parking is also available at the ramp. The picnic area provides both a group shelter for large gatherings and individual tables for small groups and families. A waterborne comfort station and parking area are nearby. Two RV sites are provided at the entrance of the park for use by volunteers who serve as caretakers at the recreation area. The undeveloped 146-acre Sumter Recreation Area Part 2 is used primarily for hunting. Both parks have slightly rolling hills with slopes of 0%-5%. The area is forested with many stands of natural pine, bottomland hardwood, and mixed pine/hardwood. Several old field sites scattered throughout the area provide ample opportunity for wildlife food plots.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

- Develop and maintain wildlife habitat and forest resources.

Development Needs:

- Upgrade aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Convert 10 current picnic sites to Class C campsites.
    - Repave the road, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.

5.4 RIVERSIDE ACCESS AREA—PLATE TTWMP-GL-007

Management Agency: USACE

Land Classification: Multiple Resource Management: Future/Inactive Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Future/Inactive Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Rationale: Riverside Access Area requires these land classifications to maintain current operations.

Location: On Gainesville Lake's left bank at river mile 271.8 in Greene County, AL. Access is via Greene County roads from AL Highway 14.

Description: The 13-acre Riverside Access Area is a low, flat, deep sandy site with mixed pine/hardwood as the primary forest cover. The park is located in the flood plain. The developed segment of the park, which was closed to public access in 2005, consists of a boat ramp, car/trailer parking, and a composting-style comfort station, which was destroyed by fire as a result of vandalism and never rebuilt.

Site-Specific Resource Objectives:

- Control noxious weeds and other pests in a manner that avoids damage to existing desirable vegetation and sensitive areas (wetlands and streams).
- Monitor and provide minimum care for low-use or closed recreation areas.

Development Needs:

- Continue to provide a justified level of service by updating and upgrading aging facilities and facility infrastructure in the future as needed.

5.5 S.W. TAYLOR RECREATION AREA

5.5A S.W. TAYLOR OVERLOOK—PLATE TTWMP-GL-008

5.5B S.W. TAYLOR BOAT RAMP—PLATE TTWMP-GL-009

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple Resource Management: Future/Inactive Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple Resource Management: Future/Inactive Recreation Areas, Multiple-Resource Management Lands: Wildlife Management

Rationale: S.W. Taylor Recreation Area requires these land classifications to maintain current operations.

Location: On Gainesville Lake's west bank at river mile 274 in Sumter County, AL. Access is via Pickens County Road 85 from AL Highway 17.

Description: S.W. Taylor Recreation Area is divided into two areas—a larger picnic/overlook area and a boat ramp. The 61-acre S.W. Taylor Overlook, which was closed in 2005 due to low use and funding shortages, provides a group picnic shelter, a comfort station, an overlook, and plenty of parking. It is a potential candidate for a lease area. The park is mainly wooded and composed of pine, cedar, and mixed hardwoods. A large limestone bluff provides a scenic overlook of Gainesville Lake and Wilkes Creek to the east. The 11-acre S.W. Taylor Boat Ramp is located on the northern one-third of the park in the flood plain and provides two lanes of boat access to the lake, plenty of car/trailer parking, and a vault composting comfort station.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.

- Promote consumptive resource use, such as fishing and hunting.

- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

- Develop and maintain wildlife habitat and forest resources.

- Monitor and provide minimum care for low-use or closed recreation areas.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

    - Maintain the vault comfort station at boat ramp.

    - Pave the roads, parking areas, and boat ramp.

    - Maintain the ingress and egress at the boat ramp through dredging.

5.6 VIENNA ACCESS AREA—PLATE TTWMP-GL-010

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Vienna Access Area requires these land classifications to maintain current operations.

Location: On Gainesville Lake's east bank at river mile 283.5 in Pickens County, AL. Access is via Pickens County Road 13 from AL Highway 14.

Description: The 21-acre Vienna Access Area is used primarily for boat access to Gainesville Lake and consists of a two-lane boat ramp, a waterborne comfort station, and parking. The park land is relatively flat except for the cutbanks of the river. The forest cover consists of bottomland hardwoods. During periods of heavy rainfall, the boat ramp area is subject to flooding.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Renovate the existing dock area.
    - Maintain the ingress and egress at the boat ramp through dredging.

5.7 COCHRANE BOAT RAMP—PLATE TTWMP-GL-011

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Cochrane Boat Ramp requires these land classifications to maintain current operations.

Location: On Gainesville Lake's right bank at river mile 294 in Pickens County, AL. Access is via Cochrane Access Road from AL Highway 17.

Description: The primary uses of the 188-acre Cochran Boat Ramp are boating and picnicking. The boat ramp provides access to Gainesville Lake. However, it is currently usable only by small watercraft due to heavy siltation as a result of recurring flooding. The recreation area provides ample parking along with a waterborne comfort station and a picnic shelter. The lower sections of the park are undeveloped and used primarily for hunting. They are also subject to flooding during periods of heavy rainfall. The soils in this area have a high pH level, resulting in a vegetative cover dominated by grasses,

eastern red cedar, green ash, and Osage orange. A few old field sites provide opportunity for wildlife food plots.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the comfort station and group shelter.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Add an electronic fee machine to collect fees.

5.8 COCHRANE CAMPGROUND—PLATE TTWMP-GL-012

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Cochrane Campground requires these land classifications to maintain current operations.

Location: On Gainesville Lake's right bank at river mile 294 in Pickens County, AL.

Access is via Cochrane Access Road from AL Highway 17.

Description: The primary uses of the 198-acre Cochrane Campground are boating and camping. A boat ramp located in the campground provides easy access to Gainesville Lake. The campground also provides a multi-use court, group shelter, two pit comfort stations, two waterborne comfort stations with shower and laundry facilities, and 24-hour park volunteers. The lower sections of the park are subject to flooding during periods of heavy rainfall. Six waterfront campsites on the lower half of the campground have been permanently closed as a result of shoreline loss due to recurring flooding. The soils in this area have a high pH level, resulting in a vegetative cover dominated by grasses, eastern red cedar, green ash, and Osage orange. A few old field sites exist and provide opportunity for wildlife food plots.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion.
    - Close, rework, and/or move campsites vulnerable to erosion.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.

5.9 RINGO BLUFF ACCESS AREA—PLATE TTWMP-GL-013

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Ringo Bluff Access Area requires these land classifications to maintain current operations.

Location: On Gainesville Lake's left bank at river mile 303 in Pickens County, AL. Access is via Pickens County Road 78 from AL Highway 14.

Description: The 65-acre Ringo Bluff Access Area is relatively flat except for the cutbanks of the river. The primary use of the area is for boat access to Gainesville Lake. It consists of a two-lane boat ramp, a boat dock, a composting comfort station, and parking. The inlet to the ramp experiences heavy siltation as a result of recurring flooding, and the existing boat dock is not functional due to heavy siltation. Except for the mowed sections around the developed facilities, the area is forested with stands of planted loblolly pine and bottomland hardwoods.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Rework the existing boat dock.

ALICEVILLE LAKE

5.10 TOM BEVILL VISITOR CENTER—PLATE TTWMP-AL-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Tom Bevill Visitor Center requires these land classifications to maintain current operations.

Location: On Aliceville Lake's left and right banks at river mile 306.8 in Pickens County, near Pickensville, AL. Access is via Lock and Dam Road from AL Highway 14.

Description: The 8-acre Tom Bevill Visitor Center is located on the east side of the Tom Bevill Lock and Dam. The area includes a visitor center, parking, a courtesy dock, and the U.S. Snagboat Montgomery. It is located on the large open grassy areas created by the construction of Tom Bevill Lock and Dam. The Visitor Center is housed in a replica of a Greek Revival plantation home. It is decorated with period furnishings and exhibits about life in the Tombigbee River Valley with photographs, models, and videos about wildlife and river travel. A nineteenth-century cast-iron fountain is on display in the garden. The U.S. Snagboat Montgomery, circa 1926, is permanently dry docked beside the Visitor Center. This restored stern wheel steamboat is listed on the National Register of Historic Places and contains exhibits about the boat's operation and history.

Site-Specific Resource Objectives:

- Interpret cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.
- Provide the appropriate facilities for day-use activities.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repair the roof, siding, and decking of the U.S. Snagboat Montgomery.
    - Repaint the U.S. Snagboat Montgomery to ensure a watertight seal.
    - Construct a 65' W X 216' L X 40' H shade structure over the U.S. Snagboat Montgomery to further protect it.
    - Upgrade the interpretive offerings of Visitor Center exhibits, the AV room, and the U.S. Snagboat Montgomery.
    - Repave the roads and parking areas.

5.11 BEVILL LOCK EAST—PLATE TTWMP-AL-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Bevill Lock East requires these land classifications to maintain current operations.

Location: On Aliceville Lake's left and right banks at river mile 306.8 in Pickens County, near Pickensville, AL. Access is via Lock and Dam Road from AL Highway 14.

Description: The 144-acre Bevill Lock East is on the east side of the Tom Bevill Lock and Dam. The east bank area includes the lock control structure, a fishing area, two group picnic shelters, parking areas, and a playground. While the Clivus Multrum comfort station was burned down in 2011, two portable chemical comfort stations have been put its place. The park is located on the large open grassy areas created by the construction of the Tom Bevill Lock and Dam. The riverbank upstream and downstream of the lock and dam is protected with large riprap. Except for the mound area around the lock, the entire area is subject to flooding during periods of heavy rainfall.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Rebuild a waterborne comfort station.
    - Maintain the fishing area, playground, and group shelters.
    - Upgrade the playgrounds as safety standards evolve.
    - Repave the road and parking areas.

5.12 BEVILL LOCK WEST—PLATE TTWMP-AL-002

Management Agency: USACE

Land Classification: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Bevill Lock West requires these land classifications to maintain current operations.

Location: On Aliceville Lake's left and right banks at river mile 306.8 in Pickens County, near Pickensville, AL. Access is via West Lock and Dam Road from AL Highway 86.

Description: The 11-acre Bevill Lock West is limited to 25 car parking spaces and provides a vantage point for watching boats entering and leaving the lock. The parking spaces are within a short walking distance to a viewing area, which also provides an opportunity for fishing. One portable chemical comfort station is available for park visitors.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas.
    - Maintain the fishing pier.

5.13 MARINA COVE (OUTGRANT)—PLATE TTWMP-AL-003

Management Agency: USACE

Land Classification: Multiple Resource Management: Inactive/Future Recreation Areas

Recommended Future Use: High-Density Recreation

Rationale: Should Pickensville Marina, which is located at this site, reopen under a new lease, the new land classification would be required to maintain operations.

Location: On Aliceville Lake's left bank at river mile 307.4 in Pickens County, AL. Access is via Lock and Dam Road from AL Highway 14.

Description: The 38-acre Marina Cove (of which 8.4 acres are developed) is located northeast of Tom Bevill Lock and Dam on slightly rolling hills with 0% to 5% slopes. Other than the mowed area around the developed facilities, the area is forested with mixed pine and hardwood. The Pickensville Marina was operated on this site as a concession area and provided mooring facilities, gas pumps, a general store, and campsites.

Due to the death of the lessee and poor management, the lease for the marina was terminated, and the marina was closed. The mooring facilities, gas pumps, and general store were all removed.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.14 PICKENSVILLE DAY USE AREA—PLATE TTWMP-AL-004

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Pickensville Day Use Area requires these land classifications to maintain current operations.

Location: On Aliceville Lake's east bank at river mile 308 in Pickens County, AL. Access is via Pickens County roads from AL Highway 86.

Description: The 53-acre Pickensville Day Use Area is located along the east side of the main channel of the TTW and is bordered by the old river channel on its northern edge. The park is subject to flooding during periods of heavy rainfall. The area is generally flat and is forested with stands of loblolly pine and bottomland hardwood. It is used for boating, fishing, and picnicking and features a boat ramp, courtesy dock, group shelter, volleyball court, picnic areas, comfort stations, a fish cleaning station, and fishing piers as available amenities. The park collects fees via an electronic fee machine and has two park attendants on Class A campsites for enhanced security.

In FY 2019 the beach was closed as a result of heavy siltation and the formation of a sandbar at the mouth of the beach. Due to low visitation at the swim beach and the cost to fix and maintain the facility, the decision was made to repurpose the area for picnicking. With picnic sites expanding in the former beach section of the park, the current picnic sites can be repurposed for primitive camping along the waterfront.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Convert the swim beach to a picnic area.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Potentially establish a primitive camping area.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the comfort stations, fish cleaning station, and fishing piers.

5.15 RALEIGH RYAN BOAT RAMP—PLATE TTWMP-AL-005

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Raleigh Ryan Boat Ramp requires these land classifications to maintain current operations.

Location: On Aliceville Lake's west bank at river mile 308 in Pickens County, AL. Access is via West Lock and Dam Road from AL Highway 86.

Description: The 12-acre Raleigh Ryan Boat Ramp is located along the west side of the main channel of the TTW. The park land is generally flat and is forested with stands of loblolly pine and bottomland hardwood. It is subject to flooding during periods of heavy rainfall. The park is divided into two primary uses—boating and picnicking. There is one boat ramp facility along with parking spots for boat trailers and cars. Amenities

consist of a group picnic shelter and a waterborne comfort station. The area also provides limited opportunity for bank fishing.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort station and group shelter.

5.16 PICKENSVILLE CAMPGROUND—PLATE TTWMP-AL-006

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Pickensville Campground requires these land classifications to maintain current operations.

Location: On Aliceville Lake's right banks at river mile 309 in Pickens County, AL. Access is via West Lock and Dam Road from AL Highway 86.

Description: The 183-acre Pickensville Campground is located on the west side of the main channel of the TTW. The park land is generally flat and is forested with stands of loblolly pine and bottomland hardwood. An old slough and oxbow provide unique scenic features for campers. The campground provides 176 Class A campsites, group picnic shelters, two fish-cleaning stations, a boat ramp, observation and fishing decks, foot trails, a dump station, four comfort stations with showers and laundry facilities, and two 24-hour gate attendants. The park is subject to flooding during periods of heavy rainfall.

Although sites on Waterfront Drive are experiencing extreme erosion due to flooding events, stabilization packages have been approved to address the problem. Also as a result of flooding, the park experienced electrical problems due to faulty switch gear and was closed in June 2021 and reopened in Spring 2022 with a new transformer.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking/bike paths, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouses, fish cleaning stations, overlooks, playgrounds, and fishing piers.
    - Potentially add sewage hookup accessibility for more campsites.
    - Potentially upgrade the comfort stations to add air conditioning and increase ABA accessibility.

5.17 LUXAPALILA—PLATE TTWMP-AL-007

Management Agency: USACE

Land Classification: Multiple Resource Management: Inactive and/or Future Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Inactive and/or Future Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Rationale: Luxapalila requires these land classifications to maintain current operations.

Location: On Aliceville Lake's left bank at river mile 329 in Lowndes County, MS. Access is via South Pickensville Road from MS Highway 69.

Description: The 188-acre Luxapalila area is located immediately south of the confluence of Luxapalila Creek and the TTW. The park is divided into two primary uses—boating and bank fishing. The boat ramp facility provides a double-lane ramp for ease of access to both Luxapalila Creek and the TTW. Car/trailer parking are available at the boat ramp. A comfort station was removed as a result of heavy vandalism. The land is generally flat except for the sloping creek banks at the entrance of the park. The boat ramp area and the picnic area are natural areas with mixed pine/hardwood cover. In the central portion of the park is an old slough, which traverses across the park from the northeast to the southwest. On the lower end of the park is an open field, which borders a former picnic area. The lease was relinquished in December 2021, closing the park indefinitely.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.18 COLUMBUS RIVERWALK (OUTGRANT)—PLATE TTWMP-AL-008

Management Agency: City of Columbus, MS

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Columbus Riverwalk requires these land classifications to maintain current operations.

Location: Access to the main entrance to Columbus Riverwalk is via College Street from US Highway 45. Access to the USACE portion of the Riverwalk is via Moores Creek Road from Main Street.

Description: The 10-acre Columbus Riverwalk is a paved walking/biking path along the east bank of the Columbus Bendway and the TTW in Columbus, MS. Main parking and waterborne comfort stations are located on City property at the true start of the Riverwalk. The majority of the walkway exists on USACE property and includes a small parking lot, a group shelter, and portable chemical comfort stations. The City of Columbus has plans to expand the walkway to the Stennis Lock and Dam Recreation Area East through project Wildlife Mitigation land. The walkway also serves as access to the Wildlife Mitigation land for hunting.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.19 PLYMOUTH BLUFF NATURE AND CULTURAL STUDY CENTER (OUTGRANT)—PLATE TTWMP-AL-009

Management Agency: Board of Trustees—State Institute of Higher Learning, MS (Mississippi University for Women)

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Plymouth Bluff requires this land classification to maintain current operations.

Location: On Aliceville Lake's right bank at river mile 334 in Lowndes County, MS. Access is via Old West Point Road from US Highway 82.

Description: The 140-acre Plymouth Bluff Nature and Cultural Study Center is located on Plymouth Bluff, above the old Tombigbee River Channel and on top of a significant cultural site. The Center offers facilities for training, education, and recreation for a variety of groups. The developed portion of the park is situated in the higher elevations above the bluff. A pond of approximately two acres is located in the northern portion of the park with an amphitheater overlooking it. A hiking trail winds around the pond, through the woods, and then across and down the bluff. A Cretaceous outcrop is visible

from one path of the hiking trail. The developed portion also has the visitor center, a shelter, tennis courts, cabins, a dock, and many operations buildings. The undeveloped portion lies within the flood plain along the river's edge. In the lower areas are bottomland hardwoods and two sloughs managed for waterfowl. A trail winds through the forested area, between the sloughs, and beside the waterway.

Plymouth Bluff is considering expanding their event capacity to include summer campers. Should these plans move forward they will begin the land use process with USACE.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

COLUMBUS LAKE

5.20 STENNIS LOCK AND DAM/RECREATION AREA WEST

5.20A STENNIS LOCK AND DAM/RECREATION AREA WEST PART I—PLATE TTWMP-CL-001

5.20B STENNIS LOCK AND DAM/RECREATION AREA WEST PART II—PLATE TTWMP-CL-002

Management Agency: USACE

Land Classification: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Stennis Lock and Dam/Recreation Area West requires these land classifications to maintain current operations.

Location: On Columbus Lake's left bank at river mile 334.7 in Lowndes County, near Columbus, MS. Access is via Old West Point Road from US Highway 82.

Description: The 9-acre Stennis Lock and Dam/Recreation Area West includes the lock control building, a fishing pier, multiple parking lots, and the minimum flow structure

fishing area. The park is located on the large open grassy areas created by the construction of John C. Stennis Lock and Dam. The riverbank upstream and downstream of the lock and dam is protected with large riprap.

Site-Specific Resource Objectives:

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Control noxious weeds and other pests in a manner that avoids damage to existing desirable vegetation and sensitive areas (wetlands and streams).

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas. During repaving, include the gravel parking area in Stennis Lock and Dam/Recreation Area West Part II.

5.21 CHARLES YOUNGER RAMP (OUTGRANT)—PLATE TTWMP-CL-003

Management Agency: Lowndes County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Charles Younger Ramp requires this land classification to maintain current operations.

Location: On Columbus Lake's left bank at river mile 334.7 in Lowndes County, near Columbus, MS. Access is via Old West Point Road from US Highway 82.

Description:
The 5-acre Charles Younger Ramp provides access to Columbus Lake. It features two concrete docks and a picnic shelter. Bank fishing is common in this area.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.22 COLUMBUS MARINA (OUTGRANT)—PLATE TTWMP-CL-004

Management Agency: Lowndes County Port Authority

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Columbus Marina requires this land classification to maintain the lease.

Location: On Columbus Lake's left bank at river mile 335 in Lowndes County, MS. Access is via Wilkins-Wise Road from US Highway 45 and via Old West Point Road from US Highway 82.

Description: The 55-acre Columbus Marina site is located between the boat ramp and picnicking facilities at Stennis Lock and Dam/Recreation Area East. The area is flat and is subject to flooding during periods of heavy rainfall. Vegetative cover consists of small early successional hardwoods. Columbus Marina consists of an administrative building, two dry-storage buildings, three covered wet-slip storage buildings, a store with a fueling station, ample parking, a boat ramp, and a courtesy dock. There is also a closed restaurant building.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.23 STENNIS LOCK AND DAM/RECREATION AREA EAST

5.23A STENNIS LOCK AND DAM/RECREATION AREA EAST PART I—PLATE TTWMP-CL-005

5.23B STENNIS LOCK AND DAM/RECREATION AREA EAST PART II—PLATE TTWMP-CL-006

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Stennis Lock and Dam/Recreation Area East requires these land classifications to maintain current operations.

Location: On Columbus Lake's left and right banks at river mile 334.7 in Lowndes County, near Columbus, MS. Access is via Wilkins-Wise Road from US Highway 45.

Description: The 61-acre Stennis Lock and Dam/Recreation Area East is divided by the Columbus Marina. The east bank area includes two concrete fishing piers below the dam, two wooden fishing piers on the lake, a six-lane boat ramp, two waterborne comfort stations, an amphitheater, two play areas, a walking path, a fish cleaning station, 10 picnic sites, two multi-use courts, an overlook, and three reservable group shelters. The main access road for this area serves as an emergency spillway structure. Except for the mound area around the lock, the entire site is subject to flooding during periods of heavy rainfall. Damage to fishing piers below the dam and at the fishing area is common, but due to the popularity of this recreation area, this damage is addressed relatively quickly so they can be reopened. Due to the cost of maintaining the large grass lawns, the addition of a pollinator garden is being considered although this may require the removal of the walking path.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Provide expanded access for use by the elderly and individuals with disabilities.
- Promote consumptive resource use, such as fishing and hunting.

- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

    - Repave the roads, parking areas, walking path (unless removed), and boat ramp.

    - Maintain the ingress and egress at the boat ramp through dredging.

    - Maintain the comfort stations, fish-cleaning station, group shelters, playgrounds, gatehouse, host sites, and concrete and wooden fishing piers.

    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.

    - Prepare for a connection to Riverwalk by adding a gate.

    - Potentially pave the road to the fishing area past the boat ramp.

    - Potentially convert the mowed areas to a pollinator field with grasses and native plants and remove the walking path.

    - Maintain the amphitheater.

    - Potentially cover the amphitheater and/or renovate it to make the stage bigger.

5.24 WAVERLY FERRY RAMP—PLATE TTWMP-CL-007

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Waverly Ferry Ramp requires these land classifications to maintain current operations.

Location: On Columbus Lake's right bank at river mile 338 in Clay County, MS. Access is via Waverly Road from MS Highway 50.

Description: The 17-acre Waverly Ferry Ramp provides a two-lane boat ramp, a courtesy dock, a waterborne comfort station, parking spaces, and individual covered picnic sites. The area also provides opportunities for bank fishing. While the ramp is located on a highly trafficked portion of the waterway, it is currently usable only by small watercraft due to heavy siltation caused by recurring flooding.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort station, picnic shelter, and docks.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially install an interpretive sign for the old train bridge.
    - Potentially secure the old bridge's infrastructure.
    - Potentially increase the ease of access to the river for kayakers by installing a loading zone.

5.25 WAVERLY FERRY—PLATE TTWMP-CL-008

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Waverly Ferry requires these land classifications to maintain current operations.

Location: On Columbus Lake's right bank at river mile 338 in Clay County, MS. Access is via Clay Waverly Road from MS Highway 50.

Description: The 32-acre Waverly Ferry is located on an old plantation site. The Waverly Ferry Recreation Area is a small day-use area, which provides visitors picnicking opportunities. The picnic area consists of two group picnic shelters, two waterborne comfort stations, several individual picnic sites, a walking path, and parking. Currently, the lower comfort station facility is closed due to low visitation. Security is provided for the park and boat ramp area by two volunteers on Class A campsites at the front of the park. The developed facilities are located in an upland area. Except for the mowed areas immediately adjacent to these facilities, this area is mostly forested with mixed pine and hardwood. The remainder of the park, which lies to the north of the developed facilities, is split between upland and bottomland sites. The upland sites are dominated by a mixed pine/hardwood cover, and the bottomland sites are dominated by bottomland hardwoods.

Site-Specific Resource Objectives:

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Interpret the cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the road, parking areas, and walking path.
    - Maintain the comfort stations, park attendant sites, and picnic shelters.
    - Potentially reopen the closed comfort station and lower picnic sites.
    - Potentially reestablish a playground area.

- Potentially improve the graveyard area, including placing an interpretive sign about the cultural significance of the area.
- Potentially improve the drainage areas and culverts.
- Potentially remove the dilapidated pumphouse.
- Replace transformer and repair electrical system to restore power to the public restroom in the picnic area.

5.26 DEWAYNE HAYES—PLATE TTWMP-CL-009

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Dewayne Hayes requires these land classifications to maintain current operations.

Location: On Columbus Lake's left bank at river mile 340.8 in Lowndes County, MS. Access is via Barton Ferry Road from MS Highway 373.

Description: The 139-acre Dewayne Hayes site is located on the left bank of the TTW. The developed segment of the park is primarily used for camping. Facilities include a boat ramp, a group picnic shelter, a playground, three comfort stations with showers and laundry facilities, a walking path, a multi-use court, a courtesy dock, three fishing piers, a fish-cleaning station, an amphitheater, 100 reservable Class A campsites, 10 reservable "primitive" campsites, a dump station, and two 24-hour gate attendants on two Class "A" campsites. This area of the park is located in the flood plain immediately south of the confluence of Stinson Creek and the TTW. The land is generally flat and is subject to flooding during periods of heavy rainfall. The forest cover is bottomland hardwood. Frequent flooding events have substantially damaged the banks of this park. Approximately six Class A campsites and all primitive campsites are now closed, having been heavily impacted by flooding events over the past few years via siltation, damage to electric lines, and/or instability underneath the sites themselves. Securing the bank near the waterfront sites is necessary to prevent further damage to this popular campground.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Interpret the cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking path, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, fish-cleaning station, group shelters, playgrounds, and fishing piers.
    - Reestablish the tree interpretive program.
    - Potentially upgrade the comfort stations to add air conditioning and increase ABA accessibility.
    - Potentially expand sewage hookup accessibility to more campsites.
    - Stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion.
    - Potentially reconfigure the boat docks.
    - Potentially install a low-water crossing for maintenance access to the primitive area.

5.27 DEWAYNE HAYES DAY USE AREA

5.27A DEWAYNE HAYES DAY USE AREA PART I—PLATE TTWMP-CL-010

5.27B DEWAYNE HAYES DAY USE AREA PART II—PLATE TTWMP-CL-011

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Dewayne Hayes Day Use Area requires these land classifications to maintain current operations.

Location: On Columbus Lake's left bank at river mile 340.8 in Lowndes County, MS. Access is via Lowndes County roads from MS Highway 373.

Description: The 79-acre developed segment of the Dewayne Hayes Day Use Area is primarily for day-use activities. Facilities include a boat ramp, individual picnic tables, two reservable group picnic shelters, a playground, three waterborne comfort stations, a water spray ground, a walking path, basketball courts, two unpaved sports areas, courtesy docks, a fish-cleaning station, and 24-hour volunteer hosts. Due to the cost of maintaining the large grass lawns, the addition of a pollinator garden is being considered. To accomplish this, it may be necessary to remove the two unpaved sports areas.

The developed area of the park is located in the flood plain immediately south of the confluence of Stinson Creek and the Tennessee-Tombigbee Waterway. The land is generally flat and is subject to flooding during periods of heavy rainfall. Recent flooding events have severely damaged the plumbing system of the water spray ground, closing it until further notice.

The 419-acre undeveloped area is separated from the day-use area and is primarily used for hunting. It contains several old sloughs full of both cypress and tupelo gum which provide excellent habitat for waterfowl. This area consists of heavily forested upland and bottomland areas. The upland part, which is separated from the bottomland area by a high ridge, is distinguished by a variety of mixed pine and upland hardwood species. While the bottomland part is mostly forested with a wide range of bottomland hardwood species, a few old field sites exist, providing ample opportunity for wildlife food plots.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Provide expanded access for use by the elderly and individuals with disabilities.
- Promote consumptive resource use, such as fishing and hunting.

- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
- Develop and maintain facilities to serve the recreation public in the future as needed.
    - Repave the roads, parking areas, walking paths, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, fish-cleaning station, overlooks, bridges, shelters, playgrounds, dock, host sites, and fishing piers.
    - Maintain the electronic fee machine.
    - Reestablish the interpretive tree identification walk.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially add fishing pier(s) to the picnic area.
    - Upgrade the spray ground to a more modern system.
    - Potentially convert the grass field to a pollinator field and/or introduce more native plants, removing unpaved sports fields.
    - Potentially add an overflow parking area for the campground in the field.

5.28 TOWN CREEK CAMPGROUND

5.28A TOWN CREEK CAMPGROUND PART I—PLATE TTWMP-CL-012

5.28B TOWN CREEK CAMPGROUND PART II—PLATE TTWMP-CL-013

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Town Creek Campground requires these land classifications to maintain current operations.

Location: On Columbus Lake's right bank at river mile 342 in Clay County, MS. Access is via Town Creek Road and Witherspoon Road from MS Highway 50.

Description: The 162-acre developed segment of Town Creek Campground includes 100 Class A campsites, three comfort stations with shower and laundry facilities, a boat ramp, hiking trails, two group shelters, basketball courts, playgrounds, a fish-cleaning station, and a dump station. There are also 10 "primitive" campsites and a Clevis Multrum comfort station along Kennedy Lake that can be accessed via a footbridge. Kennedy Lake also features bank fishing access, picnic sites, and a wooden deck overlooking the lake. Because this segment of the park is located on the southern edge of Town Creek Campground in the flood plain of the old Tombigbee River, during periods of heavy rainfall, it is subject to flooding. Many lower campsites are frequently flooded, and one campsite on the bluff is permanently closed due to sloughage underneath the site.

The 233-acre undeveloped portion of the park consists of rolling hills, is forested with mixed pine and hardwood, and is primarily used for hunting. This area lies immediately north of the developed facilities.

Total Land: 395 acres
Developed Acreage: 162 acres

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

- Interpret the cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking paths, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, fish-cleaning station, bridges, shelters, playgrounds, ball courts, hiking trails, boat dock, host sites, and fishing piers.
    - Potentially remove the comfort station near Kennedy Lake.
    - Potentially upgrade the primitive area comfort station to a waterborne unit.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially add sewage hookup accessibility, extend the length of some campsites, and increase the parking areas near the campsites.
    - Stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion.

5.29 BARTON'S FERRY ACCESS AREA—PLATE TTWMP-CL-014

Management Agency: USACE

Land Classification: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Barton's Ferry Access Area requires these land classifications to maintain current operations.

Location: On Columbus Lake's right bank at river mile 344 in Clay County, MS. Access is via Barton Ferry Road from MS Highway 50.

Description: The 25-acre Barton's Ferry Access Area is primarily used for lake access. It includes a small gravel boat ramp and a parking area, which were created during construction of the waterway. The lower part of the area is undeveloped and mostly forested, includes a small lake, and is used for hunting and fishing.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Potentially pave the road, parking area, and boat ramp.
    - Potentially expand access to the river for kayakers by creating a launching site.
    - Potentially install two prefabricated, ABA-compliant, single-user comfort stations with ADA facilities. If utilities make this cost prohibitive, install an environmentally supportive comfort station, such as a prefabricated, ADA-compliant Green Flush facility.

5.30 MCKINLEY CREEK RECREATION AREA (OUTGRANT)—PLATE TTWMP-CL-015

Management Agency: Monroe County, MS

Land Classification: Low-Density Recreation

Recommended Future Use: Low-Density Recreation

Rationale: McKinley Creek Recreation Area requires this land classification to maintain current operations.

Location: On Columbus Lake's left bank at river mile 349.5 in Monroe County, near Hamilton, MS. Access is via Kerr McGee Road from US Highway 45.

Description: The 129-acre McKinley Creek Recreation Area includes a large gravel parking area and a two-lane boat ramp and dock. The road leading into the area and the boat ramp are currently managed by Monroe County, MS. The area is generally flat and consists of fields previously used for agricultural purposes. Much of it has been planted in various hardwood species. During periods of heavy rain, the area is subject to flooding. The entire area is managed as Wildlife Mitigation Lands and Recreation.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.31 MORGAN'S LANDING RECREATION AREA (OUTGRANT)—PLATE TTWMP-CL-016

Management Agency: City of Aberdeen, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Morgan's Landing Recreation Area requires this land classification to maintain current operations.

Location: On Columbus Lake's right bank at river mile 355.5 in Monroe County, near Aberdeen, MS. Access is via Gardner Road from US Highway 45.

Description: The 45-acre Morgan's Landing Recreation Area is primarily used for camping, boating, and picnicking. The park's facilities include a group picnic shelter, a dump station, a boat ramp, individual picnic tables, Class B campsites, and a comfort station. The park is located just off the main channel of the old river cut-off. With the exception of the steep riverbanks, this natural area is generally flat with mixed pine/hardwood as the primary forest cover. A large grassy area is located in the south-central area of the park.

At the time this Master Plan is being written, the Campground is closed due to noncompliance. It is anticipated that this portion of park will reopen before the five year review, so the classification of High Density Recreation has been used in lieu of Multiple Resource Management: Inactive or Future Recreation Area.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

ABERDEEN LAKE

5.32 ABERDEEN WEST BANK—PLATE TTWMP-AB-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Aberdeen West Bank requires these land classifications to maintain current operations.

Location: On Aberdeen Lake's left and right banks at river mile 357.5 in Monroe County, near Aberdeen, MS. Access is via Coontail Road from US Highway 45.

Description: The 34-acre Aberdeen West Bank is located on the large open grassy areas on the west side of Aberdeen Lock and Dam that were created by the construction of the lock and dam. The riverbank upstream and downstream of the lock and dam is protected with large riprap. The area includes the lock control building, Devil's Elbow boat ramp, 32 boat parking spots, two comfort stations (one of which is currently closed), and a fishing deck, which was closed in 2019 due to flood damage.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Provide expanded access for use by the elderly and individuals with disabilities.

- Promote consumptive resource use, such as fishing and hunting.

- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort stations, picnic shelter, wooden stairs from the parking area to boat ramp, and loading dock.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Install an electronic fee machine.
    - Potentially remove the comfort station at end-of-the-road turn-around area.

5.33 ABERDEEN EAST BANK

5.33A ABERDEEN EAST BANK PART I—PLATE TTWMP-AB-002

5.33B ABERDEEN EAST BANK PART II—PLATE TTWMP-AB-003

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple Resource Management: Future or Inactive Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple Resource Management: Future or Inactive Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Rationale: Aberdeen East Bank requires these land classifications to maintain current operations.

Location: On Aberdeen Lake's right bank at river mile 357.5 in Monroe County, near Aberdeen, MS. Access is via Old MS Highway 25 from US Highway 45.

Description: The 10-acre Aberdeen East Bank Part I is located on the large open grassy areas on the east bank of Aberdeen Lock and Dam that were created by the construction of the lock and dam. The riverbank upstream and downstream of the lock and dam is protected with large riprap. The area includes a paved parking lot with 20 parking spaces for cars, a waterborne comfort station, and a fishing deck.

The 3-acre Aberdeen East Bank Part II is located on the east bank of the lock and dam, south of Aberdeen East Bank Part I. It is a historic train depot.

Site-Specific Resource Objectives:

- Provide expanded access for use by the elderly and individuals with disabilities.
- Promote consumptive resource use, such as fishing.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas.
    - Maintain the fishing deck and comfort station.
    - Reopen the fishing deck.

5.34 BLUE BLUFF DAY USE AREA

5.34A BLUE BLUFF DAY USE AREA PART I—TTWMP-AB-004

5.34B BLUE BLUFF DAY USE AREA PART II—TTWMP-AB-005

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Blue Bluff Day Use Area requires these land classifications to maintain current operations.

Location: On Aberdeen Lake's right bank at river mile 359 in Monroe County, near Aberdeen, MS. Access is via Coontail Road from US Highway 45.

Description: The 236-acre Blue Bluff Day Use Area is named for the majestic clay and limestone cliffs that border the picnic area on the eastern side. The bluff rises 80' above

the water and provides a lofty view of Aberdeen Lake and the nearby lock and dam. The day use area is made up of the picnic area located on the bluff, Blue Bluff Boat Ramp, Blue Bluff Beach, and a bank-fishing area near the minimum flow structure. This whole area consists of mixed pine/hardwood stands.

The 43-acre Blue Bluff Day Use Area Part I includes a swimming area, boat ramp, and minimum flow structure fishing area. It is located on the levee of the Aberdeen Lock and Dam and consists of grassy areas, which are frequently mowed. The boat ramp includes ample parking spaces and a waterborne comfort station. The beach includes plenty of parking spaces, a multi-use court, a playground, individual picnic tables, a group shelter, and a waterborne comfort station. The minimum flow area includes a parking area and bank-fishing opportunities. A large courtesy dock and gazebo-style group shelter are located in the middle of the park. A large hunting area south of the parks can be accessed from the many parking areas along the road.

The 193-acre Blue Bluff Day Use Area Part II includes the picnic area on the bluff and the forest surrounding it to the east. The picnic area includes three large picnic shelters, a walking trail, individual picnic tables, and a waterborne comfort station. There is an approximately 0.3 mile walking trail with wooden stairs and bridges connecting the three large picnic shelters through the woods along the edge of the bluff. In 2019 a large portion of the bluff sloughed off, taking important infrastructure in the middle of the trail with it. The trail is now closed between the second and third picnic shelters.

The forest along the edge of the picnic area is divided by the road leading into the campground. The forest area east of the road may be used for hunting, and there is a large lake that is used for fishing. The forest area west of the road borders picnic area and is closed to hunting.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Control noxious weeds and other pests in a manner that avoids damage to existing desirable vegetation and sensitive areas (wetlands and streams).
- Develop and maintain wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort stations, picnic shelters, playgrounds, docks, fee machine, swim beach, and fishing piers.
    - Install an electronic fee machine.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially renovate the Blue Bluff Boat Ramp comfort station from a sewer system with lift station to a septic tank and field line.
    - Potentially increase the ease of access to the river for kayakers by installing a loading zone.
    - Due to erosion concerns, reroute the hiking trail away from the overlooks in order to partially reopen that area.
    - Remove the bridge to the island at the swim beach.
    - Remove the stairs/water access off of the hiking trail.

5.35 BLUE BLUFF CAMPGROUND—PLATE TTWMP-AB-006

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Blue Bluff Campground requires these land classifications to maintain current operations.

Location: On Aberdeen Lake's right bank at river mile 359 in Monroe County, near Aberdeen, MS. Access is via Coontail Road from US Highway 45.

Description: The Blue Bluff area is named for the majestic clay and limestone cliffs that border the picnic area on the eastern side. The 46-acre Blue Bluff Campground (28.7 acres of which are developed) has sites that are located on the lakeshore in a low, flat area, which occasionally floods during periods of heavy rain. The lakeshore consists of cypress and hardwoods. The campground includes 92 Class A campsites, all with water and electric hookups. The area also includes two comfort stations with showers and laundry facilities, a reservable group shelter, five fishing piers, a boat ramp with trailer parking, a dump station, and two 24-hour park attendants onsite. There is only one reservable campsite in the campground with sewage hookup capability. Many of the campsites along the waterfront are vulnerable to and are already experiencing erosion. Bank stabilization measures will be necessary in the future.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, comfort stations, bridges, shelter, playgrounds, ball courts, docks, host sites, and fishing piers.
    - Potentially add sewage hookup accessibility to more campsites.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.

- Potentially improve drainage in the park.
- Stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion.

5.36 BECKER BOTTOM ACCESS AREA—PLATE TTWMP-AB-007

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Becker Bottom Access Area requires these land classifications to maintain current operations.

Location: On Aberdeen Lake's left bank at river mile 364 in Monroe County, MS. Access is via Sink Road from MS Highway 25.

Description: The 8-acre Becker Bottom Access Area is located adjacent to an old river cut-off. The area is entirely open and is covered in grasses and planted hardwoods. It is currently used as a boat-launching area and provides direct access to Aberdeen Lake.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.

- Maintain the electronic fee machine.
- Potentially construct a waterborne comfort station.
- Potentially install a picnic shelter.

CANAL SECTION

5.37 AMORY RECREATION AREA

5.37A AMORY RECREATION AREA PART I (EAST)—PLATE TTWMP-AM-001

5.37B AMORY RECREATION AREA PART II (WEST)—PLATE TTWMP-AM-0002

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Amory Recreation Area requires these land classifications to maintain current operations.

Location: Amory Recreation Area Part I (East) is located on the left bank of the Canal Section at river mile 371 in Monroe County, MS. Access is via Amory Boat Ramp Road from MS Highway 25. Amory Recreation Area Part II (West) is located on the west levee of the TTW. Access is via Old Highway 6/Blackcat Bottom Road and the levee road from MS Highway 6.

Description: The 31-acre Amory Recreation Area Part I (East) is used primarily as a boat-launching facility, but it also has a group shelter for picnickers on the east side of Amory Pool. The park land is generally flat. Except for the grassy mowed areas around the facilities, the park is forested almost entirely with young loblolly pine and eastern red cedar. Only after extremely high rainfall is the area subject to flooding. At the time of this Master Plan, the City of Amory, MS, has expressed interest in leasing and developing this portion of the recreation area.

The 2-acre Amory Recreation Area Part II (West) is a fishing deck below the spillway on the west side of Amory Lock. The park has a gravel parking lot, a permanent chemical comfort station, and a walkway from the gravel lot to the pier.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort stations, picnic shelter, dock, and fishing pier.

5.38 AMORY LOCK EAST BANK—PLATE TTWMP-AM-003

Management Agency: USACE, City of Amory, MS

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Amory Lock East Bank requires these land classifications to maintain current operations.

Location: On the left and right banks of the Canal Section at river mile 371 in Monroe County, MS. Access is via MS Highway 25 and Guy Pickle Drive from MS Highway 6.

Description: The 63-acre Amory Lock East Bank is adjacent to Amory Lock on the east bank of the TTW and is popular with sightseers who want to watch boat traffic pass through the lock. The park land is located on the flat, grassy areas created by the construction of the lock and dam facilities. Besides parking, the park's only amenity is a group shelter. A segment of the area located on the left bank of the river has been replanted in strips of loblolly pine and various hardwood species. Also located on the left bank is a pollinator garden, which is maintained by the Amory Flower Lovers Garden Club.

When this Master Plan was first being written, the City of Amory, MS, and the American Disc Golf Association proposed to add a disc golf course to the park. Over the years, however, the City of Amory changed its vision for the park. Updated plans produced by the City include cabins, an RV park, a marina, a swimming beach, picnic pavilions, an event center, sports fields, a walking track, and parking areas. As the current Master Plan is being finished, discussions about the ability to construct the proposed features and details of the proposed lease agreement have been initiated. The results of this partnership will be captured in the five-year review of this Master Plan.

Site-Specific Resource Objectives:

- Provide expanded access for use by the elderly and individuals with disabilities.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
- Develop and maintain the facilities to serve the recreation public in the future as needed.
    - Repave the road and parking areas.
    - Maintain the arboretum and surrounding area.
    - Potentially add a disc golf course.

5.39 SMITHVILLE—PLATE TTWMP-SM-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Smithville requires these land classifications to maintain current operations.

Location: On the left bank of the Canal Section at river mile 377 in Monroe County, MS. Access is via Glover Wilkins Road from MS Highway 25.

Description: The 53-acre Smithville area provides access to Smithville Pool for the boating public. The land is generally flat and open, and most of the area is maintained in grasses. Only during periods of extremely high rainfall is the area subject to flooding. The area includes plenty of parking, a waterborne comfort station, and a boat ramp. On the western end of the park the road ends in a gravel parking lot that provides convenient access to a fishing pier below the minimum flow area, giving access to Amory Pool.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Maintain the comfort station, fishing pier, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Potentially upgrade walkway access to the comfort station by removing the wooden footbridge and replacing it with a concrete box culvert.

5.40 IRONWOOD BLUFF BOAT RAMP (OUTGRANT)—PLATE TTWMP-SM-002

Management Agency: Itawamba County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Ironwood Bluff Boat Ramp requires this land classification to maintain current operations.

Location: Access is via Van Buren Carolina Road from MS Highway 371 or via Van Buren Road from MS Highway 178. Where the two Van Buren roads meet, a gravel road grants access to the ramp.

Description: The 2-acre Ironwood Bluff Boat Ramp is located on the west levee of the TTW, giving access to Smithville Pool. This park includes a gravel parking area, a boat ramp, and a dock.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.41 BEANS FERRY BOAT RAMP (OUTGRANT)—PLATE TTWMP-SM-003

Management Agency: Itawamba County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Beans Ferry Boat Ramp requires this land classification to maintain current operations.

Location: On the left bank of the Canal Section at river mile 384.6 in Itawamba County, MS. Access is via Government Access Road from MS Highway 25.

Description: The 5-acre Beans Ferry Boat Ramp is located on the east side of the TTW, giving access to Smithville Pool. Part of the park is tied into a small levee that is part of the Reeds Creek Drainage Structure. The ramp is located in a small manmade cove and is positioned on the interior of the cut-out to enable boaters to launch vessels while protected from the wave action of other waterway traffic. The entire cove is protected from erosion by a wooden bulkhead with a section of walkway that serves as a courtesy dock. A gravel parking lot covers most of the rest of the property.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.42 FULTON LOCK FISHING AREA—PLATE TTWMP-FN-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Fulton Lock Fishing Area requires these land classifications to maintain current operations.

Location: Access is via a gravel levee road from MS Highway 178.

Description: The 1.5-acre Fulton Lock Fishing Area is on the levee on the west side of Fulton Lock Spillway. The park offers a gravel parking area, permanent chemical comfort stations, a walkway, and a fishing pier giving access to Smithville Pool.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Maintain the comfort station and fishing pier.

5.43 FULTON WALKING TRAIL (OUTGRANT)—PLATE TTWMP-FN-002

Management Agency: City of Fulton, MS

Land Classification: Easement, Operations

Recommended Future Use: Easement, Operations

Rationale: Fulton Walking Trail requires these land classifications to maintain current operations.

Location: On the east bank of the Canal Section at river mile 393 in Fulton, Itawamba County, MS. Access is from John E. Rankin Road/North Access Road from Old MS Highway 78.

Description: The 6-acre Fulton Walking Trail is a paved walking/biking path along the eastern levee of the TTW. Parking and a group shelter are located on the northern end of the walkway on City of Fulton, MS, property. The majority of the walkway and two parking lots exist on USACE property.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.44 HIGHWAY 78 RAMP (OUTGRANT)—PLATE TTWMP-FN-003

Management Agency: Itawamba County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Highway 78 Ramp requires this land classification to maintain current operations.

Location: On the right bank of the Canal Section at river mile 390 in Itawamba County, MS. Access is via Old MS Highway 78 from the new US Highway 78.

Description: The 6-acre Highway 78 Ramp is located on the west levee of the TTW, giving access to Fulton Pool. The interior access road runs along the top of the levee, which was cut away for placement of the launching ramp. A riprap jetty protects the end

of the ramp from wave action while the interior bank is protected from erosion by a wooden bulkhead.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.45 FULTON BOAT RAMP—PLATE TTWMP-FN-004

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Fulton Boat Ramp requires these land classifications to maintain current operations.

Location: On the east bank of the Canal Section at river mile 393 in Fulton, Itawamba County, MS. Access is from John E. Rankin Road/North Access Road from Old MS Highway 78.

Description: The 8-acre Fulton Boat Ramp is located south of Jamie L. Whitten Park and Visitor Center and Jamie L. Whitten Campground. It allows access to Fulton Pool and is run via electronic fee machine. Campers staying in Jamie L. Whitten Campground are allowed to launch from this ramp. The park has a parking lot, dock, fishing pier, picnic area, and waterborne comfort station. At the southern end of the park is the start of a disc golf course, which connects Fulton Boat Ramp with Jamie L. Whitten Park and Visitor Center.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Provide expanded access for use by the elderly and individuals with disabilities.

- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort station, dock, picnic sites, fishing pier, and disc golf course.
    - Potentially upgrade the comfort station to add air conditioning and increase accessibility.

5.46 JAMIE L. WHITTEN HISTORICAL CENTER AND PARK—PLATE TTWMP-FN-005

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Jamie L. Whitten Historical Center and Park requires these land classifications to maintain current operations.

Location: On the east bank of the Canal Section at river mile 393 in Fulton, Itawamba County, MS. Access is from John E. Rankin Road/North Access Road from Old MS Highway 78.

Description: The 79-acre Jamie L. Whitten Historical Center and Park is located north of Fulton Boat Ramp. The amenities at these parks are connected via wooden bridges and walking paths. Jamie L. Whitten Park includes picnicking, group shelters, a playground, a basketball court, and a fishing pier, which extends far into the pool, giving visitors a scenic view of the surrounding area. The disc golf course, which begins at Fulton Boat Ramp, winds through the forested area on the eastern side of the park.

The Historical Center, which opened in August 1992, presents visitors with an in-depth look at the different Government agencies operating in the area and the public services each of these agencies provide. The displays inside of the Historical Center have not been updated since it opened.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Provide expanded access for use by the elderly and individuals with disabilities.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking paths.
    - Maintain the visitor center, bridges, shelters, picnic areas, playground, ball courts, disc golf course, and fishing piers.
    - Potentially add a vehicle compound.
    - Potentially improve lighting on the walking paths.

5.47 JAMIE L. WHITTEN CAMPGROUND—PLATE TTWMP-FN-006

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Jamie L. Whitten Campground requires these land classifications to maintain current operations.

Location: On the east bank of the Canal Section at river mile 393 in Fulton, Itawamba County, MS. Access is from John E. Rankin Road/North Access Road from Old MS Highway 78.

Description: The 46-acre Jamie L. Whitten Campground is located north of Jamie L. Whitten Historical Center and Park. It has 62 Class A campsites, a swim beach, a gazebo-style group shelter, an amphitheater, three comfort stations with showers and laundry facilities, three fishing piers, a dump station, and two 24-hour park attendants onsite. This campground is in a wooded and hilly upland environment. Due to erosion, washing is occurring around several campsites; bank stabilization is necessary to address this problem.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking paths, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, wooden bridges, shelter, beach, and fishing piers.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially improve the existing lighting on walking paths to a greener option.
    - Potentially add sewage hookup accessibility for campsites.
    - Either stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion or move the vulnerable campsites.

5.48 RANKIN LOCK AND DAM FISHING AREA—PLATE TTWMP-RN-001

Management Agency: USACE

Land Classification: High-Density Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Rationale: Rankin Lock and Dam Fishing Area requires these land classifications to maintain current operations.

Location: In Fulton, Itawamba County, MS approximately at river mile 398. Access is from John E. Rankin Road via Senter Drive and Lock D Road.

Description: The 1.4-acre Rankin Lock and Dam Fishing Area is on the east side of Rankin Lock and Dam Spillway. It offers a gravel parking area, permanent chemical comfort stations, a walkway, and a fishing pier, giving access to Fulton Pool.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for fishing.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
- Develop and maintain the facilities to serve the recreation public in the future as needed.
    - Maintain the comfort stations, parking area, and fishing pier.
    - Potentially upgrade the comfort stations to waterborne facilities.
    - Potentially pave the access road and parking area.

5.49 BEAVER LAKE RECREATION AREA

5.49A BEAVER LAKE RECREATION AREA PART I—PLATE TTWMP-RN-002

5.49B BEAVER LAKE RECREATION AREA PART II—PLATE TTWMP-RN-003

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Beaver Lake Recreation Area requires these land classifications to maintain current operations.

Location: On the left bank of the Canal Section at river mile 397.6 in Itawamba County, MS. Access is via John E. Rankin Road.

Description: The 27-acre Beaver Lake Recreation Area Part I is located on the east side of Rankin Pool. Amenities include a paved boat ramp that provides access to Rankin Pool, a parking lot, a picnic shelter, a dock, and a waterborne comfort station.

The 259-acre Beaver Lake Recreation Area Part II is primarily used to access Old Beaver Lake via a small gravel boat ramp and parking area. Most of this undeveloped and heavily forested area may be used for hunting and fishing.

Total Land: 286 acres
Developed Acreage: 3.8 acres

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

- Maintain the pavilion, paved areas, comfort stations, and dock.
- Maintain the ingress and egress at the boat ramp through dredging.

5.50 WALKER'S LEVEE BOAT RAMP (OUTGRANT)—PLATE TTWMP-RN-004

Management Agency: Itawamba County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Walker's Levee Boat Ramp requires this land classification to maintain current operations.

Location: On the right bank of Pool D at river mile 403.2 in Itawamba County, MS. Access is via Itawamba County roads from MS Highway 4.

Description: The 5-acre Walker's Levee Boat Ramp is located on the western levee of the TTW, granting access to Rankin Pool. The park consists of a two-lane boat ramp, two courtesy docks, and a gravel parking area.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.51 G.V. "SONNY" MONTGOMERY LOCK & DAM FISHING AREA—PLATE TTWMP-MG-001

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: G.V. "Sonny" Montgomery Lock & Dam Fishing Area requires these land classifications to maintain current operations.

Location: On the right bank of Pool D at river mile 403.2 in Itawamba County, MS. Access is via Itawamba County roads from MS Highway 4.

Description: The 6-acre G.V. “Sonny” Montgomery Lock & Dam Fishing Area is located on the east side of the TTW, granting fishing access to Rankin Pool. The park includes a paved parking area, a permanent chemical comfort station, and a concrete pier. The fishing pier is strategically located to provide access to the tailrace area.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lakeside access for fishing.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Maintain the paved areas, comfort station, and pier.
    - Potentially upgrade the comfort station to a waterborne facility.

5.52 SAUCER CREEK—PLATE TTWMP-MG-002

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Saucer Creek requires these land classifications to maintain current operations.

Location: On the left bank of the Canal Section at river mile 406 in Prentiss County, MS. Access is via John E. Rankin Road from MS Highway 4.

Description: The 8-acre Saucer Creek is located on the east side of the TTW, granting access to Montgomery Pool. It is the only launching ramp on Montgomery Pool. The park area has a paved parking area that accommodates a double-lane boat ramp, permanent chemical comfort stations, and a fixed courtesy boat dock. The park land is

extremely flat and is covered with grass and a few ornamental trees and shrubs. It floods only rarely when record amounts of rainfall occur.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort station, boat ramp, and dock.
    - Potentially upgrade the comfort station to a waterborne facility.

BAY SPRINGS LAKE

5.53 BAY SPRINGS SITE OFFICE AND VISITOR CENTER—PLATE TTWMP-BS-001

Management Agency: USACE

Land Classification: High-Density Recreation, Operations, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Operations, Multiple-Resource Management Lands: Wildlife Management

Rationale: Bay Springs Site Office and Visitor Center requires these land classifications to maintain current operations.

Location: To the east of Jamie L. Whitten Lock and Dam at 82 Bay Springs Resource Road in Dennis, MS. Access is via Bay Springs Road from MS Highway 4.

Description: The site office, some associated parking areas, and the boat storage building at the 22-acre Bay Springs Site Office and Visitor Center are classified as operations. The site office lobby serves as a visitor center, which is open to the public and features exhibits on the history of the area, the TTW, and wildlife species. The Butler Dogtrot Cabin is a historical feature that was relocated to its current position during TTW construction. There is also an overlook featuring views of Bay Springs Lake and Jamie L. Whitten Lock and Dam. A public dock on the west side of the park provides access to the visitor center from the water.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.
- Interpret the cultural resources to benefit visitors' understanding while preserving and monitoring the integrity of those resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas.
    - Maintain the dock, walking trails and paths, interpretive exhibits in the museum, and cabin.
    - Potentially add electricity to the cabin.
    - Potentially add an interpretive feature to the overlook.
    - Add a picnic shelter.

5.54 OLD BRIDGE BEACH—PLATE TTWMP-BS-002

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Old Bridge Beach requires these land classifications to maintain current operations.

Location: To the west of Jamie L. Whitten Lock and Dam on the southwestern edge (right bank) of Bay Springs Lake at river mile 412 in Tishomingo County, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 16-acre Old Bridge Beach is mainly used as a swimming beach and for picnicking. Three group shelters and a waterborne comfort station are available for use along with a volleyball court on the beach and an outdoor shower facility. The beach area is relatively flat with the surrounding area being mostly hills and valleys with mixed pine hardwood cover. Other uses include a fishing pier and courtesy dock. Congestion is an issue at this area due to high visitation.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads and parking areas.

- Maintain the beach area, comfort station, fishing pier, dock, outdoor shower facilities, and volleyball court.
- Potentially pave the overflow parking area.
- Potentially add a clothes-changing facility or renovate the comfort station to include room for changing clothes.

5.55 COTTON SPRINGS—PLATE TTWMP-BS-003

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Cotton Springs requires these land classifications to maintain current operations.

Location: On the east side (left bank) of Bay Springs Lake at river mile 412.5 in Tishomingo County, MS. Access is via Tishomingo County roads from MS Highway 4.

Description: The 4-acre Cotton Springs consists of rolling hills with a mixture of hardwoods and pine. It includes a boat ramp, a boat dock, picnic sites, a fishing pier, and a waterborne comfort station.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

- Repave the roads, parking areas, and boat ramp.
- Maintain the ingress and egress at the boat ramp through dredging.
- Maintain the comfort station, dock, and fishing pier.
- Potentially add five picnic sites to the preexisting picnic area.

5.56 WEST DAMSITE RECREATION AREA—PLATE TTWMP-BS-004

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: West Damsite Recreation Area requires these land classifications to maintain current operations.

Location: On the right bank of Bay Springs Lake at river mile 413 in Prentiss County, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 133-acre West Damsite Recreation Area is a multiple-use area that includes a picnic area and a boat ramp area. The picnic area has group shelters, individual picnic sites, a playground, a fishing pier, and a waterborne comfort station. The boat ramp has a fishing pier, two courtesy docks, a small group shelter, and a waterborne comfort station. Adjacent to the boat ramp is Bay Springs Marina. Access to the marina is through this park and past the boat ramp area.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort stations, picnic shelters, picnic sites, playground docks, and fishing pier.

5.57 BAY SPRINGS MARINA (OUTGRANT)—PLATE TTWMP-BS-005

Management Agency: Mills, F.E.

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Bay Springs Marina requires this land classification to maintain current operations.

Location: On the right bank of Bay Springs Lake, north of West Damsite Recreation Area, near river mile 413 in Prentiss County, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 28-acre Bay Springs Marina is operated as a concession area and provides moorage facilities, fueling docks, and a store. There is also a caretaker's residence on the premises. The area is relatively flat except for a few intermittent streams along the northern edge of the marina. The undeveloped area is forested with mixed pine and hardwoods. The shoreline around the marina is protected with large riprap.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.58 GIN BRANCH BOAT RAMP (OUTGRANT)—PLATE TTWMP-BS-006

Management Agency: Prentiss County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Gin Branch Boat Ramp requires this land classification to maintain current operations.

Location: On the right bank of Bay Springs Lake at river mile 413. 7 in Prentiss County, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 4-acre Gin Branch consists of a one-lane concrete boat area with a gravel parking area for approximately 15 cars/trailers. A large grassy field where overflow parking is allowed could accommodate approximately 56 spaces. The site is relatively open and flat other than a small area of mixed pine and hardwoods on the east side of the park.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.59 MACKEY'S CREEK BOY SCOUT AREA (OUTGRANT)—PLATE TTWMP-BS-007

Management Agency: Yocona Area Council, Boy Scouts of America

Land Classification: Multiple Resource Management: Low-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Wildlife Management

Rationale: Upon the expiration of the current lease, Mackey's Creek Recreation Area will become a wildlife area managed by USACE.

Location: On the west side (right bank) of Bay Springs Lake between river miles 413 and 414 in Prentiss and Tishomingo Counties, MS. Access is via Prentiss County Road 3501 from MS Highway 4 or MS Highway 30.

Description: The 1,106-acre Mackey's Creek Boy Scout Area is a peninsula whose only amenities are a group shelter and a gravel parking area. The park is primarily used for Boy Scout retreats and camping trips. Its rolling hills are covered with some pine plantations and a mixture of upland hardwoods and pine. The soils are sandy loam and

are well drained. There is one inholding—an old cemetery—in the southern portion of the park.

When the lease expires in 2024, the lease area will either not be renewed or be reduced to a smaller portion of the peninsula. This could allow for hunting and wildlife management on the remaining part of the peninsula.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.60 BAYBERRY RAMP (OUTGRANT)—PLATE TTWMP-BS-008

Management Agency: Prentiss County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Bayberry Access Area requires this land classification to maintain current operations.

Location: On the west side (right bank) of Bay Springs Lake at river mile 414 in Prentiss County, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 10-acre Bayberry Ramp has a concrete boat ramp, dock, and gravel parking lot. The southern end of the park contains an old house site with an open field and part of a pine plantation.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.61 PINEY GROVE CAMPGROUND

5.61A PINEY GROVE CAMPGROUND PART I—PLATE TTWMP-BS-009

5.61B PINEY GROVE CAMPGROUND PART II—PLATE TTWMP-BS-010

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Piney Grove Campground requires these land classifications to maintain current operations.

Location: On the west side (right bank) of Bay Springs Lake between river mile 414 and 415 in Prentiss and Tishomingo Counties, MS. Access to Piney Grove Campground Part I is via Prentiss County Road 3501 from MS Highway 4. The only access to Piney Grove Campground Part II is via boat.

Description: The 85-acre Piney Grove Campground Part I is located at the southern end of a peninsula. It contains 141 Class A campsites, three waterborne comfort stations with shower facilities, a laundry facility, a boat ramp, a dock, an amphitheater, two fishing piers, a playground, a gazebo-style shelter, two dump stations, two basketball courts, and an unpaved sports area for horseshoes. There are four park attendant campsites at the front of the campground. Two attendants work at the campground, and two work at Piney Grove Beach.

The 35-acre Piney Grove Campground Part II is an island east of Piney Grove Campground Part I. There are 11 primitive campsites in a cove on the east side of the island, overlooking the lake.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, walking/bike paths, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the gatehouse, fish-cleaning stations, overlooks, bridges, shelters, primitive campsites, docks, playgrounds, and fishing piers.
    - Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
    - Potentially add sewage hookup accessibility for campsites.
    - Either stabilize the eroding banks to prevent the campsites along the waterway from being damaged or lost to erosion or move the vulnerable campsites.

5.62 PINEY GROVE DAY USE AREA

5.62A PINEY GROVE BEACH - PLATE TTWMP-BS-011

5.62B PINEY GROVE DAY USE AREA PART I—PLATE TTWMP-BS-012

5.62C PINEY GROVE DAY USE AREA PART II—PLATE TTWMP-BS-013

5.62D PINEY GROVE DAY USE AREA PART III—PLATE TTWMP-BS-014

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Piney Grove Day Use Area requires these land classifications to maintain current operations.

Location: On the west side (right bank) of Bay Springs Lake between river miles 414 and 415 in Prentiss and Tishomingo Counties, MS. Access is via Prentiss County Road 3501 from MS Highway 4.

Description: The 13-acre Piney Grove Beach is located immediately north of Piney Grove Campground. It contains a beach, a waterborne comfort station with shower facilities, outdoor shower facilities, two group shelters, a volleyball court, an unpaved basketball area, and individual picnic sites. Due to the popularity of this park, two group shelters are proposed along with a kayak loading/unloading zone.

The 45-acre Piney Grove Day Use Area Part I is located immediately northwest of Piney Grove Beach. It is surrounded by a gently rolling forested area and includes a boat ramp, a dock, fishing, and a waterborne comfort station.

The 32-acre Piney Grove Day Use Area Part II is the northern-most developed park in Piney Grove Day Use Area. It is primarily used for picnicking. There is ample parking along with three reservable group shelters, a waterborne comfort station, individual picnic sites, and a wooden fishing pier, which needs significant repairs.

The 714-acre Piney Grove Day Use Area Part III is the northernmost park in Piney Grove Day Use Area. It is undeveloped and primarily used for hunting.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.
- Develop and maintain the wildlife habitat and forest resources.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.

- Maintain the gatehouse, beach, buoy line, ball courts, outdoor shower, comfort stations, fee machines, group shelters, picnic sites, docks, and fishing piers.
- Potentially upgrade the comfort stations to add air conditioning and increase accessibility.
- Potentially increase the ease of access to the river for kayakers by installing a loading/unloading zone.
- Potentially add two group shelters to the beach area.

5.63 NATCHEZ TRACE—PLATE TTWMP-BS-015

Management Agency: USACE

Land Classification: Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple-Resource Management Lands: Wildlife Management

Rationale: Natchez Trace requires this land classification to maintain operations.

Location: On the east side (left bank) of Bay Springs Lake near river mile 415.5 in Tishomingo County, MS. Access is via Tishomingo County Road 961 from MS Highway 4.

Description: The 1,012-acre Natchez Trace is an undeveloped park with rolling hills covered in small pines and hardwoods. It is bordered by Bay Springs Lake on three sides and has a general direction of slope toward the lake. Located in the southern portion of the park is a 250-acre loblolly pine plantation. The park is currently used primarily for hunting. Scattered throughout the area are several small wildlife food plots.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.64 MCDOUGAL BRANCH—PLATE TTWMP-BS-016

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: McDougal Branch requires these land classifications to maintain current operations.

Location: On the east side (left bank) of Bay Springs Lake near river mile 416.5 in Tishomingo County, MS. Access is via Tishomingo County Road 961 from MS Highway 4.

Description: The 83-acre McDougal Branch has a paved parking area and boat ramp, a dock, a fishing pier, a waterborne comfort station, a picnic shelter, and individual picnic sites. Its rolling hills slope toward the lake. The forest cover consists of pines and hardwoods.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the roads, parking areas, and boat ramp.
    - Maintain the ingress and egress at the boat ramp through dredging.
    - Maintain the comfort station, picnic shelter, dock, electronic fee machine, and fishing pier.

5.65 SANDER'S LANDING (COOPERATIVE AGREEMENT)—PLATE TTWMP-BS-017

Management Agency: Mississippi Department of Wildlife Fisheries, and Parks (MDWFP) and Tishomingo County, MS

Land Classification: Low-Density Recreation

Recommended Future Use: Low-Density Recreation

Rationale: Sander's Landing requires this land classification to maintain current operations.

Location: On the east side of Bay Springs Lake. Access is via Tishomingo County Roads 112, 413, and 415 from MS Highway 25.

Description: The 4-acre Sander's Landing has a gravel parking lot, a concrete boat ramp, and a dock. Its primary use is access to Bay Springs Lake.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.66 CROW'S NECK ENVIRONMENTAL CENTER (OUTGRANT)—PLATE TTWMP-BS-018

Management Agency: Fellowship Christian Retreat

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Crow's Neck Environmental Center requires this land classification to maintain current operations.

Location: On a peninsula on the east side (left bank) of Bay Springs Lake near river mile 415.5 in Tishomingo County, MS. Access is via Tishomingo County Road 961 from MS Highway 4.

Description: The 179-acre Crow's Neck Environmental Center property includes a multi-purpose building, four residential cabins, two covered outdoor classrooms, and an amphitheater, and it is used by local churches. The area is mostly forested, consisting of a mixture of hardwoods and pine, but it is closed for hunting. There is one inholding—an old cemetery—in the southern portion of the park.

At the time this Master Plan is being written, the current Fellowship Christian Retreat lease encompasses 54.05 acres. The process of adding additional land to the lease is underway and expected to complete by the five-year update. The size of the park in the description and maps reflects the entire Environmental Center Property, not the lease

footprint. The results of the renegotiation of the lease will be included in the five year review of the Master Plan.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.67 CROW'S NECK RAMP—PLATE TTWMP-BS-019

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Crow's Neck Ramp requires these land classifications to maintain current operations.

Location: On the east side of Bay Springs Lake. Access is via Old Dean Road and Crows Neck Road from Tishomingo Trace Street.

Description: The 4-acre Crow's Neck Ramp is the northernmost recreation area on Bay Springs Lake. It includes paved parking and boat ramp, a dock, a fishing pier, and a waterborne comfort station.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.

- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

- Develop and maintain the facilities to serve the recreation public in the future as needed.

    - Repave the roads, parking areas, and boat ramp.

    - Maintain the ingress and egress at the boat ramp through dredging.

    - Maintain the comfort station, dock, and fishing pier.

DIVIDE SECTION

5.68 PADEN—PLATE TTWMP-DS-001

Management Agency: USACE

Land Classification: High-Density, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Paden requires these land classifications to maintain current operations.

Location: On the east side (left bank) of the Divide Section channel near river mile 422 in Tishomingo County, MS. Access is via Tishomingo County Road 961 from MS Highway 30.

Description: The 10-acre Paden, the southernmost park on the Divide Section, is located within the city limits of Paden, MS. Mainly used for picnicking, it features ample parking, a group shelter, a waterborne comfort station, and individual picnic sites. The area's rolling hills are forested with scattered small pines and hardwoods. The slopes leading down to the water's edge are grassy.

Site-Specific Resource Objectives:

- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

- Develop and maintain the facilities to serve the recreation public in the future as needed.

    - Repave the road and parking area.

    - Maintain the comfort station, picnic area, and group shelter.

    - Potentially re-add a playground to the former playground area.

5.69 DIVIDE OVERLOOK—PLATE TTWMP-DS-002

Management Agency: USACE

Land Classification: Multiple Resource Management: Inactive and/or Future Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Multiple Resource Management: Inactive and/or Future Recreation Area, Multiple-Resource Management Lands: Wildlife Management

Rationale: Divide Overlook requires these land classifications to maintain current operations.

Location: On the east side (left bank) of the Divide Section channel near river mile 422 in Tishomingo County, MS. Access is via MS Highway 364 from MS Highway 25.

Description: The 12-acre Divide Overlook, located on the south end of the Divide Section, is closed. Its primary use was as an overlook area for viewing the Divide Section navigation channel. The only amenities are a Clevis Multrum comfort station and the overlook.

Site-Specific Resource Objectives:

- Develop and maintain the wildlife habitat and forest resources.

- Monitor and provide minimum care for low-use or closed recreation areas.

Development Needs:

- Continue to provide a justified level of service by updating and upgrading aging facilities and facility infrastructure in the future as needed.

5.70 HOLCUT MEMORIAL PARK AND DAY USE AREA—PLATE TTWMP-DS-003

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Holcut Memorial Park and Day Use Area requires these land classifications to maintain current operations.

Location: On the left bank of the Divide Section at river mile 427.7 in Tishomingo County, MS. Access is via Tishomingo County Road 364 from MS Highway 25.

Description: The 9-acre Holcut Memorial Park and Day Use Area is located close to the historic town site of Holcut, MS, whose citizens were displaced by the creation of the TTW. It features one large picnic shelter and a sightseeing area overlooking the TTW along with a memorial monument to the Town of Holcut. Additional facilities include water fountains, individual picnic sites, and a waterborne comfort station.

Site-Specific Resource Objectives:

- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote non-consumptive resource use, such as hiking, photography, wildlife viewing, and sightseeing.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.
    - Repave the road and parking areas.
    - Maintain the historical marker, comfort station, group shelter, and picnic sites.
    - Potentially add a playground.

5.71 CAIRO COMMUNITY CENTER (OUTGRANT)—PLATE TTWMP-DS-009

Management Agency: Tishomingo County, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Cairo Community Center requires this land classification to maintain current operations.

Location: Access is via Old Highway 30, MS Highway 364, and Tishomingo County Road 130 from MS Highway 30 in Booneville, MS.

Description: The 2-acre Cairo Community Center includes a gravel parking lot and a steel building used as a community center for the community of Cairo, MS. It is described as “Holcut Museum” on Google Maps.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.72 BURNSVILLE PARK & RAMP (OUTGRANT)

5.72A BURNSVILLE PARK & RAMP PART I (OUTGRANT)—PLATE TTWMP-DS-004

5.72B BURNSVILLE PARK & RAMP PART II (OUTGRANT)—PLATE TTWMP-DS-005

Management Agency: City of Burnsville, MS

Land Classification: High-Density Recreation

Recommended Future Use: High-Density Recreation

Rationale: Burnsville Park & Ramp requires this land classification to maintain current operations.

Location: On the west side (right bank) of the Divide Section channel at river mile 435 in Tishomingo County, near Burnsville, MS. Access is via a public access road from US Highway 72.

Description: The 6-acre Burnsville Park & Ramp Part I has paved parking and boat ramp, a courtesy dock, a group shelter, and a waterborne comfort station.

The 137-acre Burnsville Park & Ramp Part II is currently used by Burnsville, MS, residents for both baseball and softball. There are multiple group shelters for picnicking as well as a community center at the far end of the park. The forest cover surrounding

the baseball and softball fields is unevenly dispersed and consists of mixed pine and hardwoods.

Site-Specific Resource Objectives:

- Manage the lease in accordance with all applicable regulations and guidelines.

Development Needs:

- Be guided by the plan of record for the site in accordance with current applicable laws and regulations.

5.73 DOSKIE—PLATE TTWMP-DS-006

Management Agency: USACE

Land Classification: Operations, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: Operations, Multiple-Resource Management Lands: Wildlife Management

Rationale: Doskie requires these land classifications to maintain current operations.

Location: In Tishomingo County, MS. Access is via Tishomingo County Road 293 from MS Highway 365.

Description: The 13-acre Doskie is an undeveloped area. Parking is permitted at the end of a gravel road that ends before hitting a creek. Most visitors park and walk an approximate half mile to a minimum-flow structure to fish.

Site-Specific Resource Objectives:

- Promote consumptive resource use, such as fishing.

- Monitor and provide minimum care for low-use or closed recreation areas.

Development Needs:

- Continue to provide a justified level of service by updating and upgrading aging facilities and facility infrastructure in the future as needed.

5.74 SCRUGG'S BRIDGE RECREATION AREA

5.74A SCRUGG'S EAST PICNIC AREA—PLATE TTWMP-DS-007

5.74B SCRUGG'S WEST BOAT RAMP—PLATE TTWMP-DS-008

Management Agency: USACE

Land Classification: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Recommended Future Use: High-Density Recreation, Multiple-Resource Management Lands: Wildlife Management

Rationale: Scrugg's Bridge Recreation Area requires these land classifications to maintain current operations.

Location: On the left and right banks of the Divide Section at river mile 443.5 in Tishomingo County, MS. Access is via Government access roads from MS Highway 25.

Description: The 34-acre Scrugg's East Picnic Area is the northeastern most recreation area on the TTW. It has ample parking, individual picnic sites, a fishing pier, and a waterborne comfort station. It is primarily used for picnicking and fishing. Many visitors like to fish along the riprap in the park.

The 16-acre Scrugg's West Boat Ramp is the northwesternmost recreation area on the TTW. It has individual picnic sites, a paved boat ramp, a dock, a waterborne comfort station, and both paved and gravel parking lots. Due to the popularity of this park, paving of the gravel parking lot and the addition of a group shelter have been proposed.

Site-Specific Resource Objectives:

- Provide the appropriate facilities for day-use activities and lake access for boaters.
- Enhance Architectural Barriers Act (ABA) access to appropriate locations.
- Promote consumptive resource use, such as fishing and hunting.

Development Needs:

- Upgrade the aging facilities and facility infrastructure to improve operational efficiencies and to better meet visitor needs, including improving ABA accessibility and general park security.

- Repave the roads, parking areas, and boat ramp.
- Maintain the ingress and egress at the boat ramp through dredging.
- Maintain the comfort station, picnic areas, dock, electronic fee machine, and fishing pier.
- Potentially add a picnic shelter at the boat ramp.
- Potentially increase paved parking.

WILDLIFE MANAGEMENT AREAS (WMAS)

All separable lands purchased for the Tennessee-Tombigbee Waterway (TTW) Mitigation Project are licensed to the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) or the Alabama Department of Conservation and Natural Resources (ADCNR) for management in accordance with Water Resources Development Act of 1986 (WRDA), Public Law 99-662. For more information regarding the TTW Mitigation Program refer to chapter 6.1.

5.75 CANAL SECTION WMA—PLATES TT22MP-OC-21-31 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Management

Recommended Future Use: Wildlife Management

Rationale: Canal Section WMA requires this land classification to maintain current operations.

Location: In Prentiss, Itawamba, and Monroe Counties, near Fulton, MS. Access to the Canal Section WMA headquarters is via US Highway 78 and MS Highway 178 from the intersection of US Highway 78 and MS Highway 25 in Fulton, MS.

Description: The 28,994-acre Canal Section WMA is primarily hardwood and swamp bottomland with shallow meandering streams and open lands, which were previously farmed. North of Amory, MS, habitat is mostly bottomland hardwood. The open areas south of Amory were reforested in hardwood tree species in the early 1990s. These different natural habitats, along with human-made waterfowl impoundments and numerous summer and winter food plots, are the reason deer, turkey, squirrel, rabbit and waterfowl are the most hunted species of animals in the area.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public use of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.76 DIVIDE SECTION WMA—PLATES TT22MP-OC-33-36 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Management

Recommended Future Use: Wildlife Management

Rationale: Divide Section WMA requires this land classification to maintain current operations.

Location: In Tishomingo and Prentiss Counties, near Iuka, MS. Access to the Divide Section WMA headquarters is via MS Highway 25 and Tishomingo County Highway 364 from the intersection of US Highway 72 and MS Highway 25 in Iuka, MS.

Description: The 15,802-acre Divide Section WMA includes approximately 5,000 acres of disposal areas, where excavation and dredge material generated in the waterway construction was deposited to form a terraced, rolling prairie effect. These approximately 32 areas were heavily seeded with serecia lespedeza, weeping love grass, and fescue to control erosion, and were later planted with various hardwood tree species. The remainder of the area is in upland mixed pine/hardwood of various ages and composition.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.

- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.77 WARD BAYOU WMA—PLATES TT22MP-OC-37 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Ward Bayou WMA requires this land classification to maintain current operations.

Location: In Jackson County, approximately 15 miles north of Pascagoula, MS, near Moss Point, MS. Access to the Ward Bayou headquarters is via MS Highway 63, Wade-Vancleave Road, Old River Road, Old River Road Loop, and Ward Bayou Road from Moss Point, MS. Access to the property is via MS Highways 63 and 614, Jackson County roads, and boat.

Description: The 13,429.2-acre Ward Bayou WMA, located in the heart of the Pascagoula River Basin, is bounded to the north by the State of Mississippi-owned and -managed 38,994-acre Pascagoula River WMA (located in Jackson and George Counties, MS).

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.78 MOBILE-TENSAW DELTA WMA—PLATES TT22MP-OC-38 AND TT22MP-WMA-1

Management Agency: Alabama Department of Conservation and Natural Resources (ADCNR)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Mobile-Tensaw Delta WMA requires this land classification to maintain current operations.

Location: Access is via US Highway 43 and Station Avenue from Mobile, AL.

Description: The 22,659-acre Mobile-Tensaw Delta WMA consists of acquisitions in Baldwin and Mobile Counties, AL. These tracts include bottomland hardwoods, cypress/tupelo swamps, bogs, marshes and a variety of other wetland habitat types interspersed amid abundant waterways of rivers, creeks, sloughs, ponds, and lakes. They offer a variety of outdoor activities, such as hunting, fishing, canoeing and camping.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.79 LOWNDES WMA—PLATES TT22MP-OC-39 AND TT22MP-WMA-1

Management Agency: Alabama Department of Conservation and Natural Resources (ADCNR)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Lowndes WMA requires this land classification to maintain current operations.

Location: In Lowndes County, about 30 miles west of Montgomery, AL. Access is via US Highway 80 and a gravel road about a mile before Big Swamp Creek from I-65 in Montgomery, AL. Access to the WMA is via US Highway 80, various Lowndes County roads, and boat.

Description: The majority of the 10,743-acre Lowndes WMA, located in the heart of the Alabama River Subbasin, is adjacent to privately owned lands. Due to the rich alluvial soils, much of the land has been in cultivation, specifically extensive row crop farming, with cotton as the major cash crop.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.80 DAVID K. NELSON WMA—PLATES TT22MP-OC-40 AND TT22MP-WMA-1

Management Agency: Alabama Department of Conservation and Natural Resources (ADCNR)

Land Classification: Wildlife Mitigation and Wildlife Management

Recommended Future Use: Wildlife Mitigation and Wildlife Management

Rationale: David K. Nelson WMA requires this land classification to maintain current operations.

Location: In Sumter, Greene, Hale, and Marengo Counties, AL, at the confluence of the TTW and the Black Warrior River. The nearest town is Demopolis, AL.

The Damsite Unit, located in Sumter County across the Tombigbee River from the city of Demopolis and Demopolis Lock and Dam, is the only unit accessible by vehicle. Access is via Sumter County Road 23, near the Belmont, AL, community.

Description: The 3,563-acre David K. Nelson WMA lies on both sides of the TTW and the Black Warrior River.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.81 NANIH WAIYA WMA—PLATES TT22MP-OC-41 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Nanih Waiya WMA requires this land classification to maintain current operations.

Location: In Neshoba and Winston Counties, near Philadelphia, MS. Access to the Nanih Waiya WMA headquarters is via MS Highway 15 and Neshoba County Highway 832 from Philadelphia, MS.

Description: The 8,263.5-acre Nanih Waiya WMA lies along the Pearl River at the confluence of Nanih Waiya and Tallahaga Creeks in east-central Mississippi.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.82 MAHANNAH WMA—PLATES TT22MP-OC-42 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Mahannah WMA requires this land classification to maintain current operations.

Location: Mahannah WMA is located in Issaquena and Warren Counties, north of Vicksburg, MS, near Redwood, MS. Access to the Mahannah WMA headquarters is via MS Highway 61, Floweree Road, and Anderson-Tully Road from Vicksburg, MS.

Description: The 12,960.6-acre Mahannah Wildlife Management Area (WMA) consists of bottomland hardwoods, agriculture fields, hardwood reforestation, and waterfowl impoundments. It is part of one of the most ecologically intact and biologically diverse bottomland hardwood ecosystems in the Mississippi Delta. The area is a unique balance of flooding timber, cypress swamps, and controlled-flooded agricultural lands. It provides habitat for some of the largest concentrations of wintering waterfowl in the Mississippi Delta.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.83 TWIN OAKS WMA—PLATES TT22MP-OC-43 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Mitigation

Recommended Future Use: Wildlife Mitigation

Rationale: Twin Oaks requires this land classification to maintain current operations.

Location: In Sharkey County, north of Vicksburg, MS, near Rolling Fork, MS. Access to the headquarters is via US Highway 61 and Fork Creek Road from Rolling Fork, MS.

Description: The 5,763.9-acre Twin Oaks WMA is bounded by the Little Sunflower River on the east and Sharkey County/gravel roads on the north and south. Although the area adjoins the approximately 60,000-acre Delta National Forest to the east, the WMA is considered somewhat isolated as a result of agricultural practices on the north, south, and western boundaries. Prior to acquisition, the primary use of this site was

timber production. Over the last decade, the importance of recreational hunting has increased because large woodland tracts have been converted to cropland. Twin Oaks WMA consists of approximately 5,383 acres of bottomland hardwood in varying quantities and stages of maturity. Hardwood species include overcup oak, Nuttall oak, elm, ash sweetgum, hackberry, and willow oak. Some areas have had selective cuts in the recent past.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

5.84 OKATIBBEE WMA—PLATES TT22MP-OC-44 AND TT22MP-WMA-1

Management Agency: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

Land Classification: Wildlife Management

Recommended Future Use: Wildlife Management

Rationale: Okatibbee WMA requires this land classification to maintain current operations.

Location: In Lauderdale and Kemper Counties, northwest of Meridian, MS, near Collinsville, MS. Access to the headquarters is via MS Highway 19, West Lauderdale Road, and Center Hill-Martin Road from Meridian, MS.

Description: The 6,506.2-acre Okatibbee Wildlife Management Area (WMA) is located in the hilly, east-central region of Mississippi on land USACE purchased in the early 1960s to construct Okatibbee Lake for the purposes of flood control, water quality control, water supply, and recreation. Okatibbee Lake was formed by the impoundment

of Okatibbee Creek, which is the headwater stream of the Pascagoula River Basin. Construction of the 3,800-acre lake was completed in 1968. The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) has managed the WMA since 1969, and in 1990 the WMA lands were designated for wildlife mitigation purposes to compensate for wildlife losses resulting from the construction and continuing operation of the TTW in Mississippi and Alabama.

The valley surrounding Okatibbee Lake is forested with mature bottomland hardwoods with adjacent uplands being composed of a mix of mature pine and hardwood timber. Beaver activity for the past three decades has helped to create a vast expanse of open, marshland habitat on the WMA along the northern reaches of the lake. WMA personnel also maintain permanent wildlife openings and plant summer and winter food plots to provide additional food for wildlife.

Site-Specific Resource Objectives:

- Maintain diverse and viable populations of native wildlife.
- Bring people and the environment into closer harmony by encouraging and accommodating sustained public utilization of project wildlife resources.
- Manage all project resources (including forest, fish, and wildlife resources) as an integrated whole.
- Conserve endangered and threatened species, so measures pursuant to the Endangered Species Act of 1973 are no longer necessary.

Development Needs:

- Continue to review and approve management plans in accordance with laws and regulations.

6. SPECIAL TOPICS/ISSUES/CONSIDERATIONS

6.1 WILDLIFE MITIGATION

6.1.1 WILDLIFE MITIGATION HISTORY

Construction of the Tennessee-Tombigbee Waterway (TTW) resulted in unavoidable and significant losses of wildlife resources. These losses were caused primarily by the conversion of terrestrial habitats to open water or project pools and canals, the construction of project facilities, the deposition of excavated material, and the construction of recreation facilities. Overall, construction of the waterway adversely impacted approximately 62,800 acres of wildlife habitat. Approximately 34,176 acres of bottomland hardwood and cypress/tupelo gum habitats were converted to open water and other less valuable habitats. Impacts to habitats produced losses to deer, turkey, and waterfowl as well as small game animals and furbearers. Therefore, it was necessary to reduce and/or compensate for the loss of these wildlife resources.

The TTW Wildlife Mitigation Project was authorized by the Water Resources Development Act of 1986 (WRDA), Public Law 99-662. WRDA 1986 requires the development of a plan for management that outlines the initial development measures and day-to-day management for the "Existing Project Lands Increment in the Mitigation Project." The impacts of the TTW on wildlife resources were documented in the 1983 Wildlife Mitigation Feasibility Study (WMFS) Report, which served as the basis for the mitigation plans, which were jointly developed by a task force comprised of representatives from the US Army Corps of Engineers, Mobile District (CESAM); the US Fish and Wildlife Service (USFWS), the Alabama Department of Conservation and Natural Resources (ADCNR), and the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP).

While the WMFS was conducted, the basic assumption was that the States of Alabama and Mississippi would be encouraged to assume management responsibilities for as much of the project lands identified for mitigation as possible and that they would be reimbursed for their management efforts. The WMFS Report recognized several factors that influenced the amount of designated project lands the States would manage. These factors included the States' management philosophies and desires, project operational constraints, and general cost effectiveness and efficiency considerations.

Many of the areas identified for mitigation in the WMFS include dredged material disposal areas, lock and dam areas, various administrative facilities and grounds, recreation areas, and other similar project operations lands. It was decided that USACE would manage these types of "operationally encumbered" project lands, where State management of the lands would be infeasible or inappropriate. USACE would also manage lands offered to, but not accepted by, the States for management. Table 3

(from *Volume I: Summary Report—Tennessee-Tombigbee Waterway Wildlife Mitigation Project: Mitigation Implementation Plan for the Existing Project Lands Increment*) provides a full breakdown of these acreages.

Table 3. States, FWS, and Corps Management Responsibility for Existing Project Lands

Project	Total Land Available for Management (Acres)	Operational Constraints (Managed by Corps) (Acres)	Offered to States (Acres)	Management Accepted by FWS	Management Accepted by States (Acres)	Additional Land Managed by Corps (Acres)
Dannelly Lake, AL	1,703	390	1,313	0	0	1,313
Claiborne Lake, AL	2,567	371	2,196	0	0	2,196
Demopolis Lake, AL	6,470	700	5,770	0	3,241	2,529
Coffeeville Lake, AL	1,494	242	1,252	94*	0	1,158
Okatibbee Lake, MS	8,235	1,352	6,883	0	6,883	0
Tennessee-Tombigbee Waterway, AL & MS	72,617	16,934 (MS) 7,430 (AL)	41,772 (MS) 6,481 (AL)	0	25,134 (MS) 32 (AL)	16,638 (MS) 6,449 (AL)
TOTALS	**93,086**	**27,419**	**65,667**	**94***	**35,290**	**30,283**

* There is no agreement on record to indicate that this area was ever officially accepted by the USFWS. These 94 acres will be included in the lands managed by the Corps from this point forward.

Lands accepted to be managed by the states of Mississippi and Alabama now make up the Okatibbee WMA along with parts of Canal Section, Divide Section and David K. Nelson WMAs.

The table below combines the above Operational Constraints and Additional Lands Managed by Corps columns.

Project	Total Land Available for Management	Lands Managed by the Corps	Lands Managed by States
Dannelly Lake, AL	1,703	1,703	0
Claiborne Lake, AL	2,567	2,567	0
Demopolis Lake, AL	6,470	3,229	3,241
Coffeeville Lake, AL	1,494	1,494	0
Okatibbee Lake, MS	8,235	1,352	6,883
Tennessee-Tombigbee Waterway, AL & MS	72,617	33,879 (MS) 13,879 (AL)	25,134 (MS) 32 (AL)
TOTALS	**93,086 acres**	**57,796 acres**	**35,290 acres**

In addition to the existing project lands identified above, WRDA 1986 required the acquisition and management of an additional 88,000 acres of separable mitigation lands. In accordance with the WRDA, “not less than 20,000 acres shall be acquired in

the area of the Mobile-Tensaw River Delta, Alabama, and not less than 25,000 shall be acquired in the areas of the Pascagoula River, the Pearl River, and Mississippi River delta, Mississippi." The remaining 43,000 acres were to be purchased adjacent to or in the vicinity of the TTW within the states of Alabama and Mississippi.

All of the separable lands are to be managed by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Alabama Department of Conservation and Natural Resources (ADCNR) with reimbursement by USACE for management and initial development costs subject to such amounts as are provided in appropriation acts. These separable lands make up Nanih Waiya, Twin Oaks, Mahannah, Ward Bayou, Mobile-Tensaw Delta, Lowndes, and David K. Nelson WMAs in Mississippi and Alabama.

6.1.2 TTW WILDLIFE MITIGATION AND WRDA 1992

WRDA 1992, Section 102 (a), provided authority to release of excess lands to facilitate economic development along the waterway in exchange for lands that would provide for an offset to accommodate the mitigation purpose. Under Section 102(a), exchanges must meet two tests: (1) "lands acquired under this subsection shall fully replace lost habitat value"; and (2) lands exchanged must have an equivalent fair market value.

The agencies had fundamental disagreements on how to interpret the requirement to "fully replace lost habitat value." There were several other fatal flaws that made Section 102(a) problematic and unworkable. Section 102(a) was so fraught with problems and implementation issues it was never actually used to conduct an exchange. Several entities were permitted to access the project lands under interim arrangements (leases) that were agreeable to the FWS, ADCNR, and MDWFP. As a condition of their access to the property, these entities agreed to address the mitigation-offset requirement as required when an agreeable approach was developed, and pertinent authority provided via legislation.

Additionally, in 1998 the Tenn-Tom Waterway Management Office proposed the removal of material from full or nearly full dredged material disposal areas in order to re-use them and prevent or at least delay the need for using undisturbed disposal areas or building additional disposal areas. This action was delayed because River Section disposal areas were also encumbered with the mitigation designation. Calculations in the 1983 WMFS assumed that construction disposal areas would generally remain undisturbed after construction. This problem became the catalyst for new legislation to replace section 102(a) of WRDA 1992.

6.1.3 TTW WILDLIFE MITIGATION AND WRDA 2000

In 2000 the previous legislation was amended by Public Law 106-541 (WRDA 2000), the general overview of which is below:

(a) In General. – The Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, authorized by section 601(a) of Public Law 99-662 (100 stat. 4138) is modified to authorize the Secretary to--

(1) remove the wildlife mitigation purpose designation from up to 3,000 acres of land as necessary over the life of the project from lands originally acquired for water resource development projects included in the Mitigation Project in accordance with the Report of the Chief of Engineers dated August 31, 1985;

(2) sell or exchange such lands in accordance with subsection (c) (1) and under such conditions as the Secretary determines to be necessary to protect the interests of the United States, utilize such lands as the Secretary determines to be to be appropriate in connection with development, operation, maintenance, or modification of the water resource development projects, or grant such other interests as the Secretary may determine to be reasonable in the public interest; and

(3) acquire in accordance with subsections (c) and (d), lands from willing sellers to offset the removal of any lands from the Mitigation Project for the purposes listed in subsection (a)(2) of this section.

The main goal of the new legislation was to provide the USACE with sufficient authority to make necessary adjustments to the authorized Water Resources Development Projects and mitigation project in order to:

- maintain and improve the integrity of the authorized mitigation.

- provide full and equal consideration to the well-being of the critically important natural resources in the TTW corridor as a result of these adjustments.

- to facilitate appropriate and reasonable access to the TTW in the interest of operation and maintenance of the project, regional economic development, and broad based recreational opportunities.

- respond to unexpected future conditions.

Section 301 of WRDA 2000 deals with three separate components of the TTW Wildlife Mitigation Project: project lands, disposal areas, and separable lands. In addition, there are four separate possible actions related to the project lands component: sale/exchange, outgrant, utilization by the Mobile District, and acquisition of replacement lands. The USACE Mobile District, USACE South Atlantic Division, FWS and the State wildlife agencies thoroughly coordinated the draft language for section 301 until all parties could support it.

The Tenn-Tom Waterway Management Office maintains the accounting record of the replacement acres purchased, the acres removed from the Mitigation Project, and detailed maps of those areas, providing a report annually. This report is provided to the FWS, ADCNR, and MDWFP by the USACE Mobile District on an annual basis.

6.1.4 TTW WILDLIFE MITIGATION ACCOUNTING RECORD

Existing Project USACE Wildlife Mitigation Lands

Location	Feasibility Study Acres	GIS Acres
TTW Wildlife Management	72,617	63,284.59
Dannelly Lake Wildlife Management	1,703	1,760.95
Claiborne Lake Wildlife Management	2,567	2,451.61
Demopolis Lake Wildlife Management	6,470	6,458.87
Coffeeville Lake Wildlife Management	1,494	1,494.14
Okatibbee Lake Wildlife Management WMA	6,883	6,506.2
Okatibbee Lake Wildlife Management Project	1,352	481.27
Sum	**91,534**	**82,440.69**

The discrepancies between the Feasibility Study acres and the GIS acres for the TTW and Okatibbee Lake Wildlife Management lands are significant despite the GIS Maps directly reflecting the multiple Mitigation Implementation Plan (MIP) maps that serve as historic records for the Tennessee-Tombigbee Mitigation Project.

An analysis was conducted for the TTW Wildlife Management lands to determine whether an adjusted deed acreage calculation would closer reflect the acres reported in the Feasibility Study or the GIS acres calculated from the Master Plan Classification Maps. The TTW deed tract file was overlaid with the TTW water file using ESRI software. An overlay analysis was run to determine approximately how much of the deed tracts are overlapping the water file, thus estimating how many acres of the deed tract file are permanently submerged. There are 85,650.55 deed acres of fee property for the TTW according to the Real Estate Management Information System (REMIS) (see chapter 2.7 for more information about deed acres). Approximately 20,019.6 acres of those fee tracts were found to be permanently submerged, leaving the approximate total of deed tracts above water at 65,630.9 acres (total fee, not just Wildlife Management Classification). This is a difference of only 505.9 acres (0.77% error) from the GIS acreage found in the process of this Master Plan.

This analysis shows that the reported GIS acres and Deed acres at the TTW are comparable numbers, and suggests that the TTW Wildlife Management Lands set in the Wildlife Mitigation Feasibility Study were higher than what was purchased to create the TTW. At the time that the Wildlife Feasibility Study was being written the TTW was still under construction. It is understandable that the writers of the Wildlife Mitigation Feasibility Study would not have had a final accountancy of the acreage for the project. With advances in technology, it is also logical that modern calculations of land area are more precise than they were 50 years ago.

As for Okatibbee Lake, 290 acres have been leased to the Pat Harrison Waterway District. During the process of the Okatibbee Lake Master Plan an additional 363.71 acres were classified as something other than Wildlife Mitigation (roads, buildings, operational structures, recreation areas). Finally, the 217.02 acres of discrepancy remaining may be partially explained by the normal pool adjustment that took place in the 1990s. When the level of the lake changed to a higher normal pool level, a significant amount of land was inundated in the process. Any remaining acres of discrepancy fall within acceptable margin of error ranges.

Separable Wildlife Mitigation Lands

Area	Deed Acres	GIS Acres	Counties
David K. Nelson Wildlife Management Area	2,421.22	2,557.33	Alabama—Greene, Hale
Lowndes County Wildlife Management Area	10,564.84	10,742.95	Alabama—Lowndes
Mobile-Tensaw River Delta	21,275.34	22,658.99	Alabama—Mobile, Baldwin
Mahannah Wildlife Management Area	12,695.16	12,960.61	Mississippi—Issaquena, Warren
Pascagoula River State Wildlife Management Area	13,433.26	13,429.25	Mississippi—Jackson
Nanih Waiya Wildlife Management Area	8,089.62	8,263.54	Mississippi—Neshoba, Winston
Twin Oaks Wildlife Management Area	5,847.41	5,763.85	ississippi—Sharkey
Tennessee-Tombigbee Waterway	15,308.22	14,865.44	Alabama—Monroe, Sumter, Pickens Mississippi—Lowndes, Monroe, Itawamba
Total	**89,635.31**	**91,232.95**	

The discrepancy between the deed and GIS accountings for these separable Wildlife Mitigation Lands can be explained. Deed acres are the acres of record, and are a legal description of the land within a tract. GIS acres are based on the geometric shape of the tracts on the earth. Deed acres may not include many areas, especially at Mobile-Tensaw River Delta WMA, that are typically inundated as they may not have been seen as “land”. GIS acres will account for the entirety of an area within its boundary, regardless of the amount of standing water within.

The totals of the Wildlife Mitigation Lands exceed the originally mandated 88,000 acres due to the continued purchase of separable Wildlife Mitigation lands after WRDA 2000. The accountancy of these separable lands can be seen in the “Replacement Lands Accounting” chart below.

Replacement Lands Accounting

NAME/LOCATION	STATE	COUNTY	DATE	ACTION	REMOVED (acres)	ADDED (acres)	NET (acres)
LBJ Development Co. Tract 723	MS	Itawamba	2001	Purchase	0	221.8	221.8
Linden Lumber Tract 1017	AL	Greene	2001	Purchase	0	65	286.8
Barton Ferry County Rd. Improvement	MS	Lowndes	Oct-02	Easement	0.16	0	286.64
Burnsville Port	MS	Tishomingo	Aug-04	Sale	26.4	0	260.24
Lowndes County Port	MS	Lowndes	Sep-04	Sale & Exchange	19.1	76.3	317.44
Amory Port	MS	Monroe	Jun-05	Sale	156	0	161.44
Tract 806	MS	Lowndes	Sep-06	Sale	3.8	0	157.64
Lowndes County Port	MS	Lowndes	Sep-06	Sale	58.45	0	99.19
Nanih Waiya Acquisitions	MS	Neshoba	Oct-06	Purchase	0	408.92	508.11
Amory Port	MS	Monroe	Aug-08	Sale	104.1	0	404.01
ES Miller Tract	AL	Pickens	Dec-10	Purchase	0	390.7	794.71
City of Columbus Welcome Sign	MS	Lowndes	Aug-11	Easement	0.71	0	794
Clay County Port	MS	Clay	Apr-12	Sale	20.28	0	773.72
Lowndes County Port Auth. - Kior	MS	Lowndes	Dec-12	Sale	7.43	0	766.29
Ward Bayou - SMEPA	MS	Jackson	Nov-13	Easement	0.04	0	766.25
David K. Nelson WMA - Alabama Power	AL	Hale	Nov-13	Easement	7.71	0	758.54
LCPA - Road Realignment	MS	Lowndes	Jan-14	Easement	1.25	0	757.29
Chism Tract Acquisition	MS	Monroe	Sep-15	Purchase	0	85	842.29
Parish Tract Acquisition	MS	Monroe	Sep-15	Purchase	0	77	919.29
Hayes Tract Acquisition	MS	Neshoba	Nov-15	Purchase	0	59	978.29
Burnsville - YCP - Railroad Spur #2	MS	Tishomingo	Jun-16	Easement	3.42	0	974.87
Nanih Waiya Winston County ROW	MS	Winston	Sep-17	Easement	0.55	0	974.32
Fulton Exchange	MS	Itawamba	Nov-17	Exchange	3.4	3.4	974.32
Monroe County ROW	MS	Monroe	Feb-18	Easement	0.14	0	974.18
Itawamba County ROW	MS	Itawamba	Jul-19	Easement	0.16	0	974.02

NAME/LOCATION	STATE	COUNTY	DATE	ACTION	REMOVED (acres)	ADDED (acres)	NET (acres)
Tishomingo Bridges ROW	MS	Tishomingo	Dec-23	Easement	0.75	0	973.27
				TOTAL	413.85	1387.12	**973.27**

At the time of this Master Plan there are 973.27 acres of Replacement Lands at the Tenn-Tom Waterway, the total of which can be used to offset the new removal of lands in the Wildlife Mitigation Project. The chart above displaying the removal, addition, and net of these acres is reviewed, updated, and reported annually by the Tenn-Tom Waterway Management Office. There are additional leases and easements in place at the TTW that are not present in the chart above because they do not alter existing wildlife habitat, or they are accounted for below as a part of recreation.

Recreation Footprint for the Tennessee-Tombigbee Waterway

POOL	RECREATION AREA	ACRES
Gainesville Lake	Howell Heflin Lock	4.9
	Howell Heflin Spillway Area	4.5
	Sumter Recreation Area	5.6
	S.W. Taylor Overlook	2.6
	S.W. Taylor Boat Ramp	2.5
	Vienna Access Area	3.1
	Cochrane Campground	16.6
	Cochrane Boat Ramp	13.8
	Ringo Bluff Access Area	4.5
	Gainesville Lake Subtotal	**58.1**
Aliceville Lake	Tom Bevill Visitor Center and Bevill Lock East	13.9
	Bevill Lock West	2.5
	Marina Cove	38.0
	Pickensville Day Use	11.1
	Raleigh Ryan Boat Ramp	4.5
	Pickensville Campground	36.4
	Luxapalila	16.8
	Columbus Riverwalk	10.8
	Plymouth Bluff Nature and Cultural Study Center	140.3
	Aliceville Lake Subtotal	**274.3**
Columbus Lake	Stennis Lock and Dam West	2.1
	Charles Younger Ramp	5.4
	Columbus Marina	54.4
	Stennis Lock and Dam East	15.1
	Waverly Ferry Ramp	3.5

	Waverly Ferry	4.2
	Dewayne Hayes	14.4
	Dewayne Hayes Day Use Area	12.0
	Town Creek Campground	26.7
	Barton's Ferry Access Area	1.3
	McKinley Creek Recreation Area	129.6
	Morgan's Landing Recreation Area	44.9
	Columbus Lake Subtotal	**313.6**
Aberdeen Lake	Aberdeen West Bank	6.9
	Aberdeen East Bank	2.1
	Blue Bluff Day Use Area	12.8
	Blue Bluff Campground	16.7
	Becker Bottom Access Area	1.7
	Aberdeen Lake Subtotal	**40.2**
Canal Section	Amory Recreation Area	4.4
	Amory Lock East Bank	2.7
	Smithville	6.8
	Ironwood Bluff Boat Ramp	1.2
	Beans Ferry Boat Ramp	4.9
	Fulton Lock Fishing Area	0.4
	Fulton Walking Trail	3.1
	Highway 78 Ramp	5.5
	Fulton Boat Ramp	3.6
Canal Section (continued)	Jamie L. Whitten Park and Visitor Center	3.8
	Jamie L. Whitten Campground	12.4
	Rankin Lock and Dam Fishing Area	0.4
	Beaver Lake Recreation Area	4.1
	Walker's Levee Boat Ramp	4.4
	G.V. Sonny Montgomery Lock and Dam Fishing Area	1.6
	Saucer Creek	1.7
	Canal Section Subtotal	**61.0**
Bay Springs Lake	Bay Springs Site Office and Visitor Center	2.4
	Old Bridge Beach	3.2
	Cotton Springs	1.9
	West Damsite Recreation Area	11.2
	Bay Springs Marina	28.3
	Gin Branch Boat Ramp	14.3
	Bayberry Ramp	9.8
	Piney Grove Campground	23.5

	Piney Grove Day Use	23.5
	Piney Grove Beach	3.6
	McDougal Branch	7.5
	Sander's Landing	3.7
	Crow's Neck Environmental Center	179.1
	Crow's Neck Ramp	2.7
	Bay Springs Lake Subtotal	**314.7**
Divide Section	Paden	1.7
	Divide Overlook	7.2
	Holcut Memorial Park and Day Use Area	1.3
	Cairo Community Center	2.0
	Burnsville Park and Ramp	143.2
	Doskie	2.4
	Scrugg's Bridge Recreation Area	9.5
	Riverside	4.2
	Divide Section Subtotal	**171.5**
	Sum	**1,233.40**

In the Wildlife Mitigation Feasibility Study, Volume II, Appendix C page C-31, there are 3,890 acres identified for recreation development at the Tenn-Tom Waterway. These acres are a subset of the 72,617 acres of Project Wildlife Mitigation lands at the TTW and do not count against that total.

To estimate the impacted recreation footprint at the TTW, a 12-foot buffer analysis was conducted using ESRI software for all roads, buildings, parking lots, campsites, and other paved/impacted surfaces. The width of the buffer was to simulate the impact area of mowing. The output of the buffer analysis for each recreation area is reported in the chart above. The visual results of this analysis can be seen in the classification maps in Appendix G. Leased parks were not buffered, rather the entirety of the leased park is counted as recreation. This is because the expectation of maintaining undeveloped areas within a leased park for wildlife is not a term agreed to in leases.

Currently 1,233.4 acres of the 3,890 allotted recreation acres are developed at the TTTW. There are 2,656.6 acres remaining that may be developed.

Disposal Area Disturbance Footprint for the Tennessee-Tombigbee Waterway

Most of USACE Mobile District's owned disposal areas were included in the project lands increment of the Mitigation Project. Therefore, to the maximum extent practical, the Mobile District will use such actions as raising dikes and removing material to maximize the re-use of disposal areas in order to preserve, for as long as possible, the habitat in undisturbed disposal areas. In WRDA 2000 it was predicted that a total of

4,538 acres of disposal areas would be used for maintenance. The TTW Project Office (OP-CO) office will maintain an inventory of the total area used for maintenance within disposal areas that were included as part of the project lands increment of the Mitigation Project. If this total area exceeds 4,538 acres, the Mobile District will consult with the FWS, ADCNR, and MDWFP and then mitigate for the lost habitat value. An accountancy of these acres is not included in this Master Plan as they fluctuate annually based on dredging that occurs. The TTW has not exceeded 4,538 acres of disposal area disturbance since WRDA 2000 was enacted.

6.1.5 TTW WILDLIFE MITIGATION PROGRAM AND MASTER PLAN CLASSIFICATION MAPS

The TTW Mitigation Project is discussed in multiple Recreation Master Plans due to the multi-project nature of the mitigation program itself. The TTW, Alabama River Lakes (ARL), Black Warrior-Tombigbee (BWT), and Okatibbee Lake Projects all contain TTW Mitigation Project lands.

For the purposes of these four Master Plans, existing project lands that remain managed by USACE and credit toward the mitigation requirement have been classified as “Wildlife Management.” The “Wildlife Management” classification is justified for existing project lands because these lands were not originally purchased for the purposes of wildlife mitigation, although they do presently credit towards the wildlife mitigation requirement.

For the Okatibbee and TTW projects, their entire project lands were identified in the Wildlife Mitigation Feasibility Study as being acceptable for wildlife mitigation. So, all Wildlife Management seen on maps and accounted for in their documents are a part of the TTW Wildlife Mitigation Program. For the ARL and BWT projects, a “TTW Wildlife Management” classification was created to distinguish these lands from the projects’ regular wildlife management lands. The existing project lands that were accepted (licensed) to be managed by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP), the Alabama Department of Conservation and Natural Resources (ADCNR), and the US Fish and Wildlife Service (USFWS) have also been classified as “Wildlife Management.”

Separable lands that were purchased to meet the mitigation requirement set in WRDA 1986 have been classified as “Wildlife Mitigation” as have the separable replacement lands purchased post-WRDA 2000. This is justified as these lands were originally purchased for the purpose of wildlife mitigation. To avoid double counting, Wildlife Mitigation acres are only counted in the TTW Master Plan, even though some of these lands appear in the BWT and ARL Master Plan Classification Maps.

6.2 MAPPING TECHNOLOGY

The Allocation and Classification maps in this Master Plan were generated using ESRI software. The files used to make the maps in Appendix G are based on USACE’s

historic information for the project, surveyed benchmarks, satellite imagery to approximate the shape of the water, and the multiple Mitigation Implementation Plan (MIP) maps that serve as historical records for the Tennessee-Tombigbee Mitigation Project. As discussed in chapter 6.1.4, the difference between the adjusted deed acreage and the GIS acreage is only 0.77% error. This shows that the maps in Appendix G are an accurate representation of the TTW Project. The deed acres remain the acres of record, and for more deed acre information, refer to Chapter 2.7.

6.3 HISTORIC, COMMONLY USED, AND OFFICIAL NAMES OF PARKS, LOCKS AND DAMS, AND LAKES AND POOLS

The Tennessee-Tombigbee Waterway has three main parts. The River Section from Demopolis, AL, north to Amory, MS, generally uses the original course of the Tombigbee River but changes and shortens the existing channel with dams, locks and shortcuts. From Amory, MS, a Canal Section using a chain-of-lakes construction extends to the Bay Springs Lock and Dam. The final “Divide Cut” section cuts deeply through high ground to the Tennessee River. The total length of the TTW is 234 miles with the River Section being 149 miles long, the Canal Section 46 miles long, and the Divide Cut section 39 miles long. The standard width of the waterway is 300'.

Of the 10 locks and dams on the waterway, the first four—which generally lie along the original course of the Tombigbee River—are named as follows:

I. Howell Heflin Lock and Dam, formerly Gainesville Lock and Dam, is located near Gainesville, AL, and impounds Gainesville Lake. It is named for Howell Heflin, a US senator from Alabama. Howell Heflin Lock is located at mile 266.0 on the waterway.

II. Tom Bevill Lock and Dam, formerly named Aliceville Lock and Dam and Memphis Lock and Dam, is located near Aliceville, AL, and impounds Aliceville Lake. It is named for Tom Bevill, a US representative from Alabama and a proponent of the waterway. Tom Bevill Lock is located at mile 306.8 on the waterway.

III. John C. Stennis Lock and Dam, formerly named Columbus Lock and Dam, is located near Columbus, MS, and impounds Columbus Lake. It is named for longtime US Senator John C. Stennis from Mississippi. John C. Stennis Lock is located at mile 334.7 on the waterway.

IV. Aberdeen Lock and Dam is located east of Aberdeen in Monroe County, MS, and impounds Aberdeen Lake. When appropriate, it will be renamed Donald G. Waldon Lock and Dam in honor of Donald G. Waldon, a former administrator of the Tennessee-Tombigbee Waterway Development Authority and a longtime proponent of the waterway. US Representative Robert Aderholt and US Senator Roger Wicker, with support from US Senators Thad Cochran and Jeff Sessions,

sponsored the legislation to name the lock and dam in Waldon's honor. The bill was included in the Water Resources Reform and Development Act of 2014, which was signed by President Barack Obama on June 10 of that year. The legislation states that "it is the sense of Congress that, at an appropriate time in accordance with the rules of the Senate and the House of Representatives, to recognize the contributions of Donald G. Waldon, whose selfless determination and tireless work, while serving as administrator of the Tennessee-Tombigbee Waterway for 21 years, contributed greatly to the realization and success of the Tennessee-Tombigbee Waterway Development Compact, that the lock and dam located at mile 357.5 on the Tennessee-Tombigbee Waterway should be known and designated as the Donald G. Waldon Lock and Dam."

V. Thad Cochran Lock, formerly named Amory Lock and Lock A, is located at Amory, MS. It is the southernmost of a series of five locks within the TTW referred to as the "Chain of Lakes" or "Canal Section." MS Highway 6 crosses the waterway at an overpass south of the lock. The bipartisan Water Resources Development Act (WRDA) of 2020, which was signed into law in December 2020, includes legislation to rename Amory Lock to Thad Cochran Lock and Dam. Amory Lock is located at mile 371.1 on the waterway and forms Amory Pool.

VI. Glover Wilkins Lock, formerly named Lock B, is located close to Smithville, MS. It is named for Glover Wilkins, a long-time administrator of the Tennessee-Tombigbee Waterway Development Authority. Glover Wilkins Lock forms Wilkins Pool, formerly named Pool B or Smithville Pool, and is located at mile 376.3 on the waterway.

VII. Fulton Lock, formerly named Lock C, is located near Fulton, MS. Fulton Lock forms Fulton Pool, formerly named Pool C, and is located at mile 391 on the waterway. It may be renamed via a future Congressional act.

VIII. John Rankin Lock, formerly named Lock D, is named for US Representative John E. Rankin, an early champion of the waterway. John Rankin Lock forms Rankin pool, formerly named Pool D, and is located at mile 398.4 on the waterway.

IX. The G. V. "Sonny" Montgomery Lock, formerly named Lock E, is located in north Itawamba County, MS, close to the Prentiss County line. Named for US Representative Gillespie V. "Sonny" Montgomery, it is the northernmost of a series of five locks within the TTW referred to as the "Chain of Lakes" or "Canal Section." The G.V. "Sonny" Montgomery Lock forms Montgomery Pool and is located at mile 406.7 on the waterway

X. The Jamie Whitten Lock and Dam, formerly named Bay Springs Lock and Dam, is located in south Tishomingo County, MS, close to the Prentiss County line. It is the northernmost lock and dam on the TTW and is the fourth-highest single lift lock in the United States. It is named for Jamie Whitten, who served Mississippi in the US House of Representatives for over 50 years. (As of 2008, Whitten had the longest tenure of any US representative in history). The dam forms Bay Springs Lake and is located at mile 411.9 on the waterway.

6.4 RECREATION AREAS REMOVED FROM THE MASTER PLAN

A number of recreation areas that appear in the 1994 TTW Master Plan Draft and other Design Memoranda have been removed from this Master Plan's Resource Plan (Chapter 5). The reasons for their removal are varied, but many have been absorbed into the TTW Wildlife Mitigation Project and are now completely classified as "Wildlife Management" in the maps in Appendix G. A comprehensive list of these parks and why they have been removed from the Resource Plan is provided below.

- **Memphis Boat Ramp**—The boat ramp was washed away shortly after construction was completed. No recreation features remain available to the public, and none will be developed.

- **Barnes Bend**—In the original design memorandum, this area was proposed as a recreation area. However, it was never developed due to feasibility and its remote location.

- **Sipsey**—In the original design memorandum, this area was proposed as a recreation area. However, it was never developed due to feasibility and its remote location.

- **West Lowndes Boat Ramp**—This area was sold to Watco Terminal for economic development in 2007. Ramp development for the public was relocated to Stennis West Bank as a lease area to Lowndes County. The ramp that was built can be found in Chapter 5 as Charles Younger Boat Ramp.

- **Hwy 50**—In the original design memorandum this area was proposed as a recreation area. However, it was never developed due to the nearby development of the DeWayne Hayes and Town Creek recreation areas. The land comprising Hwy 50 is now used strictly for wildlife management.

- **Halfway Creek**—In the original design memorandum this area was proposed as a recreation area. However, it was never developed due to the nearby development of the Blue Bluff, Becker Bottom, Aberdeen East Bank, and Aberdeen West Bank recreation areas. The land comprising Halfway Creek is now used strictly for wildlife management.

- **Robinson Creek Fishing Area**—This area was absorbed into the larger Paden recreation area and is no longer a standalone park.

- **Jackson Camp**—This proposed recreation area was absorbed into the Divide Section WMA. It is now used strictly for wildlife mitigation and is managed by the State of Mississippi.

6.5 SPECIAL LAND AND WATER ISSUES

6.5.1 MARINA CONCESSIONS

There are currently two private marina concessions on the TTW—one on Columbus Lake and one on Bay Springs Lake.

There is also a marina site on Aliceville Lake near Pickensville, AL, which could be leased in the future. The prior lease for the marina was relinquished due to poor management; the marina was closed, and the mooring facilities, gas pumps, and general store were all removed. Significant redevelopment would be required to reopen this marina.

The City of Amory, MS, is considering leasing and expanding the development of Amory Recreation Area to include adding a marina.

6.5.2 BOUNDARY LINE MONITORING AND MAINTENANCE

Continual monitoring and boundary maintenance to prevent unauthorized use, such as trespassing and/or encroachment, are required due to the size and dispersed nature of TTW property along the waterway. Pressure on project lands from adjacent development is moderate. Both individual residences and subdivisions are located next to project lands in various places along the majority of the waterway. Encroachment resolution is an ongoing process requiring USACE time and monetary resources.

6.5.3 HUNTING

Hunting is allowed on both TTW lands and waters in open-permitted areas that are not identified as refuge areas. Hunting regulations are enforced by the appropriate State agency and by USACE Wildlife Biologists and Park Rangers. Current regulations, hunting seasons, maps, and permits can be found online or by contacting the TTW management office.

6.5.4 RECIPROCAL AGREEMENT PERTAINING TO SPORT FISHING

Reciprocal agreements are in effect whereby Mississippi and Alabama sports fishing licenses are mutually recognized for fishing either in the water or from the banks of the following parts of the Tennessee River, its embayments, and its impoundments.

- All that part of the Tennessee River and its embayment and impoundments between the junction of the Tennessee-Alabama-Mississippi line and a north-south line projected across the Tennessee River from the eastern end of the old Riverton Lock, except and exclusive of that part of the Big Bear Embayment lying south of the Southern Railroad bridge.

- All that part of the Tombigbee River, its embayments, impoundments and navigation channel, from river mile 322 to the Aliceville Lock and Dam.

- Creel limits pertaining to sport fishing of Alabama shall apply to Mississippi licenses when fishing in the State of Alabama and the creel limits pertaining to sport fishing in the State of Mississippi shall apply to Alabama licenses when fishing in the State of Mississippi.

6.5.5 FLOWAGE EASEMENTS / SHORELINE USE

USACE owns flowage easements around much of the TTW. These easements are related to a height above the normal pool elevation; however, that height varies from lake to lake and may be as high as 6' above the normal pool elevation. Although the landowner maintains the property and pays taxes on it, the easement strictly prohibits structures for human habitation and typically requires a Consent to Structures from RE Division for any other proposed structure. Regulatory permits are also required for structures in navigable waterways.

6.5.6 LACK OF CONVENIENT BANK FISHING ACCESS

Very few facilities are currently provided to safely accommodate bank fishing along the TTW. However, local user trends have demonstrated a need for developing safe and convenient access for bank fishing. Therefore, it is important that the project supports this activity by developing pull-offs, parking areas, shoreline trails, water level fishing decks, and related facilities at areas where bank fishing occurs.

6.5.7 SILTATION OF BOAT RAMPS

There are 31 boat ramps along the TTW. Maintaining a channel from each ramp to deeper areas or to the larger navigation channel has been difficult due to high-water events and general aging of the project. A number of these ramps have experienced siltation, ranging from inconvenience to impassibility. Ramps experiencing siltation may not receive adequate usage, and fees may be halted until a channel can be restored. At the time this Master Plan is being written, the Navigation section of the TTW office has acquired equipment that could potentially dredge recreation boat ramps. This will be an important component of maintenance for the future of the TTW.

6.5.8 SEAPLANES

The *Regulation of Seaplane Operations at Civil Works Water Resource Development Projects Administered by the Mobile District U.S. Army Corps of Engineers* defines the rules which, in conjunction with Title 36, Chapter III, Section 327.4, govern the operation of seaplanes upon the waters of each lake, individually, within the Mobile District. This regulation provides USACE with no special governing authority beyond the citation authority already vested in the Operations Project Managers and their staffs. All appropriate State and Federal aviation laws apply to aircraft operations upon or over project lands and waters. For the purpose of this regulation, a “seaplane” is defined as an aircraft properly registered with the Federal Aviation Administration (FAA) and equipped to take off from and land on water.

Seaplane takeoff and landing maneuvers are allowed between sunrise and sunset all along the Tennessee-Tombigbee Waterway except for the following portions:

- Between navigation miles (NMs) 330 and 360 (downstream of John C. Stennis Lock and Dam to upstream of Aberdeen Lock and Dam)
- Between NMs 369 and 401 (downstream of Amory Lock to upstream of John Rankin Lock)
- Between NM mile 421 (downstream of the MS Highway 30 bridge) to Pickwick Lake at the MS Highway 25 bridge

Takeoff and landing maneuvers are prohibited within 500' of any bridge, causeway, overhead powerline, dock, dam, or similar structure. Pilots are cautioned that between October and February migratory waterfowl are especially active on the waterway, and they should exercise care to avoid the increased risk of collision. In addition, pilots should exercise extreme caution to avoid submerged and floating debris.

Pilots are also strongly advised to consult aviation charts for restricted air space controlled by the Columbus Air Force Base (CAFB). Takeoff and landing maneuvers may be permitted in the excluded areas on a case-by-case basis, provided there is advance coordination with USACE and the CAFB for approval. Pilots should contact the USACE location nearest the site of the proposed takeoff/landing maneuver prior to takeoff/landing.

6.5.9 AGRICULTURAL LEASES

The TTW Project Office has 3 areas presently identified for the sale and removal of hay through an Invitation for Bid for the Sale and Removal of Hay process that is managed by the Mobile District Real Estate program. The areas include approximately 80 acres on the East and West Bank of the river at Aberdeen Lock and Dam, approximately 17.7

Acres on the West Bank of the river at John C. Stennis Lock and Dam, and approximately 23.2 acres at Tom Bevill Lock and Dam on the East Bank of the River.

These areas are classified as Wildlife Management in this Master Plan. According to the WRDA 2000 SOP, if a lease does not change the habitat a lease will not be removed out of mitigation lands accountancy (see replacement lands in 6.1). Because all of these areas are on levees they need to be regularly mowed. Thus, these leases do not change the habitat and are not removed from the mitigation lands accountancy.

6.6 PROJECT ACCESS AND TRANSPORTATION

USACE Master Plans have previously included an appendix called “Rules of the Road: Transportation Asset Structure and Representation,” referencing road and parking assets. This living document is no longer included in Master Plans because the data that the methods describe collecting has already been collected. This work was completed for the USACE Mobile District in 2021.

Additionally, multiple Federal Aid Highway Programs were established to provide funding to assist with managing Federally and locally owned/maintained transportation asset structures leading to or on Federal lands. This Master Plan proposes capital improvements for existing access and entrance to recreation and other operational areas in the development needs section of the park descriptions in Chapter 5 and the Programmatic Environmental Assessment in Appendix F. Moving forward, this project will continue to seek funding through annual budgets and supplemental funding sources, such as the Federal Land Transportation Program (FLTP) and the Federal Land Access Program (FLAP).

7 AGENCY AND PUBLIC COORDINATION

Development of this Master Plan update involved both written and oral communication and coordination with the appropriate Federal, State, county, and municipal agencies. The principal agencies and institutions contacted are listed below.

- US Fish and Wildlife Service (USFWS), Daphne Field Office
- U.S. Fish and Wildlife Service, Mississippi Ecological Services Field Office
- Alabama Department of Conservation and Natural Resources
- Mississippi Department of Wildlife, Fisheries and Parks
- Alabama State Historic Preservation Officer
- Mississippi Department of Archives and History

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9. GLOSSARY

- **ABA**—Architectural Barriers Act
- **ADA**—Americans with Disabilities Act
- **ADCNR**—Alabama Department of Conservation and Natural Resources
- **AHC**—Alabama Historic Commission
- **ARPA**—Archaeological Resources Protection Act
- **ARL**—Alabama River lakes
- **BWT**—Black Warrior-Tombigbee
- **CAFB**—Columbus Air Force Base

- **CESAM**—US Army Corps of Engineers, Mobile District
- **DM**—Design Memorandum
- **DoDI**—Department of Defense Instruction
- **EM**—Engineer Manual
- **EP**—Engineer Pamphlet
- **ER**—Engineer Regulation
- **ESA**—Endangered Species Act
- **FAA**—Federal Aviation Administration
- **FCA**—Flood Control Act
- **FEPCA**—Federal Environmental Pesticide Control Act
- **FDM**—Feature Design Memo
- **FLAP**—Federal Land Access Program
- **FLTP**—Federal Land Transportation Program
- **FWCA**—Fish and Wildlife Coordination Act
- **FWPCA**—Federal Water Pollution Control Act
- **FY**—Fiscal Year
- **GDM**—General Design Memo
- **GIS**—Geographic Information System
- **ICRMP**—Integrated Cultural Resources Management Plan
- **LWCF**—Land and Water Conservation Fund
- **MDAH**—Mississippi Department of Archives and History
- **MDWFP**—Mississippi Department of Wildlife, Fisheries, and Parks
- **MIP**—Mitigation Implementation Plan

- **MP**—Master Plan
- **MSL**—Mean Sea Level
- **NAGPRA**—Native American Graves Protection and Repatriation Act
- **NEPA**—National Environmental Policy Act
- **NHPA**—National Historic Preservation Act
- **NM**—Nautical Miles
- **NRHP**—National Register of Historical Places
- **NRM**—Natural Resource Management
- **NRMP**—Natural Resource Management Plan
- **OCE**—Office, Chief of Engineers
- **OMP**—Operational Management Plan
- **PEA**—Programmatic Environmental Assessment
- **PL**—Public Law
- **RCRA**—Resource Conservation and Recovery Act
- **REMIS**—Real Estate Management Information System
- **RHFCA**—River and Harbor and Flood Control Act
- **RIIS**—Recreational Infrastructure Investment Strategy
- **RV**—Recreational Vehicle
- **SAD**—US Army Corps of Engineers, South Atlantic Division
- **SDWA**—Safe Drinking Water Act
- **TES**—Threatened and Endangered Species
- **TTW**—Tennessee-Tombigbee Waterway
- **WMFS**—Wildlife Mitigation Feasibility Study

- **USACE**—US Army Corps of Engineers
- **USFWS**—US Fish and Wildlife Service
- **WMA**—Wildlife Management Area
- **WRDA**—Water Resources Development Act

APPENDIX A—PERTINENT DATA

A.1 RECREATION AUTHORIZATION

Section 4 of the Flood Control Act of 1944 (16 U.S.C. 460d)

A.2 LOCATION

Howell Heflin Lock and Dam	Gainesville, AL
Tom Bevill Lock and Dam	Pickensville, AL
John C. Stennis Lock and Dam	Columbus, MS
Future Donald G. Waldon Lock and Dam	Aberdeen, MS
Thad Cochran Lock	Amory, MS
Glover Wilkins Lock	Smithville, MS
Fulton Lock	Fulton, MS
John Rankin Lock	Fulton, MS
G.V. “Sonny” Montgomery Lock	Fulton, MS
Jamie Whitten Lock and Dam	Dennis, MS

Tennessee-Tombigbee Waterway Management Office	3606 W Plymouth Rd. Columbus, MS 39701
Bay Springs Site Office	82 Bay Springs Resource Rd. Belmont, MS 38827
Tom Bevill Visitor Center	1480 Lock and Dam Rd. Carrollton, AL 35447
Jamie L. Whitten Historical Center	100 Campground Rd. Fulton, MS 38843

A.3 PURPOSES

The Tennessee-Tombigbee Waterway has three Federally authorized purposes—navigation, wildlife mitigation, and recreation. See Chapter 1.3 for more information.

A.4 CONSTRUCTION

Navigation Channel and Dams	1972-1985
Howell Heflin Lock and Dam	1978
Tom Bevill Lock and Dam	1979
John C. Stennis Lock and Dam	1978
Future Donald G. Waldon Lock and Dam	1981
Thad Cochran Lock	1982
Glover Wilkins Lock	1983
Fulton Lock	1983
John Rankin Lock	1984
G. V. “Sonny” Montgomery Lock	1984
Jamie Whitten Lock and Dam	1983

A.5 RESERVOIRS

Demopolis Lake	Demopolis Lock and Dam
Normal operating pool elevation	73 feet
Area at normal summer pool elevation (73.0 MSL)	10,000 acres
Land acquired in fee simple	5,175.8 acres
Easements acquired	491.5 acres
Shoreline length at elevation at summer normal pool (73.0 MSL)	194.5 miles
Length of reservoir	52.70 river miles
Storage volume at summer normal pool (73.0 MSL)	120,000 acre-feet
Drainage area above dam site	15,300 square miles

Gainesville Lake	Howell Heflin Lock and Dam
Normal operating pool elevation	108.5-109.5, 109.0 feet
Area at normal summer pool elevation (109.0 MSL)	6,400 acres
Land acquired in fee simple	7,123.19 acres
Easements acquired	8,164.08 acres
Shoreline length at elevation at summer normal pool (elev. 109.0 MSL)	289.03 miles
Length of reservoir	42.70 river miles
Storage volume at summer normal pool (109.0 MSL)	45,290 acre-feet
Drainage area above dam site	7,142 square miles

Aliceville Lake	Tom Bevill Lock and Dam
Normal operating pool elevation	136 feet
Area at normal summer pool elevation (136.0 MSL)	8,300 acres
Land acquired in fee simple	5,625.59 acres
Right to inundate acquired by easement	6,556.25 acres
Shoreline length at elevation at summer normal pool (136.0 MSL)	258.78 miles
Length of reservoir	27.90 river miles
Storage volume at summer normal pool (136.0 MSL)	665 acre-feet

Drainage area above dam site	5,785 square miles

Columbus Lake	John C. Stennis Lock and Dam
Normal operating pool elevation	163 feet
Area at normal summer pool elevation (163.0 MSL)	8,910 acres
Land acquired in fee simple	11,731.36 acres
Right to inundate acquired by easement	4,215.46 acres
Shoreline length at elevation at summer normal pool (163.0 MSL)	249.20 miles
Length of reservoir	22.80 river miles
Storage volume at summer normal pool (109.0 MSL)	59,483 acre-feet
Drainage area above dam site	4,440 square miles

Aberdeen Lake	Future Donald G. Waldon Lock and Dam
Normal operating pool elevation	190.0 feet
Area at normal summer pool elevation (190.0 MSL)	4,121 acres
Land acquired in fee simple	6,025.04 acres
Right to inundate acquired by easement	1,340.77 acres
Shoreline length at elevation at summer normal pool (190.0 MSL)	137.83 miles
Length of reservoir	13.60 river miles
Storage volume at summer normal pool (109.0 MSL)	31,564 acrefeet
Drainage area above dam site	2,045 square miles

Canal Section	Pools A-E
Land acquired in fee simple	21,116.50 acres
Easement acreage acquired	3,087.96 acres

Amory Pool (Pool A)	Thad Cochran Lock
Normal operating pool elevation	220 feet
Area at normal summer pool elevation (220.0 MSL)	900 acres
Shoreline length at elevation at summer normal pool (220.0 MSL)	18.06 miles
Length of reservoir	5.20 river miles
Storage volume at summer normal pool (220.0 MSL)	4,400 acre-feet
Drainage area above dam site	24.6 square miles

Wilkins Pool (Pool B)	Glover Wilkins Lock
Normal operating pool elevation	245 feet
Area at normal summer pool elevation (245.0 MSL)	2,750 acres
Shoreline length at elevation at summer normal pool (245.0 MSL)	46.88 miles
Length of reservoir	14.70 river miles
Storage volume at summer normal pool (245.0 MSL)	19,000 acre-feet
Drainage area above dam site	444.4 square miles

Fulton Pool (Pool C)	Fulton Lock
Normal operating pool elevation	270 feet

Area at normal summer pool elevation (270.0 MSL)	1,630 acres
Shoreline length at elevation at summer normal pool (270.0 MSL)	24.91 miles
Length of reservoir	7.40 river miles
Storage volume at summer normal pool (270.0 MSL)	13,300 acre-feet
Drainage area above dam site	60.5 square miles

Rankin Pool (Pool D)	John Rankin Lock
Normal operating pool elevation	300 feet
Area at normal summer pool elevation (300.0 MSL)	1,980 acres
Shoreline length at elevation at summer normal pool (300.0 MSL)	26.88 miles
Length of reservoir	8.30 river miles
Storage volume at summer normal pool (300.0 MSL)	24,900 acre-feet
Drainage area above dam site	26.5 square miles

Montgomery Pool (Pool E)	G.V. “Sonny” Montgomery Lock
Normal operating pool elevation	330 feet
Area at normal summer pool elevation (330.0 MSL)	855 acres
Shoreline length at elevation at summer normal pool (330.0 MSL)	18.23 miles
Length of reservoir	5.20 river miles
Storage volume at summer normal pool (330.0 MSL)	1,380 acre-feet
Drainage area above dam site	60.4 square miles

Bay Springs Lake	Jamie L. Whitten Lock and Dam
Normal operating pool elevation	414 feet
Area at normal summer pool elevation (414.0 MSL)	6,700 acres
Land acquired in fee simple	13,804.22 acres
Flowage easements acquired	137.76 acres
Shoreline length at elevation at summer normal pool (414.0 MSL)	214.44 miles
Length of reservoir	9.4 river miles
Storage volume at summer normal pool (414.0 MSL)	180,000 acre-feet
Drainage area above dam site	32,786 square miles

Divide Cut Section	
Land acquired in fee simple	15,048.85 acres
Flowage easements acquired	205.46 acres
Length of Divide Cut Section	23.70 river miles

A.6 RECREATION

Day-use areas	28
Campgrounds	7
Campsites	750
Boat ramps (total)	31
Boat ramps (not in campgrounds)	28
Swimming beaches (total)	4

Swimming beaches (not in campgrounds)	3
Annual visitation, 10-year average (FY2010–2020)	1,671,711
Highest visitation in 10-year period (2010)	2,216,307
Concessionaires	2

APPENDIX B—PRIOR DESIGN MEMORANDA AND REPORTS

B.1 PRIOR DESIGN MEMORANDA

TITLE	NUMBER	APPROVED
Tennessee-Tombigbee Waterway Master Plan Preliminary Draft		1994
General Design Memo	1	12 Apr 1962 (OCE)
Supplement to GDM		3 Nov 1966 (OCE)
Supplement to GDM - Restudy of Project Costs and Benefits: Economic Reanalysis Summary		8 Mar 1976 (OCE)
Supplement to GDM (FDM Hydrological, Meteorologic, and Water Quality Systems		14 Mar 1980 (OCE)
Supplement to GDM - Interpretative Facilities		25 Sep 1981(SAD)
Tennessee-Tombigbee Area Office	2	Jan 1983 (SAD)
Tennessee-Tombigbee Waterway - Master Plan	3	Mar 1985 (SAD)
Demopolis Lake - Real Estate	1	5 Feb 1973 (OCE)
Demopolis Lake - Relocations, AL GR Sou RR Bridge	2	2 Nov 1972 (OCE)
Supplement No. I		3 Jun 1977 (SAD)
Supplement No. 2		11 Jul 1977 (SAD)
Demopolis Lake - Rattlesnake Bend Cutoff	3	10 Aug 1972 (OCE)
Demopolis Lake - Nav Channel (Rev)	4	6 Apr 1973 (OCE)
Demopolis Lake - Relocs Plant, Pipeline	5	28 Jan 1976 (SAD)
Demopolis Lake - Relocs. AT&T	6	18 Sep 1980 (SAD)
Gainesville L&D - Basic Hydrology	1	2 Dec 1968 (OCE)
Gainesville L&D - Land Rqmts. Pl. Pub. Use (Rev.)	2	16 Apr 1971 (OCE)
Gainesville L&D - R.E. Constr. Area (Rev.)	3	2 Sep 1970 (OCE)
Gainesville L&D - R.E. Reservoir Area	3A	25 Mar 1974 (OCE)
Gainesville L&D - General Design Memo	4	19 Jun 1969 (OCE)
Gainesville L&D - Sources of Construction Matls.	6	9 Sep 1969 (OCE)
Gainesville L&D - Geology and Soils	7	5 Jun 1970 (OCE)
Gainesville L&D - Lock and Channels	8	5 Jun 1970 (OCE)
Gainesville L&D – Relocations: AT&N (Frisco) RR BR	9	1 Feb 1971 (OCE)
Gainesville L&D - Geol. & Earth: Spw & Chs.	10	3 Mar 1972 (OCE)
Gainesville L&D - Spillway	11	11 May 1972 (OCE)
Gainesville L&D - Instrumentation	12	30 Oct 1972 (SAD)
Gainesville L&D - Relocs. Bl. War. Elec.	13	2 Nov 1971 (OCE)
Gainesville L&D - Relocs. Al Power Co.	14	3 Oct 1972 (SAD)
Gainesville L&D - Public Use Facs.	15	18 Feb 1975 (SAD)

Gainesville L&D - Bldg Grs & Utils	16	24 Jan 1974 (SAD)
Gainesville L&D - Reservoir Clearing	17	18 Apr 1973 (OCE)
Revised	17	4 Sep 1973 (OCE)
Gainesville L&D - Navigation Channel	18	28 Mar 1974 (SAD)
Gainesville L D - Sedimentation Program	19	14 Dec 1976 (SAD)
Gainesville L&D - Master Plan	22	Deleted
Gainesville L&D - Remote Control of Spillway Gates	23	16 Apr 1975 (SAD)
Aliceville L&D - Basic Hydrology	1	18 Sep 1972 (OCE)
Aliceville L&D - Land Reqmts. Plan Pub Use (Rev.)	2	4 Mar 1975 (OCE)
Aliceville L&D - R.E. Constr. Area	3	27 Nov 1973 (OCE)
Aliceville L&D - R.E. Reservoir Area	3A	18 Oct 1974 (OCE)
Aliceville L&D - General Design Memo & Supp	4	5 Nov 1973 (OCE)
Aliceville L&D - Constr. Procedure and Diversion Plan	5	24 Sep 1973 (SAD)
Aliceville L&D - Geology and Earthwork	6	26 Feb 1974 (SAD)
Aliceville L&D - Sources of Constr. Matls.	7	10 Jan 1974 (SAD)
Aliceville L&D - Lock & Spillway	8	5 Oct 1973 (SAD)
Aliceville L&D - Right Bank Access Road	9	15 May 1974 (OCE)
Aliceville L&D - Relocs ICG RR	10	19 Nov 1976 (OCE)
Aliceville L&D - Relocs MS Valley Gas	11	16 Dec 1976 (SAD)
Aliceville L&D – Instrumentation	12	7 Dec 1973 (SAD)
Aliceville L&D - Relocs. AL Power Co.	13	2 Oct 1975 (SAD)
Aliceville L&D - Relocs So. Cen. Bell, Col Cable TV &		
4 Co. Elec.	14	4 Nov 1977 (SAD)
Supp. No. 1		29 Feb 1980 (SAD)
Aliceville L&D - Navigation Channel	15	4 Sep 1974 (SAD)
Aliceville L&D - Public Use Facils.	16	19 Sep 1978 (SAD)
Supp. No. 1	16	23 Jun 1981 (SAD)
Aliceville L&D - Bldgs., Grnds & Utils.	17	16 Jan 1979 (SAD)
Aliceville L&D - Reservoir Clearing	18	21 Nov 1974 (SAD)
Aliceville L&D - Sedimentation Program	19	2 Sep 1977 (SAD)
Aliceville L&D - Master Plan	20	Deleted
Aliceville L&D - Relocs TVA	21	8 Mar 1976 (SAD)
Aliceville L&D - Reservoir Filling	22	21 Dec 1979 (OCE)
Columbus L&D - Basic Hydrology	1	16 Oct 1972 (OCE)
Columbus L&D - General Design Memo & Supp.	2	16 Jan 1974 (OCE)
Columbus L&D - Land Reqmts. Plan	3	20 Feb 1975 (OCE)
Columbus L&D - Geology & Earthwork and Supplement	4	31 Oct 1974 (SAD)
Columbus L&D - Sources of Constr Matls	5	28 Feb 1974 (SAD)

Columbus L&D - Lock and Spillway	6	13 Feb 1974 (SAD)
Columbus L&D - Relocs TVA	7	23 Oct 1975 (SAD)
Supplement No. 1		23 Dec 1976 (SAD)
Supplement No. 2		26 Oct 1978 (SAD)
Columbus L&D - R. E. Constr Area	8	14 May 1974 (OCE)
Columbus L&D - R. E. Reservoir Area	8A	2 Apr 1975 (OCE)
Columbus L&D - Relocs So. Cen. Bell and Aberdeen Elec.	9	5 May 1976 (SAD)
Supplement No. 1		29 May 1979 (SAD)
Supplement No 2		29 Aug 1979 (SAD)
Columbus L&D - Relocs Col & Green RR	10	29 Jul 1980 (OCE)
Columbus L&D - Instrumentation	11	21 Aug 1974(SAD)
Columbus L&D - Constr Procedure and Diversion Plan	12	29 Jan 1974 (SAD)
Columbus L&D - Rt. Bank Access Road	13	22 Apr 1974 (OCE)
Columbus L&D - Public Use Facilities	14	18 Sep 1979 (SAD)
Supplement No. 1	14	23 Jun 1981(SAD)
Columbus L&D - Bldgs, Grnds & Utils	15	Deleted
Columbus L&D - Navigation Channel	16	24 Sep 1974 (SAD)
Columbus L&D - Reservoir Clearing	17	8 Jul 1975 (SAD)
Columbus L&D - Sedimentation Program	18	28 Jul 1978 (SAD)
Columbus L&D - Master Plan	19	Deleted
Columbus L&D - Relocs 4 - Co. Elec.	21	5 Jun 1975 (SAD)
Columbus L&D - Reservoir Filling	22	5 Sep 1980 (OCE)
Aberdeen L&D – Basic Hydrology	1	31 May 1974 (OCE)
Aberdeen L&D - General Design Memo	2	21 Aug 1974 (OCE)
Aberdeen L&D - Land Reqmts. Plan	3	2 Sep 1975(OCE)
Aberdeen L&D - Geol. and Earthwork	4	10 Dec 1974 (SAD)
Aberdeen L&D - Reservoir Clearing	5	28 Mar 1975 (SAD)
Aberdeen L&D - Sources of Constr Matls	6	4 Oct 1974 (SAD)
Aberdeen L&D - Lock and Dam	7	21 Feb 75 (SAD)
Aberdeen L&D - R.E. Constr Area	9	4 Mar 75 (OCE)
Aberdeen L&D - R.E. Reservoir Area	9A	1 Jul 75 (OCE)
Aberdeen L&D - Relocs TVA & Monroe Co. Elec.	10	31 Mar 77 (SAD)
Aberdeen L&D – Relocs SL & SF RR	11	11 Nov 77 (OCE)
Supplement No. 1	26	Jan 1978
Supplement No. 2	26	Feb 1979
Supplement No. 3	27	Sep 1978
Aberdeen L&D - Relocs MS Valley Gas	12	3 Mar 1976 (SAD)
Aberdeen L&D - Instrumentation	13	12 Sep 1975 (SAD)

Aberdeen L&D - Navigation Channel	14	2 Apr 1975 (SAD)
Aberdeen L&D - Public Use Facilities	15	Mar 1983 (SAD)
Aberdeen L&D - Bldgs. Grnds & Utils (Prepared as a portion of DM15)	16	Deleted
Aberdeen L&D – Sedimentation Program	17	17 Sep 1979 (SAD)
Aberdeen L&D - Reservoir Filling	18	Nov 1983 (OCE)
Aberdeen L&D - Master Plan	19	Deleted
Canal Section - Basic Hydrology	1	4 Apr 1975 (OCE)
Canal Section - Gen Design Memo, Locks A&. B	2	17 Jan 1975 (OCE)
Canal Section - Relocs Frisco RR at Amory	3	2 May 1979 (OCE)
Canal Section - R.E. Constr Areas, Locks A & B	4	15 Jun 1976 (OCE)
Canal Section - R.E. Constr Areas, Locks C thru E	4A	23 Sep 1977 (OCE)
Canal Section – R.E. Reservoir Areas, A, B, & C	4B	18 Nov 1977 (OCE)
Canal Section – R.E. Reservoir Areas, D & E	4C	1 Sep 1978 (OCE)
Canal Section – General Design Memo	5	25 Mar 1977 (OCE)
Canal Section - Lock B – Relocs, MS RR	7	26 Nov 1979 (OCE)
Canal Section - Lock B, Relocs, Tex. East Pipeline	8	19 Sep 1974
Canal Section - Sources of Constr Matls	9	22 Mar 1977 (SAD)
Canal Section, Lock A Lock, Spillway and Earthwork	10	17 Jul 1975 (SAD)
Canal Section, Lock A - Relocs TVA	11	23 Jan 1979 (SAD)
Canal Section, Lock B - Lock and Earthwork	13	17 Nov 1975 (SAD)
Canal Section, Lock A - Sou. Cen, Bell	14	8 Nov 1978 (SAD)
Canal Section, Lock B - Canal, Levee & Control Structures	15	19 Jan 1978 (SAD)
Canal Section, Lock A - Instrumentation	16	16 May 1977 (SAD)
Canal Section, Lock C - Lock, Spillway, & Earthwork	17	29 Mar 1978 (SAD)
Canal Section, Lock B - Instrumentation	18	10 Jan 1978 (SAD)
Canal Section, Lock D - Lock, Spillway, & Earthwork	19	16 Apr 1979 (SAD)
Canal Section, Lock A - Canal, Levee, & Control Structures	20	25 Jan 1977 (SAD)
Canal Section, Lock C - Instrumentation	21	10 Aug 1978 (SAD)
Canal Section, Lock D - Instrumentation	22	26 Mar 1980 (SAD)
Canal Section, Lock B, Spillway and Earthwork	23	9 Sep 1977 (SAD)
Canal Section, Lock C - Canal, Levee & Control Structures	24	30 Nov 1978 (SAD)
Canal Section - Public Use Facilities	25	27 May 1981 (SAD)
Canal Section - Bldgs, Grnds, and Utils	26	Deleted
Canal Section, Lock D - Canal, Levee & Control Structures	27	30 Nov 1978 (SAD)
Canal Section - Master Plan	28	Deleted
Canal Section - Sedimentation Program	29	7 Jul 1980 (SAD)
Canal Section, Lock E •• Canal, Levee & Control Structures	30	24 Jul 1979 (SAD)

Canal Section, Lock E - Lock, Spillway & Earthwork	31	17 Sep 1979 (SAD)
Canal Section, Lock E - Instrumentation	32	11 Dec 1980 (SAD)
Canal Section, Lock A - Relocs MS Valley Gas	33	26 Mar 1979 (SAD)
Canal Section, Lock B - Relocs Ful Tel	34	27 Mar 1981 (SAD)
Canal Section, Lock B - Relocs Tombigbee Power	35	9 May 1979 (SAD)
Canal Section, Lock C - Relocs Ful Tel	37	12 May 1980 (SAD)
Canal Section, Lock C - Relocs TVA & Tombigbee Power	38	May 1982 (SAD)
Canal Section, Lock D - Relocs TVA	39	28 Aug 1979 (SAD)
Canal Section, Lock A - Reloc Monroe County EPA	40	Deleted
Canal Section, Lock C - Relocs Tombigbee Power	41	
Canal Section, Locks A through E – Reservoir Filling	42	Aug 1984 (OCE)
Canal Section, Lock D - Reloc Tombigbee Electric Power Association	43	Aug 1984 (SAD)
Canal Section, Lock E - Reloc Tombigbee Electric Power Association	44	Aug 1983 (SAD)
Divide Cut - GDM	N-1	7 Sep 1973 (OCE)
Divide Cut - Feature DM		
Divide Cut - Feature DM, Dredging Yellow	N-2	2 Apr 1975 (SAD)
Creek Embayment	N-2A	19 Dec 1973 (SAD)
Divide Cut - Drainage Structures	N-2B	12 Jan 1976 (SAD)
Divide Cut - Inst. & Monumentation	N-3	Incl. in Individual Contracts
Divide Cut - Real Estate for Divide Cut and RR Relocs	N-4	12 Oct 1973 (OCE)
Divide Cut - Master Plan	N-5	7 Mar 1979 (SAD)
Divide Cut - Southern Railway Relocs	N-6A	15 Sep 1977 (SAD)
Divide Cut - ICG RR Relocs	N-6B	30 Apr 1975 (OCE)
Divide Cut - Utilities Reloc. (Fed.)	N-6C	8 Apr 1975 (SAD)
Divide Cut - Mt. Gilead Road	N-6D	5 Mar 1976 (SAD)
Bay Springs - Materials Design	N-10	4 Mar 1977 (OCE)
Bay Springs - GDM	N-11	19 Sep 1975 (OCE)
Bay Springs - L&D Feature DM	N-12	1 Jun 1977 (SAD)
Bay Springs - Instrumentation & Monumentation	N-13	14 May 1979 (SAD)
Bay Springs - Real Estate, Constr. Area	N-14A	11 Oct 1974 (OCE)
Bay Springs - Real Estate, Reservoir	N-14B	14 Jul 1976 (OCE)
Bay Springs - Reservoir Clearing	N-15	31 Jan 1980 (SAD)
Bay Springs - Canal and Reservoir Sedimentation Ranges	N-16	26 Oct 1981 (SAD)
Bay Springs - Reservoir Filling	N-17	Sep 82 (SAD)

B.1 PERTINENT REPORTS

US Army Corps of Engineers, Mobile District. (1975-1982). *Cultural Resource Studies. Tennessee-Tombigbee Waterway, Alabama and Mississippi*.

US Army Corps of Engineers, Mobile District. (1971). *Environmental Statement. Tennessee-Tombigbee Waterway, Alabama and Mississippi. Navigation*.

US Army Corps of Engineers, Mobile District. (1975). *First Supplemental Environmental Reports of the Continuing Environmental Studies. Vols. I-IX. Tennessee-Tombigbee Waterway, Alabama and Mississippi*.

US Army Corps of Engineers, Mobile District and Nashville District. (1982). *Final Supplement to the Environmental Impact Statement. Tennessee-Tombigbee Waterway, Alabama and Mississippi. Navigation*.

APPENDIX C—TENNESSEE-TOMBIGBEE WATERWAY RECREATION CARRYING CAPACITY STUDY

By Adam Brown

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1. PURPOSE

The Recreation Carrying Capacity Study will evaluate the ability of the Project to accommodate existing and future recreation uses and assess whether these uses are suitable given the potential effects on recreational, environmental, and social resources. Carrying capacity can be defined as the amount and type of use that an area can sustain over a given period of time. Carrying capacities can protect users' experiences by preventing overcrowding, which causes deterioration of the natural attributes and impedes each user's ability to move freely and to fully enjoy the natural setting without undue stress and distraction.

2. REGIONAL RECREATION RESOURCES

2.1 PROJECT LOCATION

The Tennessee-Tombigbee Waterway joins the Tennessee River in Northeast Mississippi with the old Tombigbee River near Amory, Mississippi. The waterway is 234 miles long and runs from Yellow Creek Port near Pickwick Lake to Demopolis, Alabama. The system features 10 lakes and 10 locks and dams that allow for a shorter navigational route from the interior United States to the Gulf of Mexico.

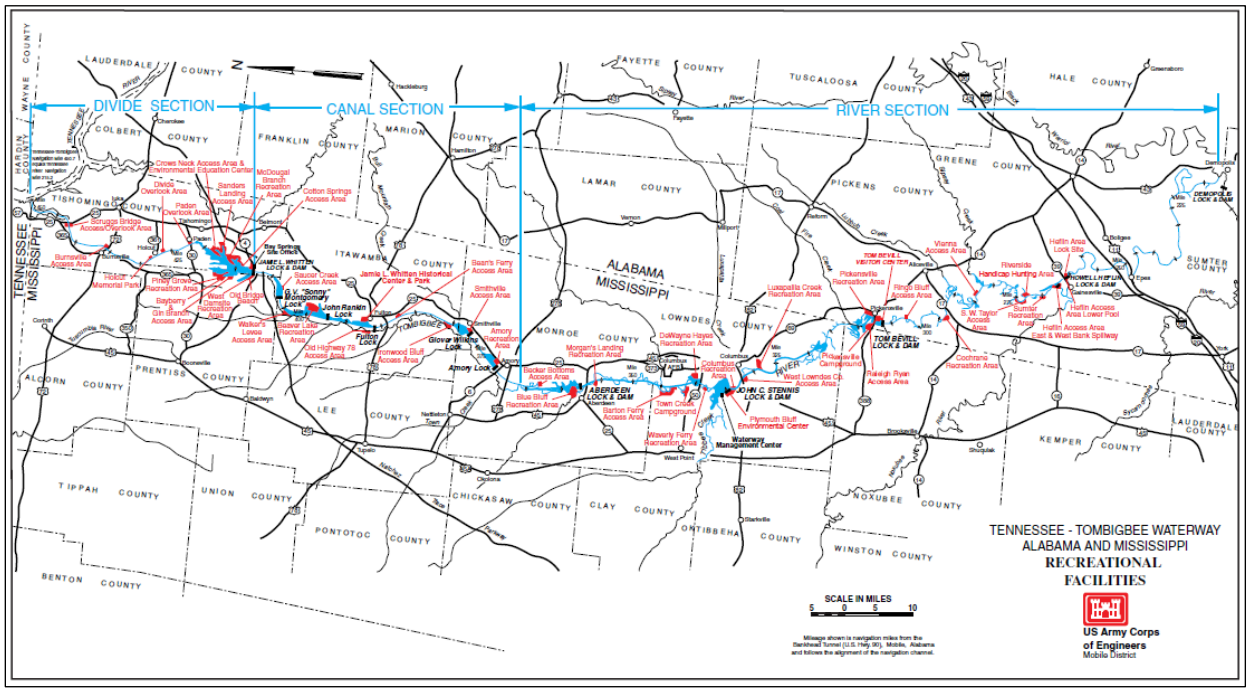
2.2 PROJECT DESCRIPTION

The Tennessee-Tombigbee Waterway consists of 3 sections: River, Canal and Divide. The river section of the waterway stretches from Demopolis, Alabama north to Amory, Mississippi and encompasses 149 miles and four locks and dams. The canal section of the Tennessee-Tombigbee Waterway stretches north from Amory, Mississippi to Jamie L. Whitten Lock and Dam near Dennis, Mississippi. Forty-six miles in length, it has a total of five locks and dams. The divide section of the Tennessee-Tombigbee Waterway begins at Jamie L. Whitten Lock and Dam and runs north for 39 miles to Yellow Creek on Pickwick Lake near the Tennessee Border.

2.3 RECREATION

Located conveniently in Northeast Mississippi and West Central Alabama, the Tennessee-Tombigbee Waterway provides outdoor recreational opportunities for more than 3 million people each year, while also aiding navigation and enhancing wildlife habitat. Tennessee-Tombigbee provides ample space for picnicking, fishing and camping. (https://www.sam.usace.army.mil/Missions/Civil-Works/Recreation/Tennessee-Tombigbee-Waterway/)

2.4 TENNESSEE-TOMBIGBEE WATERWAY MAP



*USACE Map from https://www.sam.usace.army.mil/Portals/46/docs/recreation/OP-CO/tenntom/pdfs/rec/lakemaps/project.pdf

3. VISITATION

3.1 VISITATION PROFILE

In general, the Tennessee-Tombigbee Waterway is visited predominately by local residents during peak recreation season from April through June. Visitation at Corps sites is generally concentrated during the weekends in both peak and non-peak seasons. The Carrying Capacity Study discusses the Tennessee-Tombigbee Waterway visitation patterns in detail. Overall project visitation was examined from 2014 to 2019.

3.2 PROJECT VISITATION

Project visitation and area population for years 2014 through 2019 are displayed in the graph below. Population includes the following 38 counties in Alabama, Mississippi, and Tennessee: Greene, Pickens, Sumter, Hale, Choctaw, Marengo, Perry, Tuscaloosa, Fayette, Lamar, Marion, Monroe, Franklin, Colbert and Lauderdale. The counties in Mississippi are Kemper, Noxubee, Lowndes, Oktibbeha, Monroe, Clay, Winston, Marion, Webster, Chickasaw, Itawamba, Lee, Union, Prentiss, Tippah, Tishomingo, Alcorn and Pontotoc. The counties in the final state, Tennessee, are Hardin, McNairy, Hardeman, Wayne and Lawrence.

Table 1: Population per Year Estimates Based on US Census

State	County	2014	2015	2016	2017	2018	2019
AL	Greene	8,584	8,508	8,482	8,310	8,209	8,111
AL	Pickens	20,272	20,776	20,325	20,204	19,980	19,930
AL	Sumter	13,270	13,206	12,967	12,749	12,634	12,427
AL	Hale	15,046	15,015	14,828	14,801	14,749	14,651
AL	Choctaw	13,317	13,231	13,045	12,925	12,833	12,589
AL	Marengo	19,986	19,766	19,525	19,396	19,056	18,863
AL	Perry	9,801	9,640	9,532	9,302	9,070	8,923
AL	Tuscaloosa	203,086	204,767	206,464	207,618	208,319	209,355
AL	Fayette	16,772	16,696	16,563	16,466	16,445	16,302
AL	Lamar	14,067	13,927	13,928	13,882	13,882	13,805
AL	Marion	30,199	30,119	29,960	29,792	29,750	29,709
AL	Monroe	21,926	21,717	21,548	21,290	21,062	20,733
AL	Franklin	31,559	31,515	31,611	31,542	31,298	31,362
AL	Colbert	54,462	54,417	54,497	54,695	55,004	55,241
AL	Lauderdale	93,000	92,459	92,425	92,564	92,604	92,729
MS	Kemper	10,222	10,111	10,035	10,093	9,733	9,742
MS	Noxubee	11,067	10,942	10,879	10,711	10,550	10,417
MS	Lowndes	59,804	59,697	59,549	59,147	58,760	58,595
MS	Oktibbeha	49,061	49,510	49,534	49,678	49,249	49,587
MS	Monroe	36,055	35,823	35,897	35,851	35,543	35,252
MS	Clay	20,146	20,005	19,854	19,621	19,404	19,316
MS	Winston	18,601	18,447	18,340	18,237	18,164	17,955
MS	Marion	25,674	25,412	25,106	25,108	24,752	24,573
MS	Webster	9,995	9,873	9,758	9,732	9,788	9,689
MS	Chickasaw	17,404	17,395	17,224	17,144	17,100	17,103
MS	Itawamba	23,397	23,543	23,416	23,499	23,461	23,390
MS	Lee	84,763	84,740	84,837	85,071	85,276	85,436
MS	Union	28,157	28,311	28,308	28,486	28,615	28,815
MS	Prentiss	25,405	25,440	25,405	25,215	25,088	25,126
MS	Tippah	21,972	22,018	22,063	21,953	22,039	22,015
MS	Tishomingo	19,427	19,481	19,442	19,518	19,383	19,383
MS	Alcorn	37,254	37,276	37,246	37,165	36,810	36,953
MS	Pontotoc	30,783	30,857	31,470	31,709	31,881	32,174
TN	Hardin	25,801	25,754	25,740	25,738	25,693	25,652
TN	McNairy	26,032	25,864	25,832	26,001	25,830	25,694
TN	Hardeman	25,989	25,817	25,584	25,488	25,276	25,050
TN	Wayne	16,860	16,767	16,747	16,641	16,635	16,673

State	County	2014	2015	2016	2017	2018	2019
TN	Lawrence	42,304	42,592	43,056	43,388	43,771	44,142
	Total	1,231,520	1,231,434	1,231,022	1,230,730	1,227,696	1,227,462

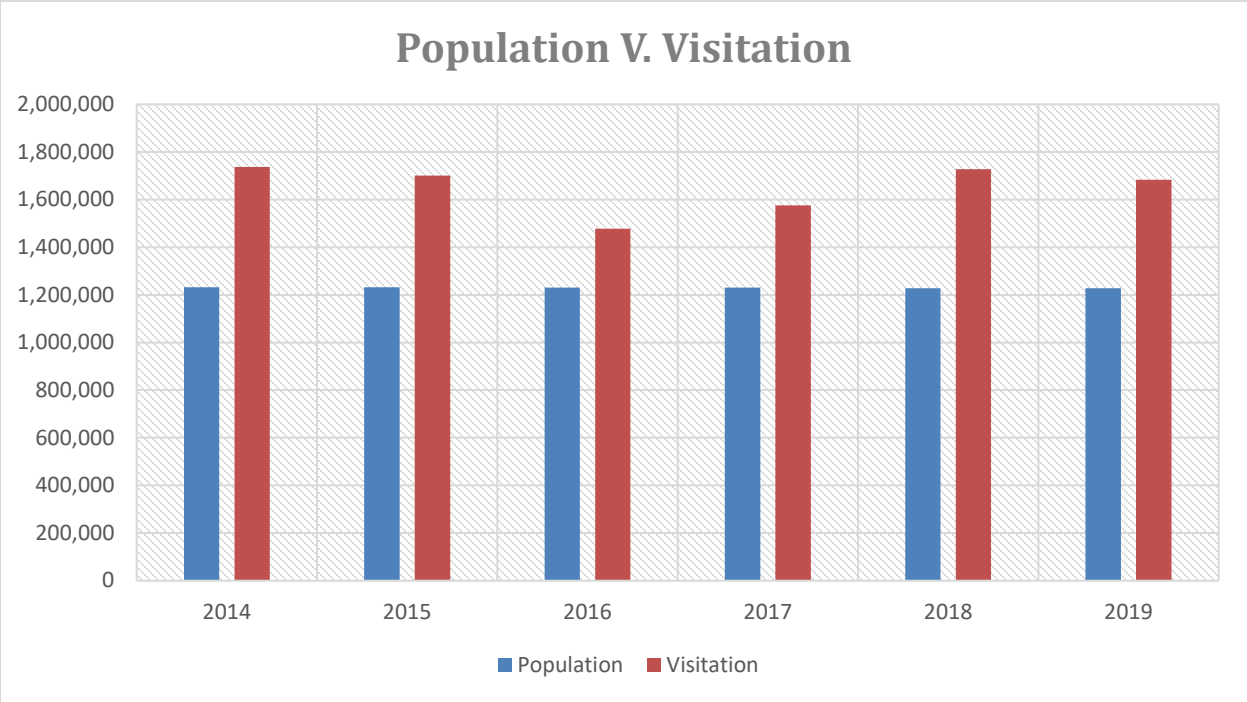


Figure 1. Project Visitation and Area Population

Population between 2020 and 2045 are displayed below in 5 year increments. A decrease in population of 16,900 is expected over the next 25 years.

Table 2: Area Population through 2045

Year	Population
2020	1226786
2025	1223406
2030	1220026
2035	1216646
2040	1213266
2045	1209886

3.3 PER CAPITA USE RATE

Visitation data and population data for the area were used for years 2014 through 2019 to determine the current per capita visitation rate for the region of influence. The average per capita use rate is 1.34. The visitation estimates through 2045 are determined by multiplying the above future population data times the average per capita use rate of 1.34. The table below shows the projected visitation and per capita use rate through 2045. The graph shows the per capita use rate and trend line from 2014-2019.

Table 3: Population and Visitation Estimates through 2045

Year	Population	Visitation	Per Capita
2014	1231520	1736981	1.410436696
2015	1231434	1700048	1.380543334
2016	1231022	1476992	1.199809589
2017	1230730	1575030	1.279752667
2018	1227696	1727023	1.406718764
2019	1227462	1682611	1.370804962
2020	1226786	1645542	1.341344335
2025	1223406	1641009	1.341344335
2030	1220026	1636475	1.341344335
2035	1216646	1631941	1.341344335
2040	1213266	1627407	1.341344335
2045	1209886	1622874	1.341344335

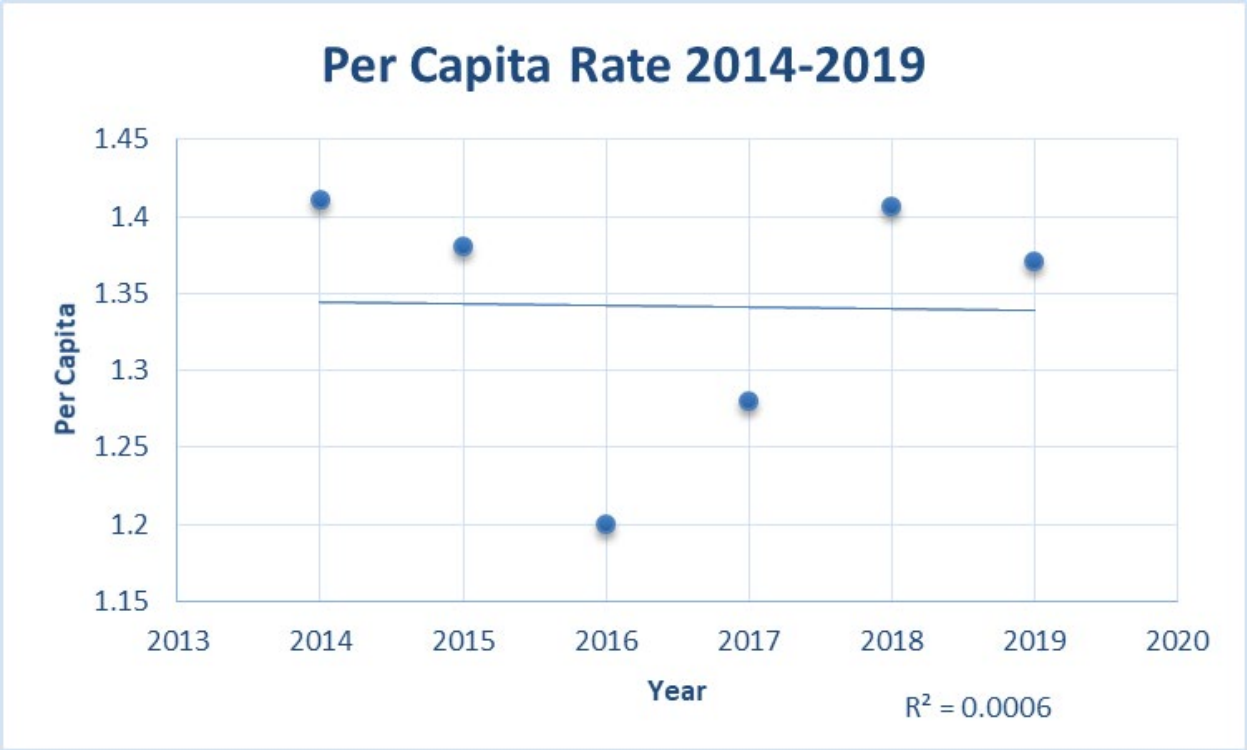


Figure 2: Per Capita Use Rate 2014-2019

3.4 PROJECT SITE AREA VISITATION

Below are historic visitation records from 2014 through 2019 for each recreation area for which data was available. Historic visitation data are recorded in detail, including visitation by year, month, and site. The visitation figures include visitors to Corps of Engineers managed areas and to leased other areas of the lake. The below graphs are estimates and it is recognized there are some anomalies, however our decisions are based on averages or trends. Some graphs do not show all months/years because concrete data is not available for those months/years. Therefore, those months/years were omitted. The x-axis gives you the month and year of the visitation data. The y-axis gives you the amount of visitation that occurred.

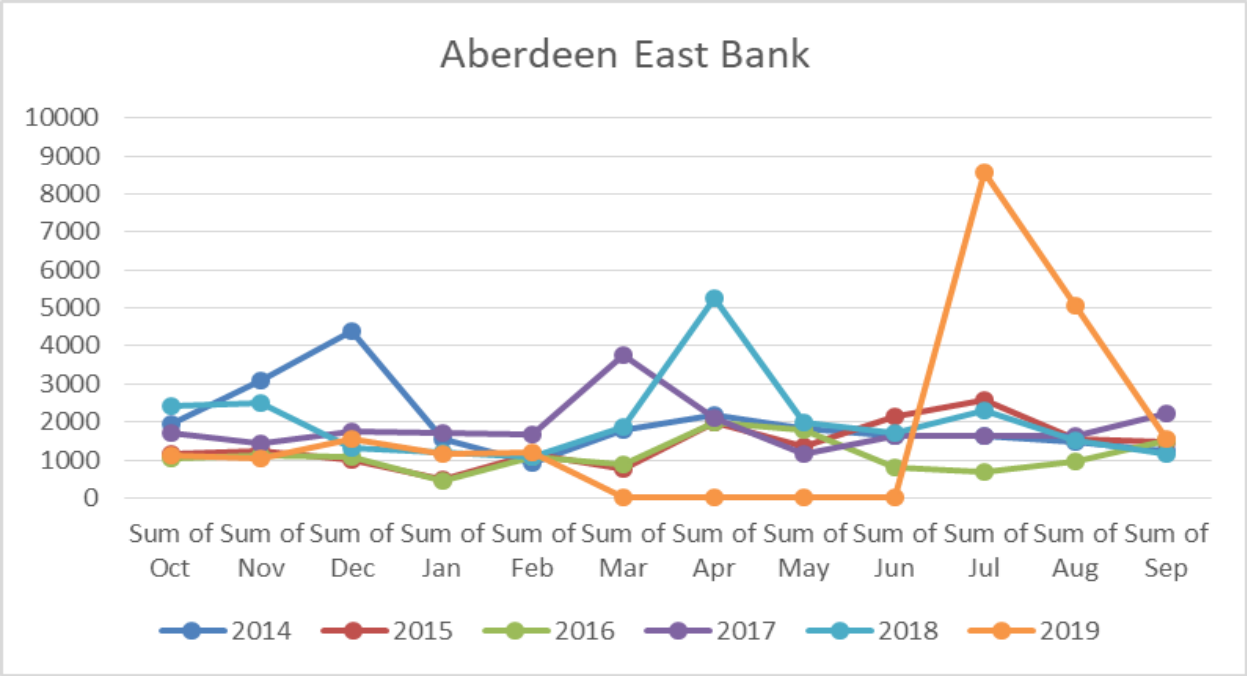


Figure 3: Aberdeen East Bank

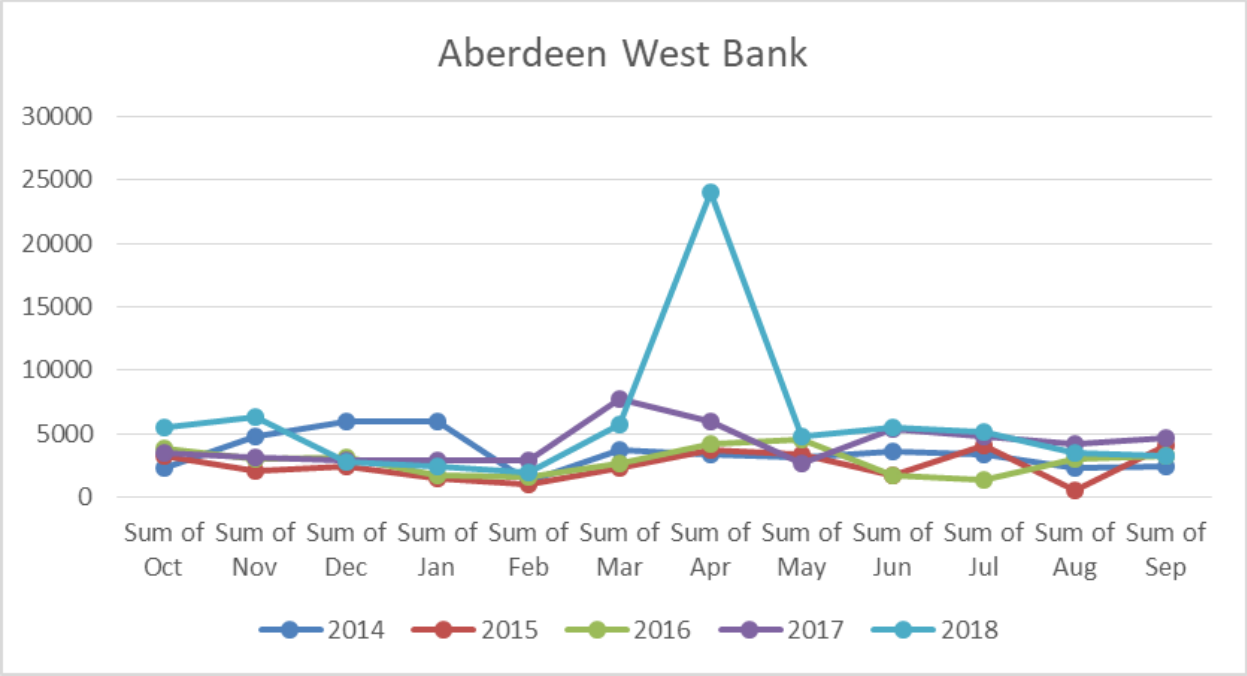


Figure 4: Aberdeen West Bank

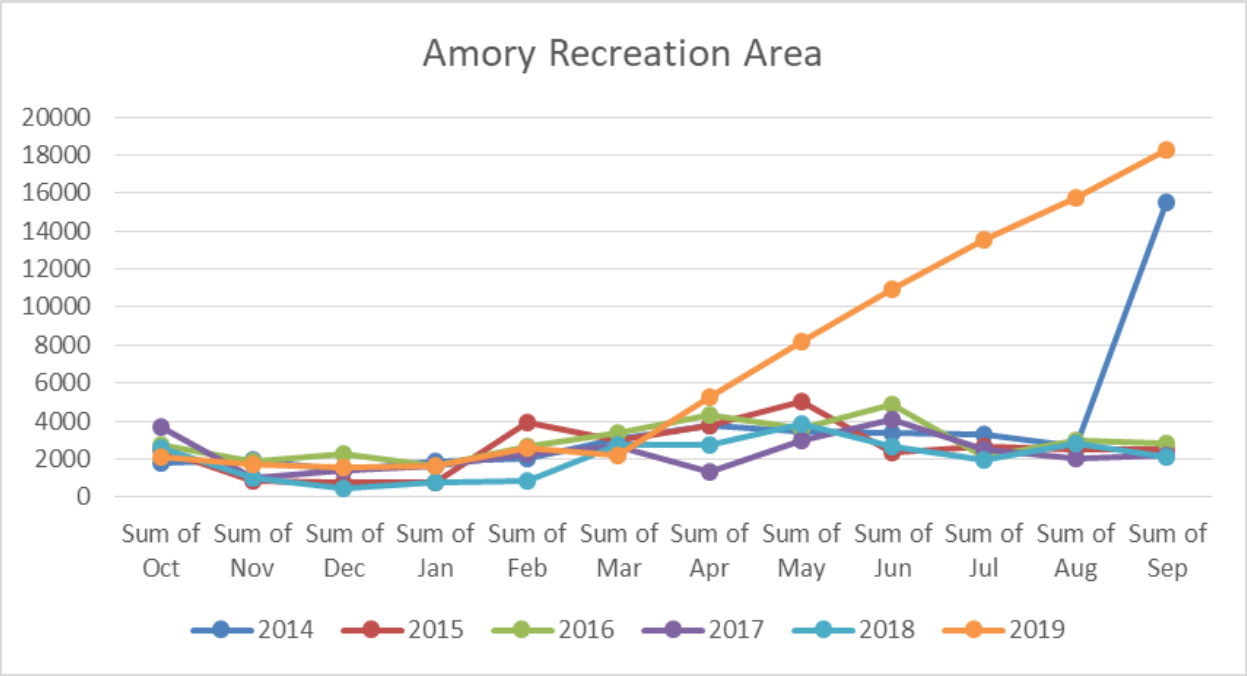
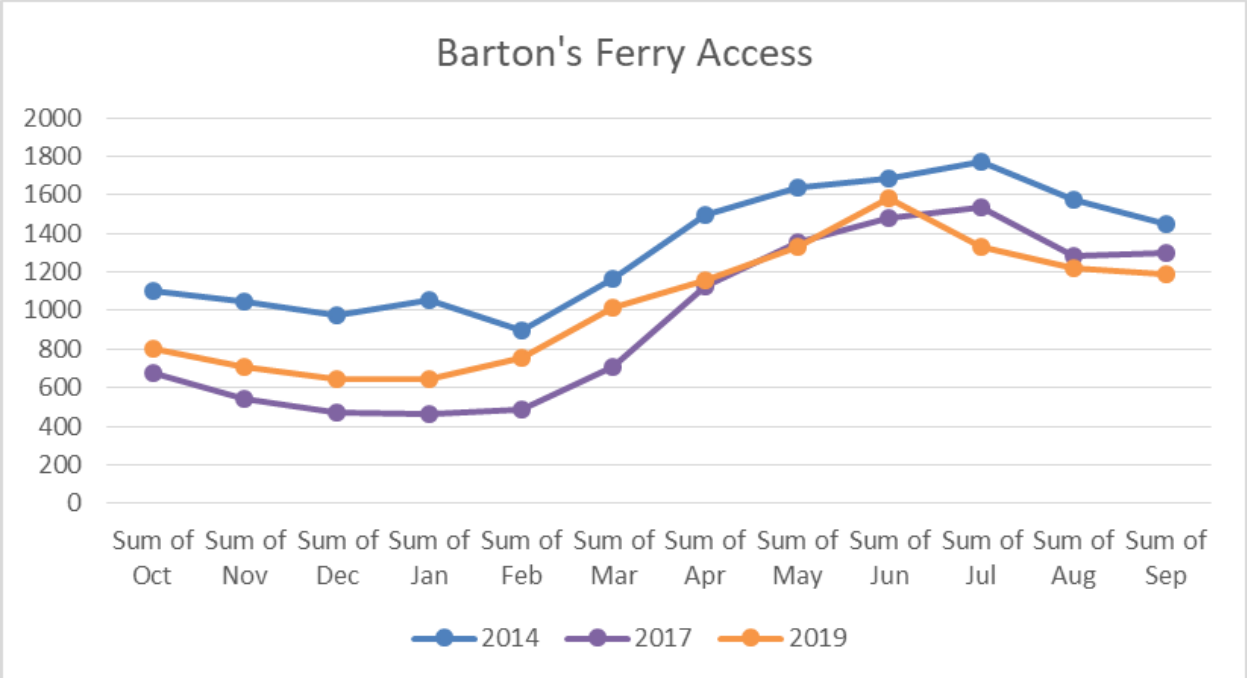


Figure 5: Amory Recreation Area



*Same data 2014-2016 and 2017-2018.

Figure 6: Barton's Ferry Access

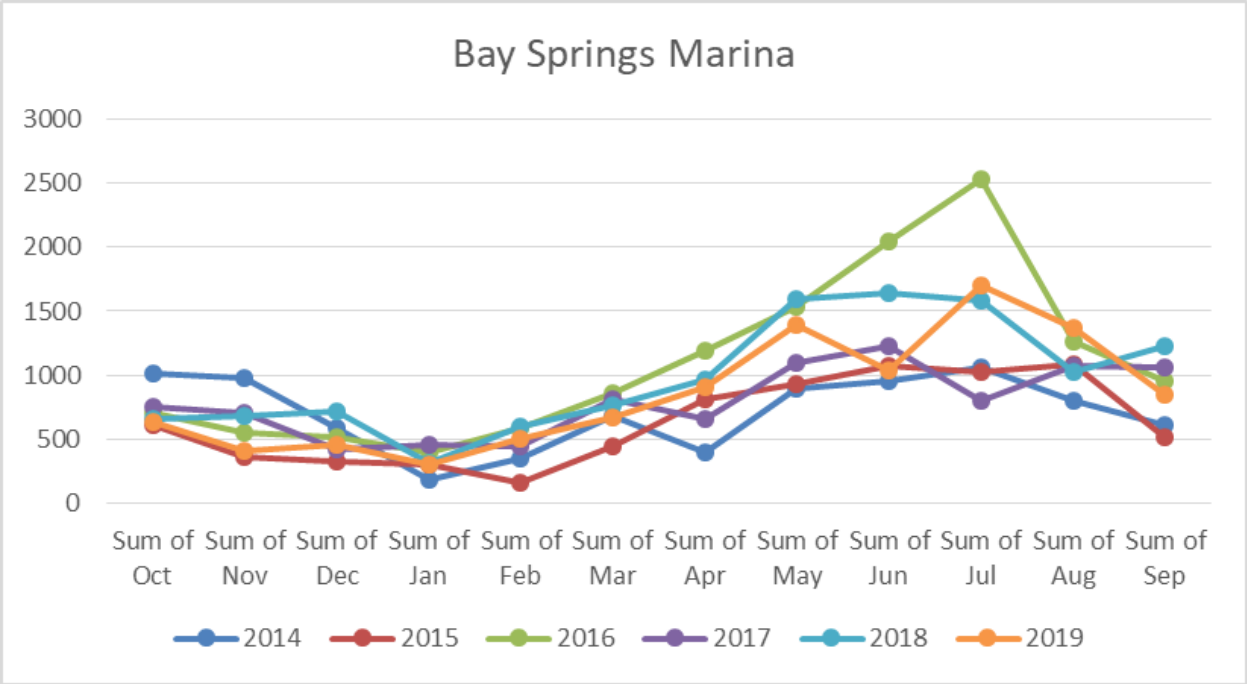


Figure 7: Bay Springs Marina

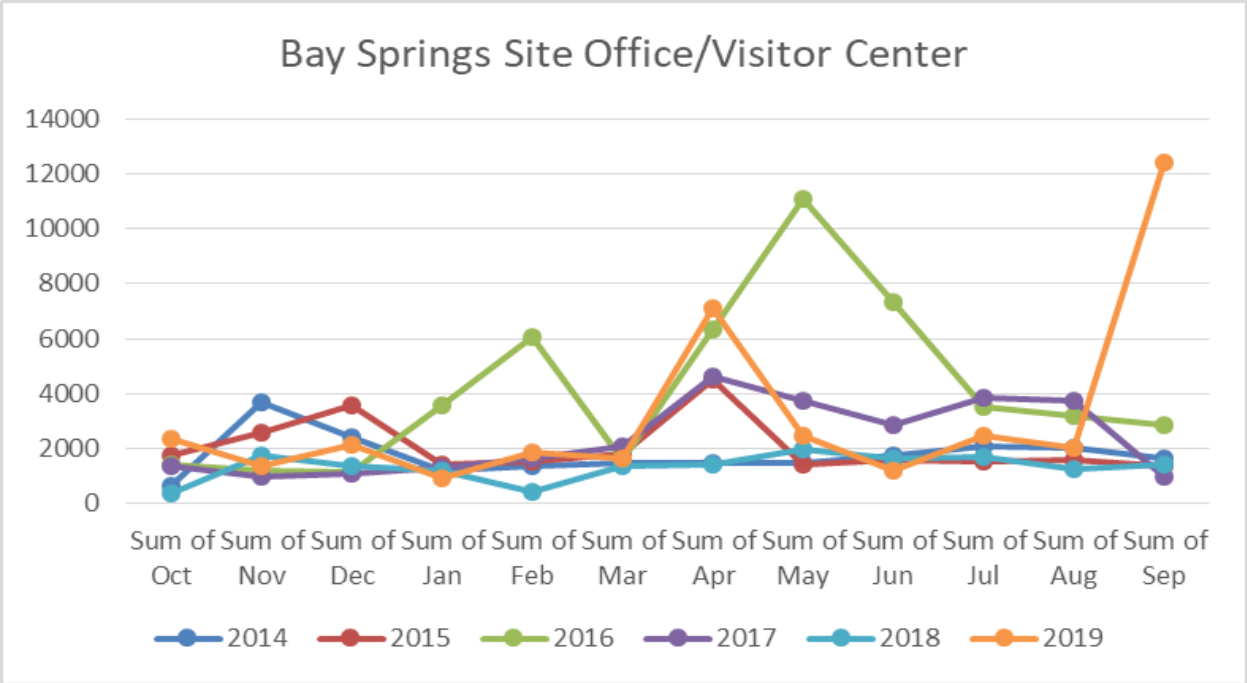


Figure 8: Bay Springs Site Office/Visitor Center

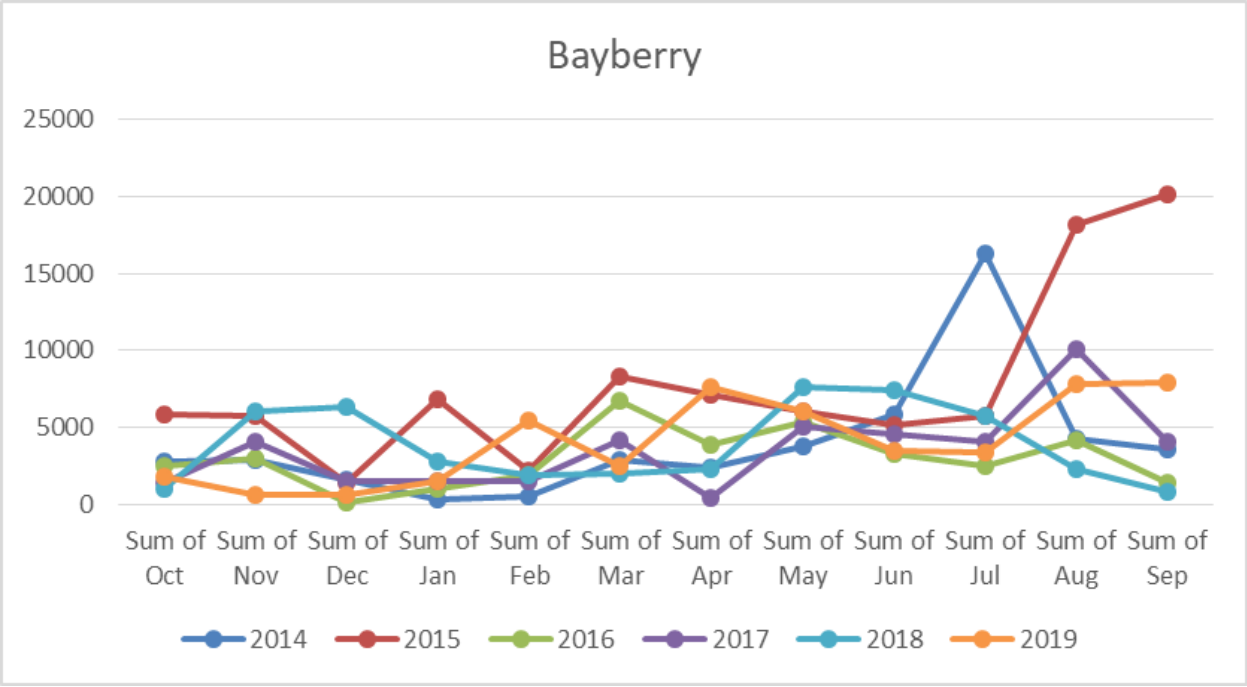


Figure 9: Bayberry

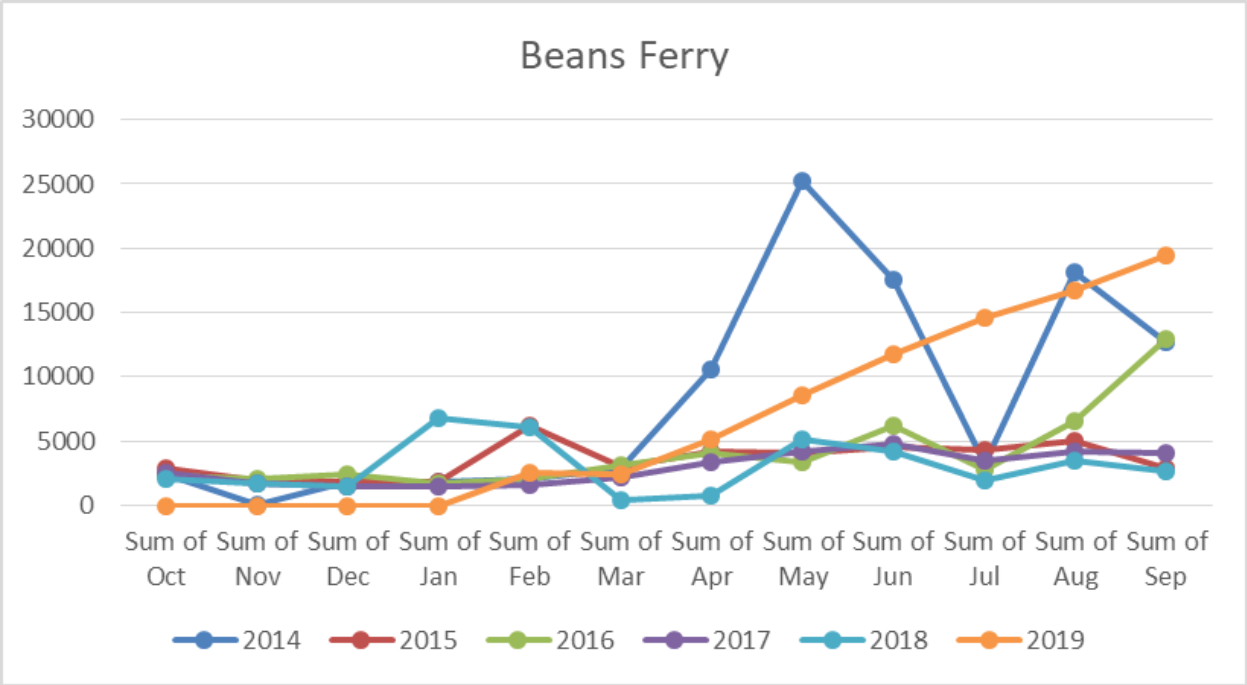


Figure 10: Beans Ferry

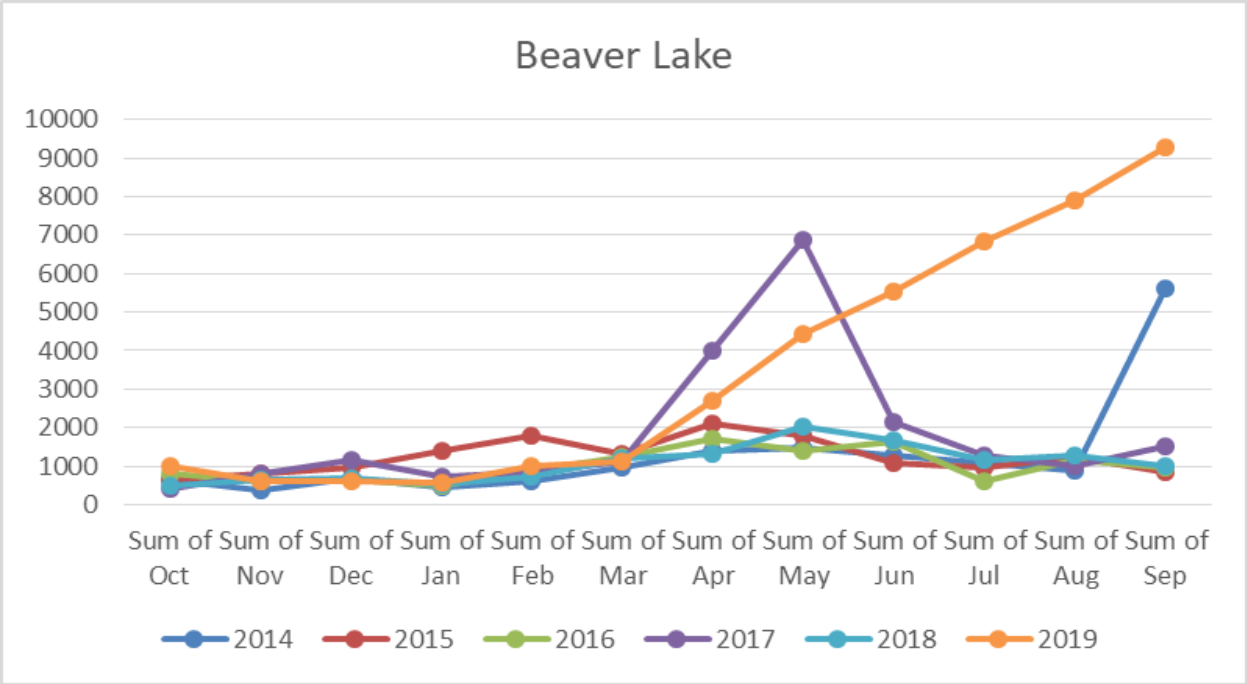


Figure 11: Beaver Lake

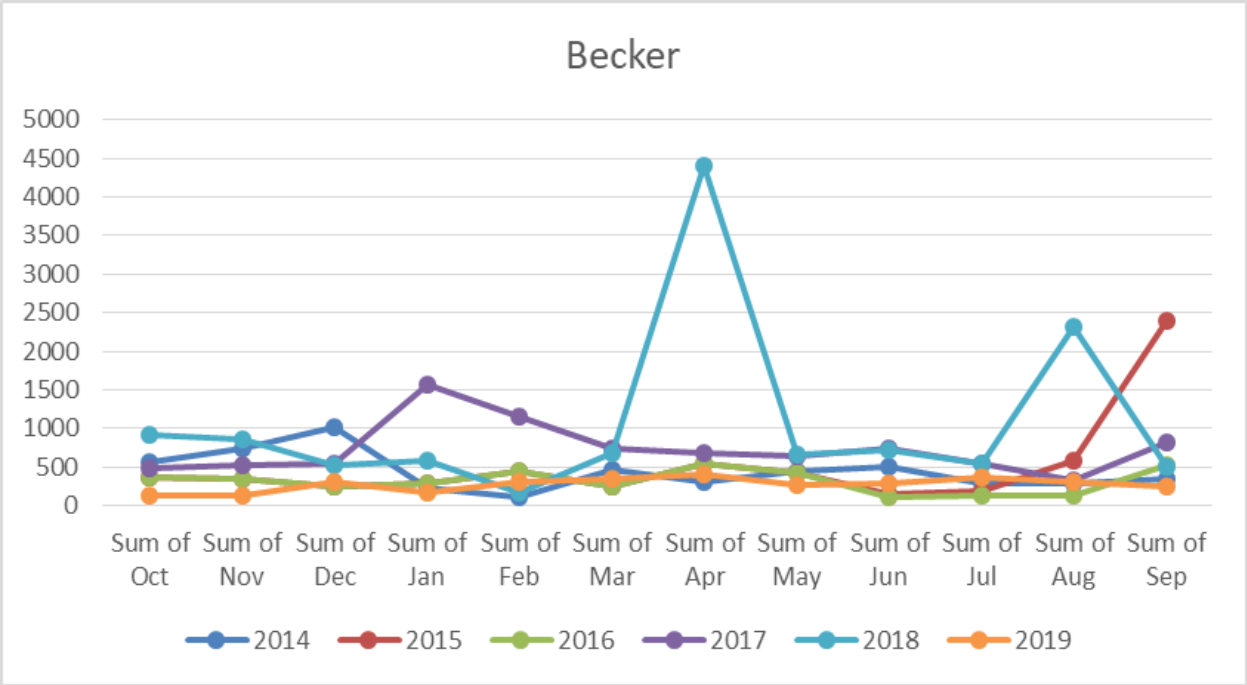


Figure 12: Becker

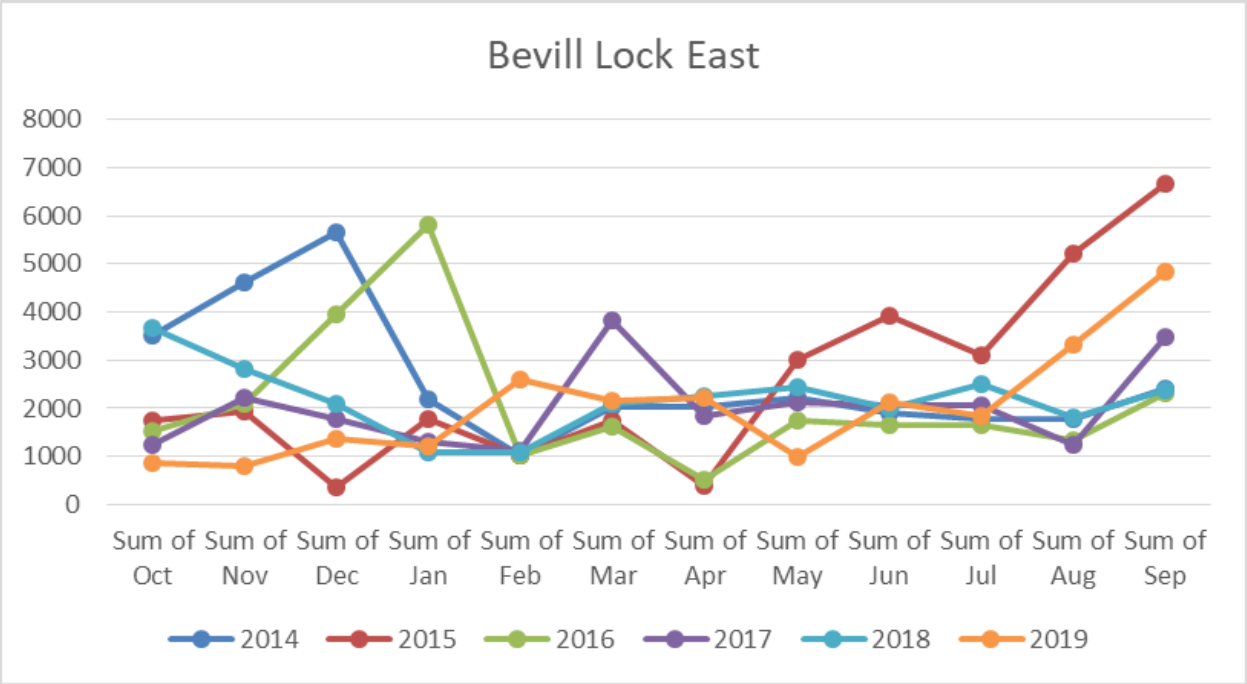


Figure 13: Bevill Lock East

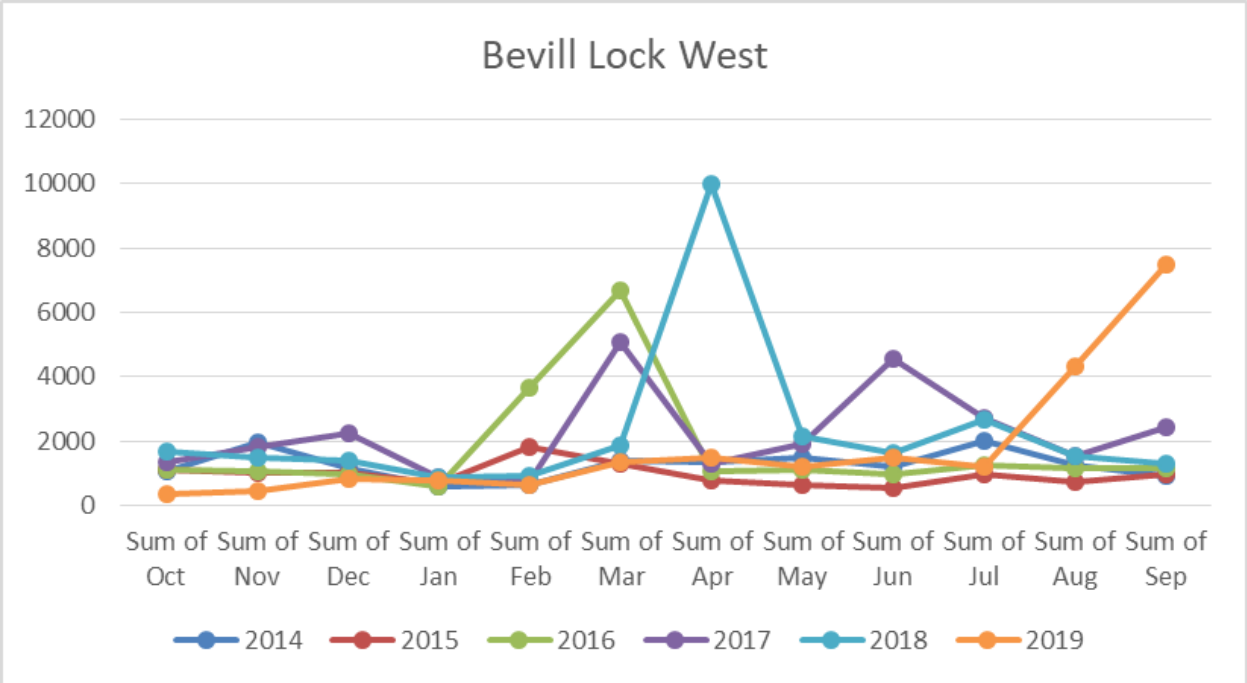


Figure 14: Bevill Lock West

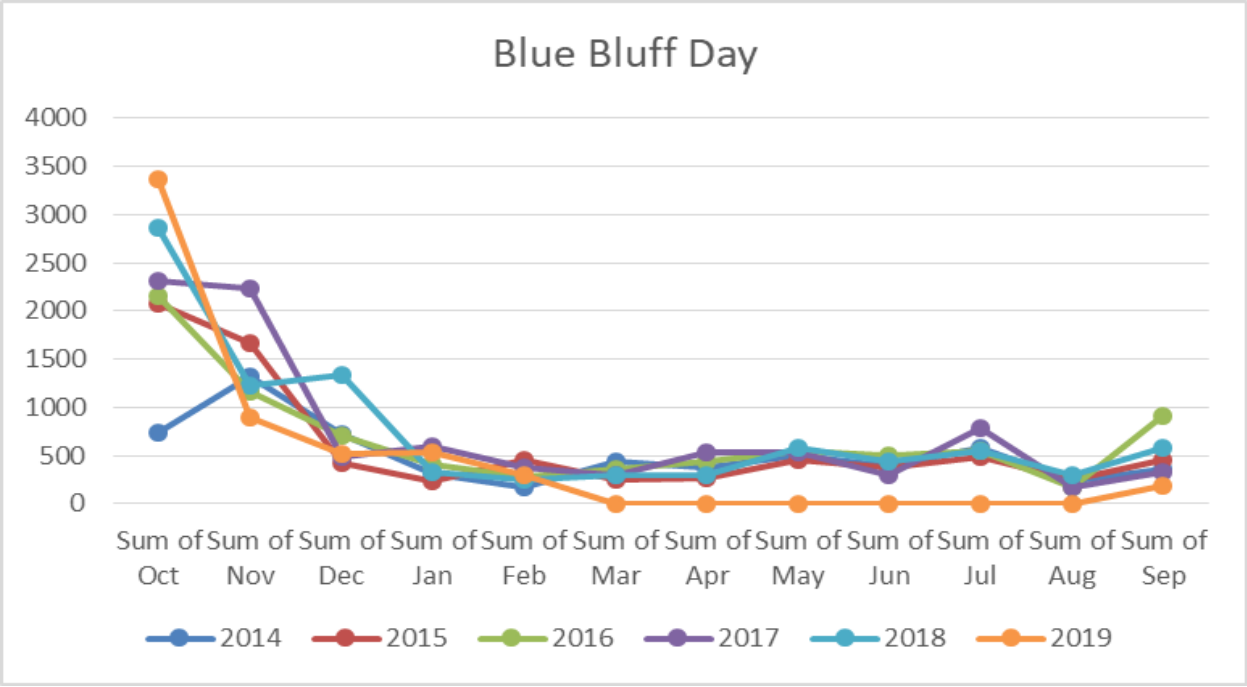


Figure 15: Blue Bluff Day Use

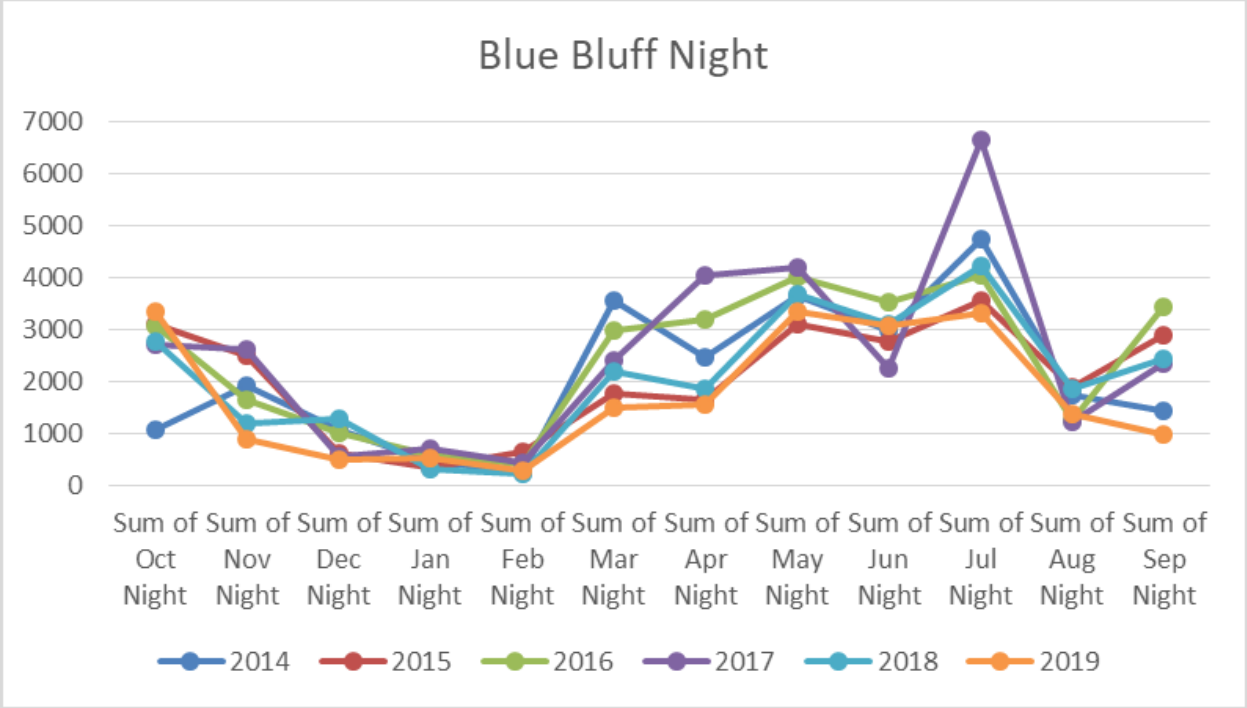


Figure 16: Blue Bluff Night Campground

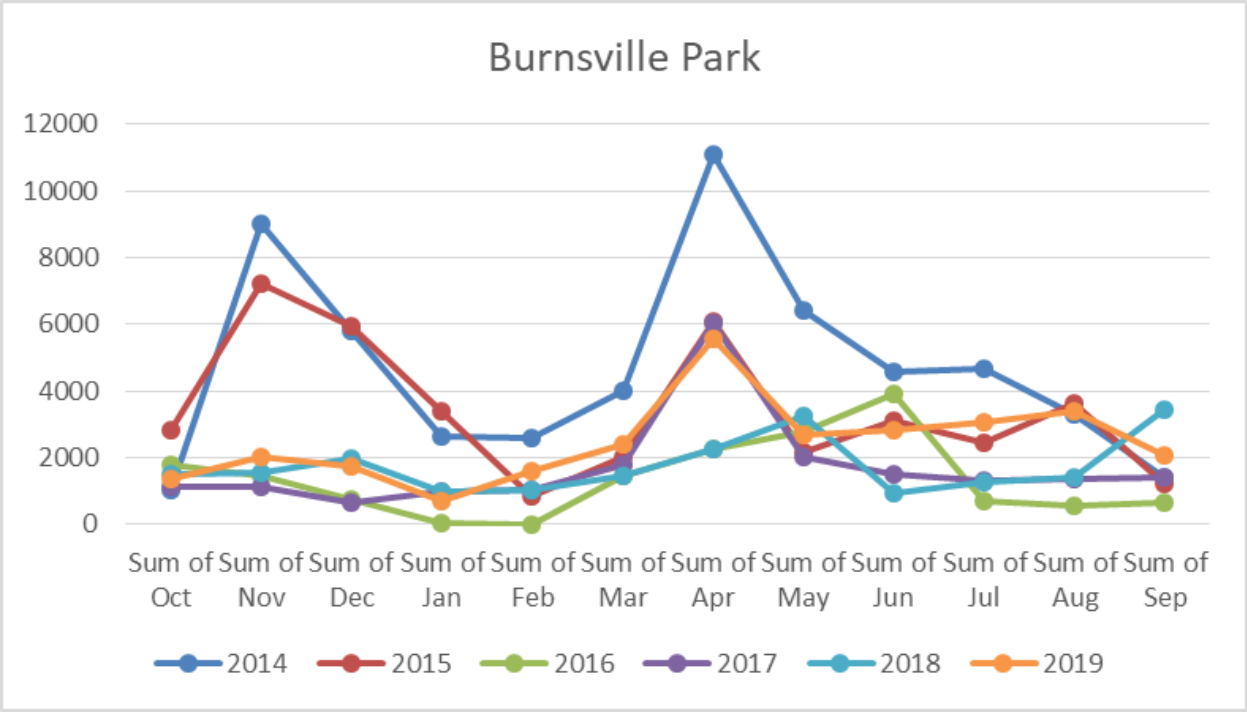


Figure 17: Burnsville Park

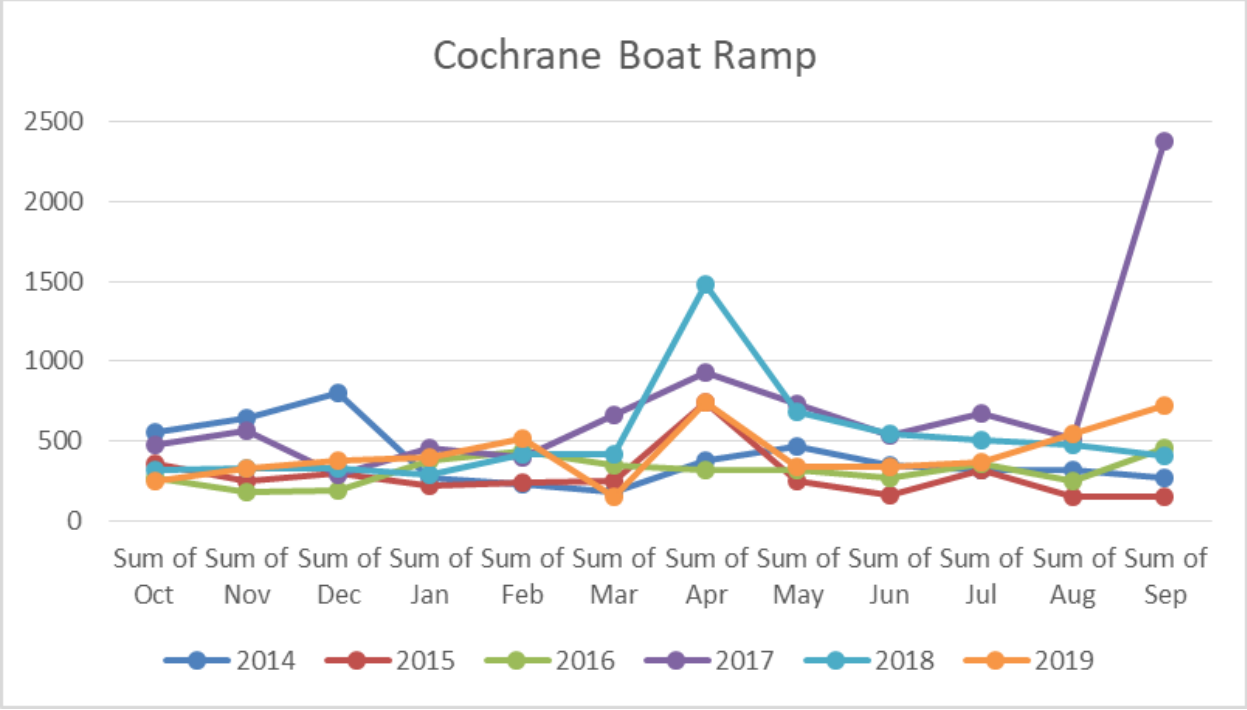


Figure 18: Cochrane Boat Ramp

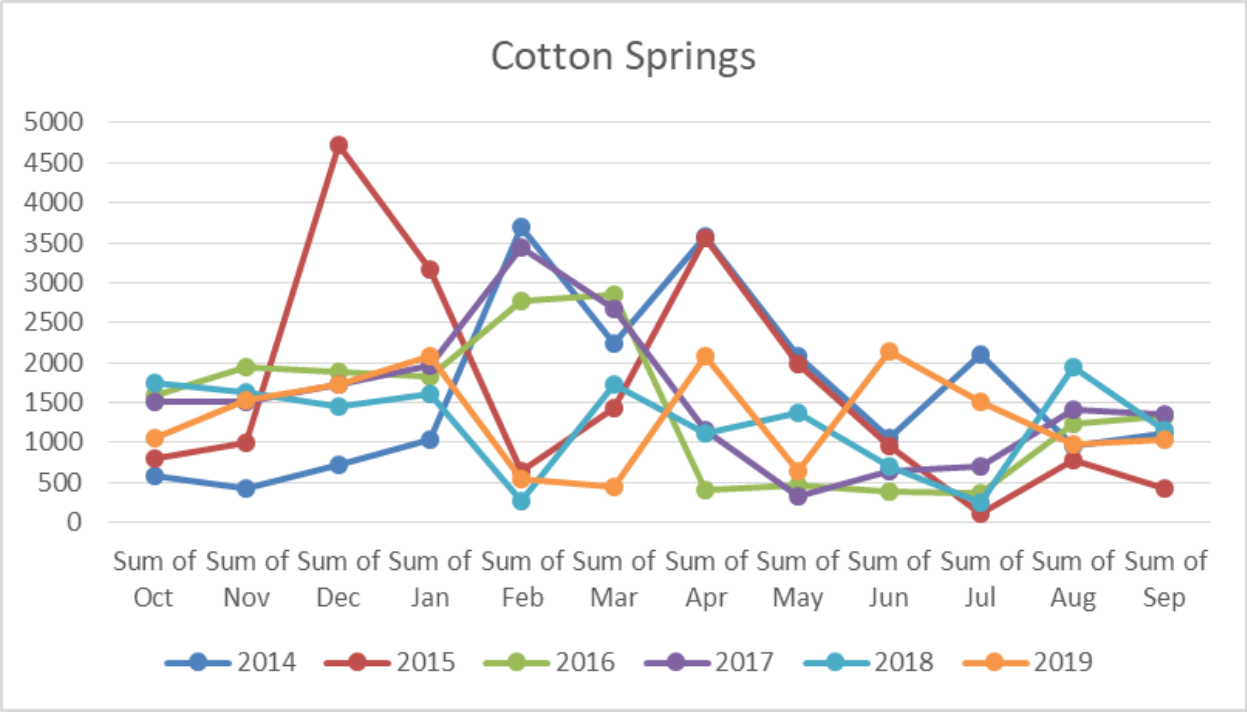


Figure 19: Cotton Springs

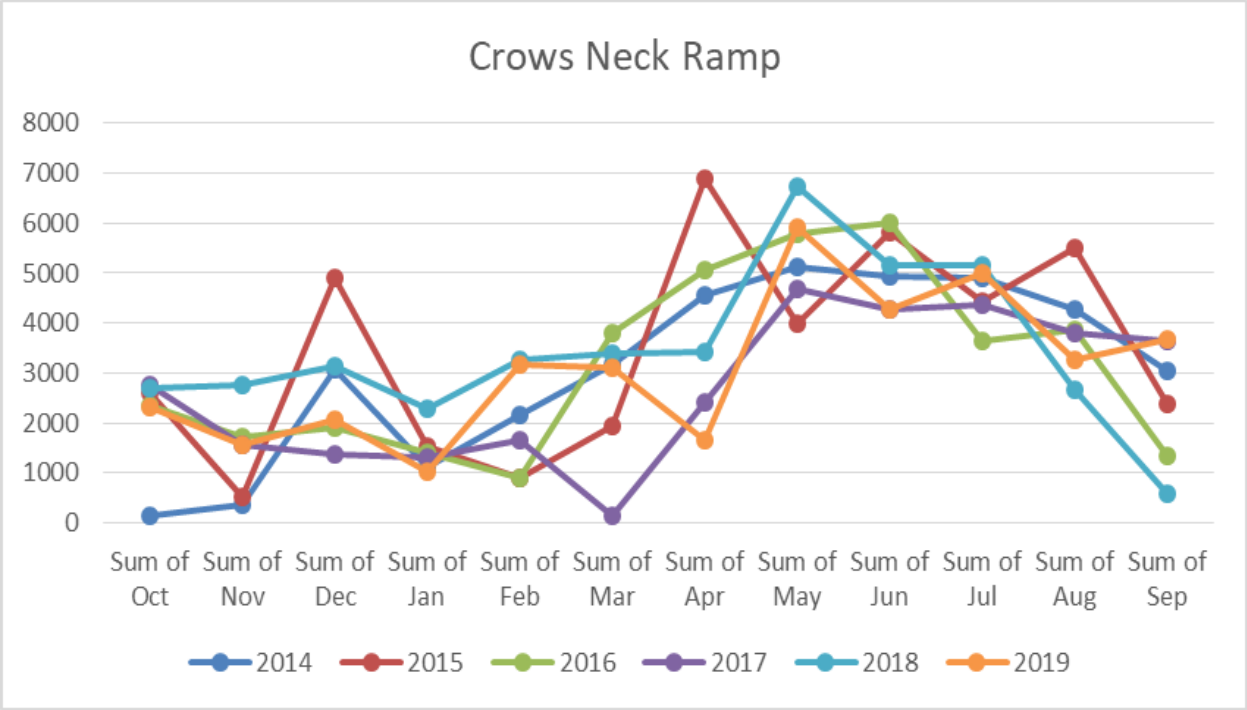


Figure 20: Crows Neck Ramp

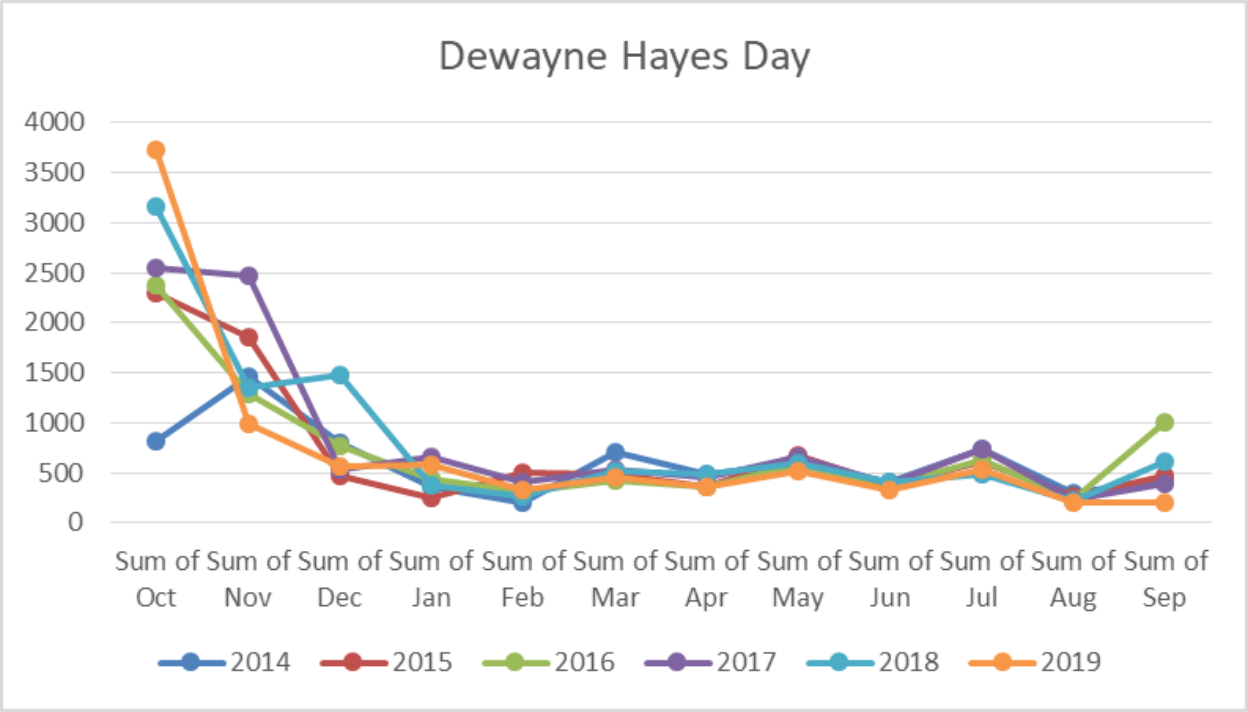


Figure 21: Dewayne Hayes (Day)

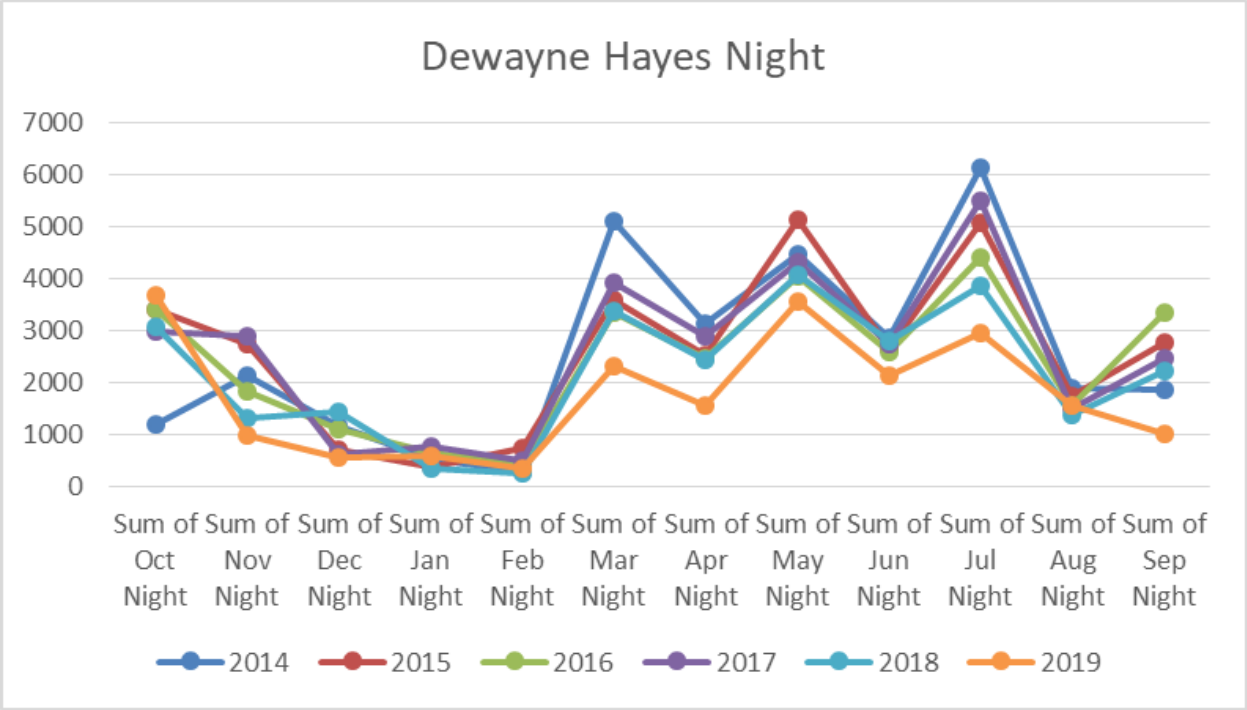


Figure 22: Dewayne Hayes (Night)

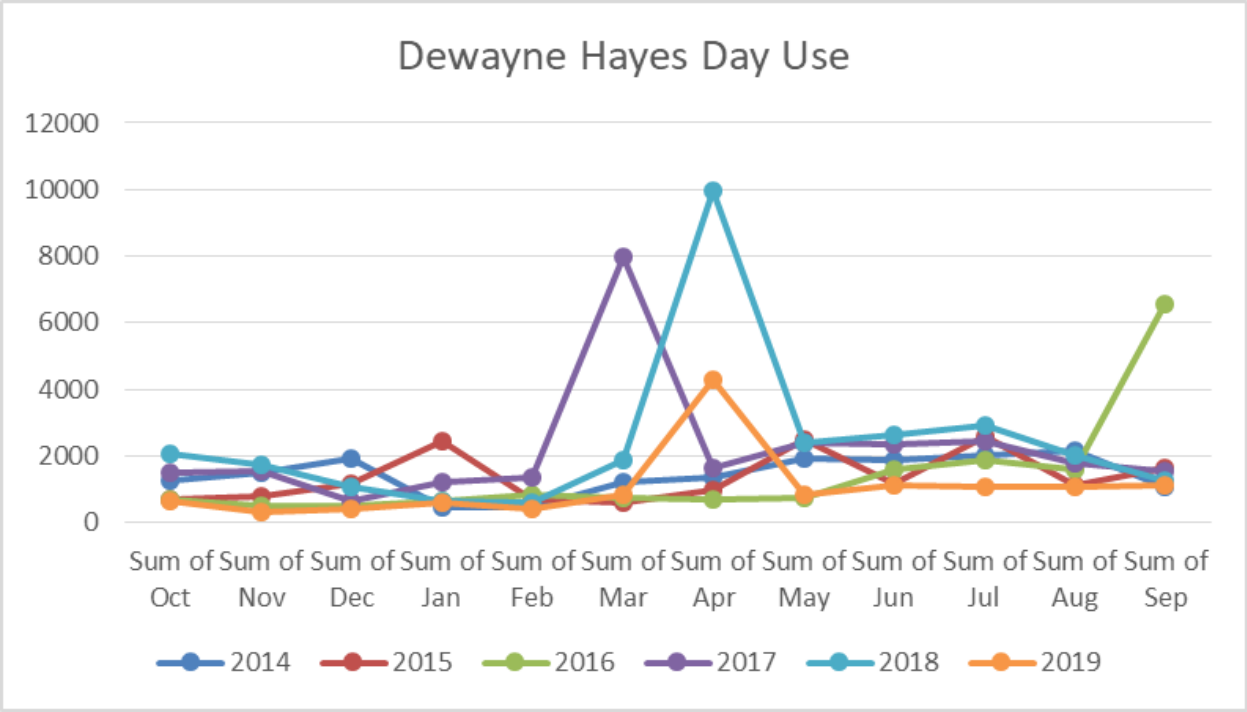


Figure 23: Dewayne Hayes Day Use

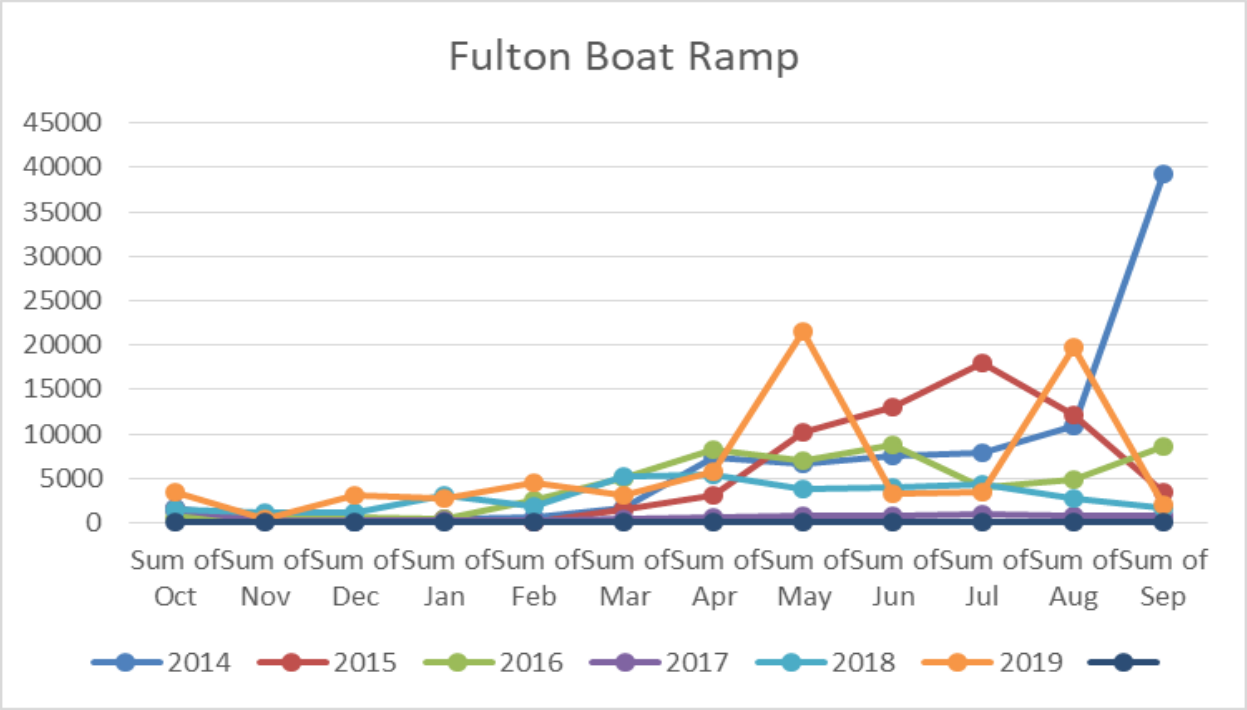


Figure 24: Fulton Boat Ramp

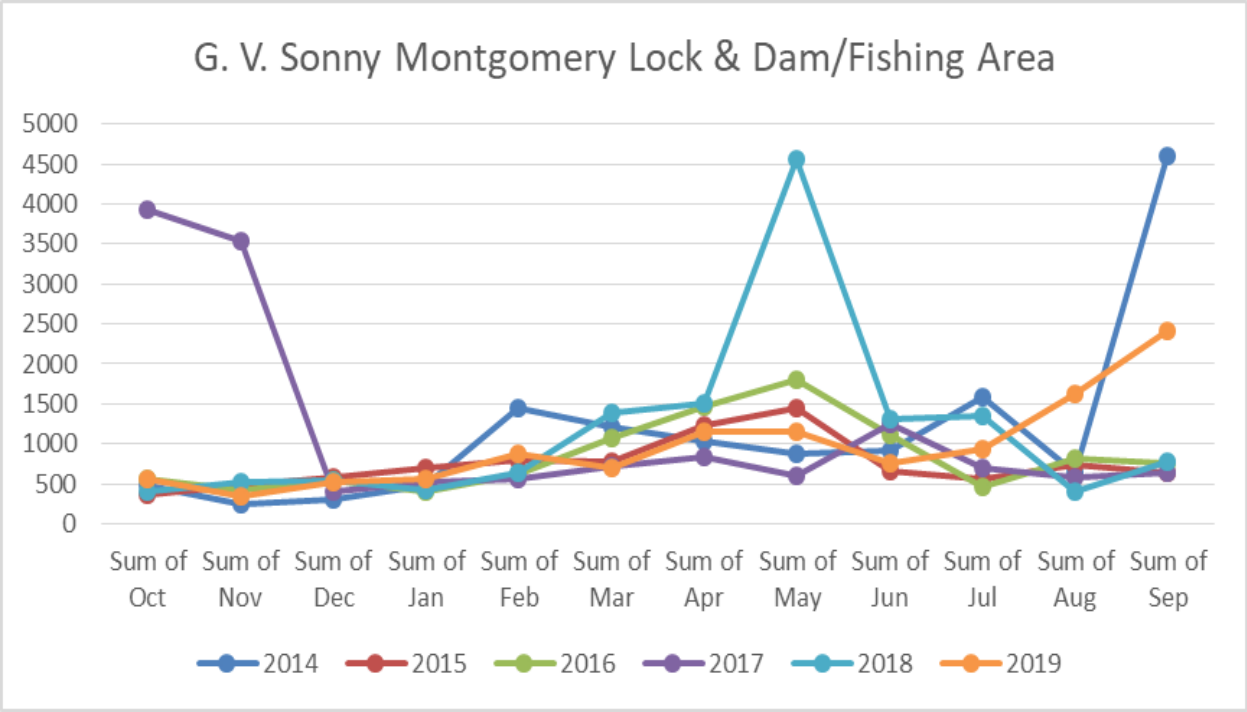


Figure 25: G.V. Sonny Montgomery Lock & Dam/Fishing Area

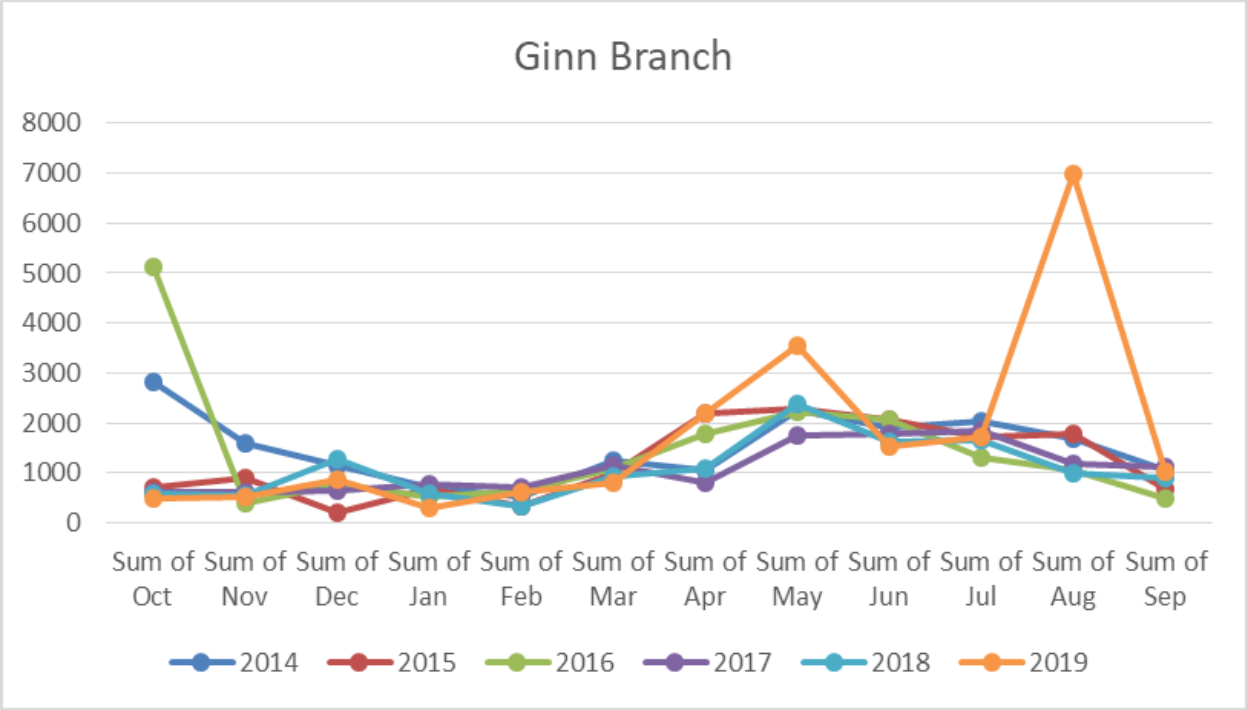


Figure 26: Gin Branch

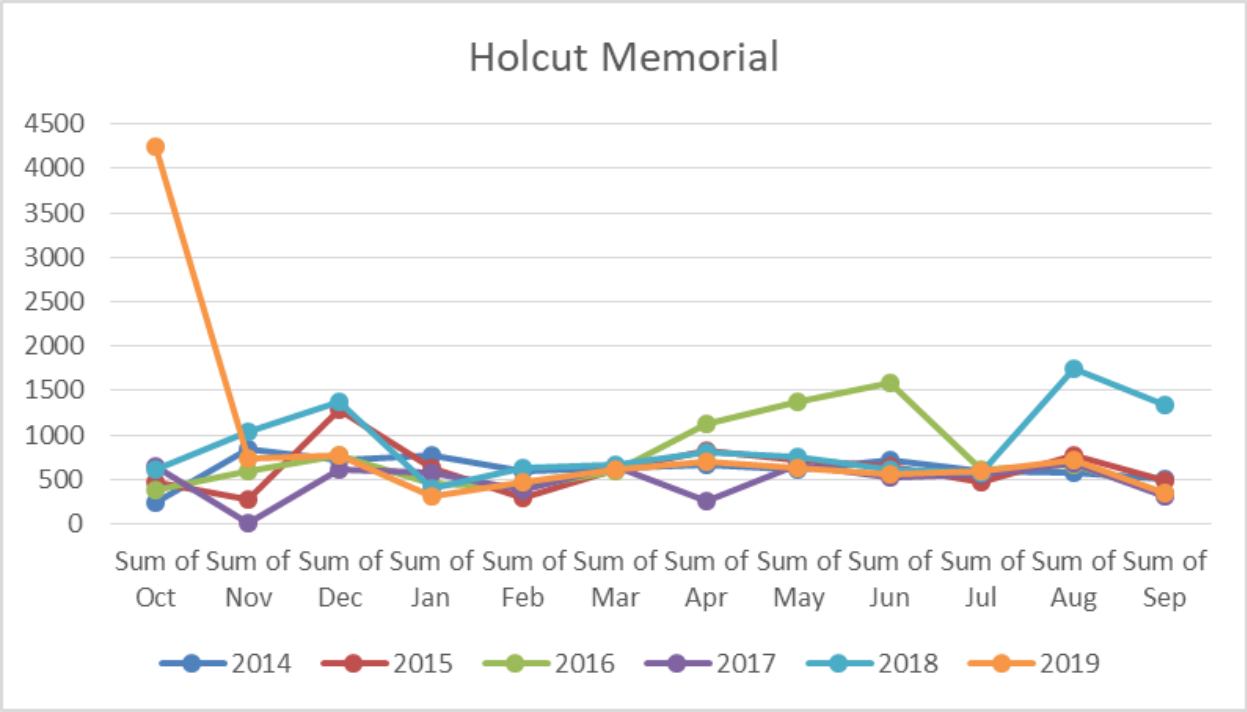


Figure 27: Holcut Memorial

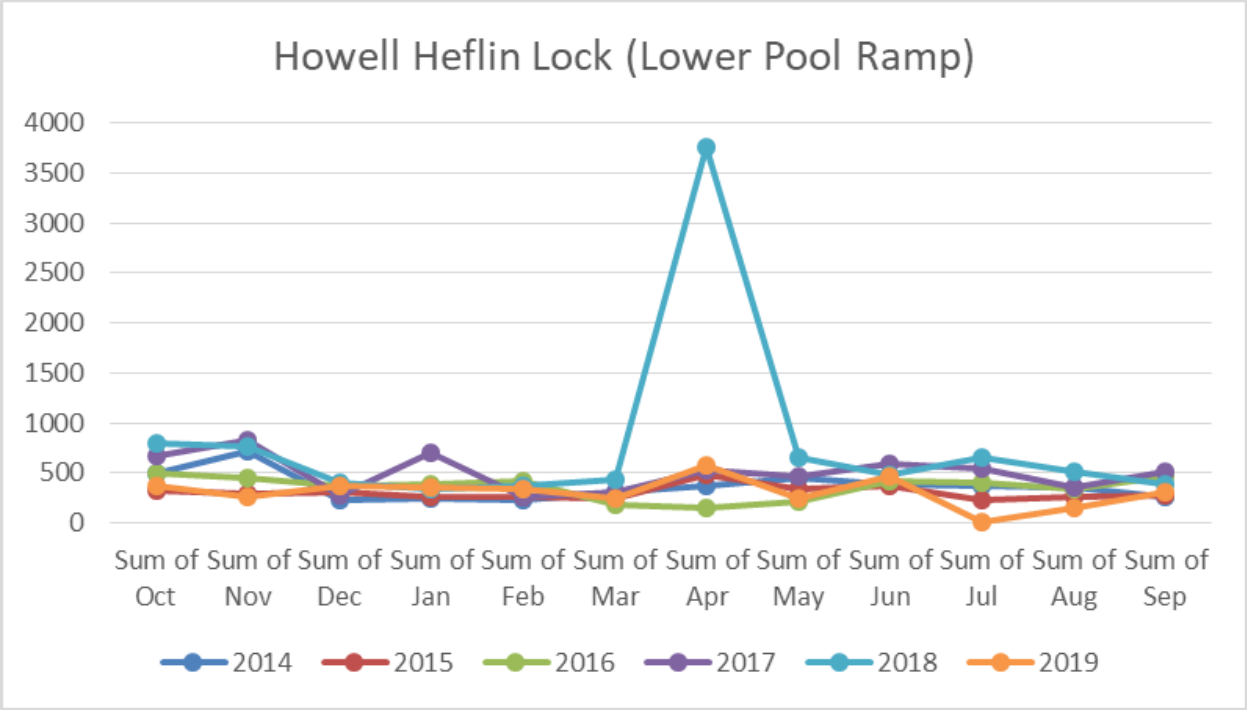


Figure 28: Howell Heflin Lock (Lower Pool Ramp

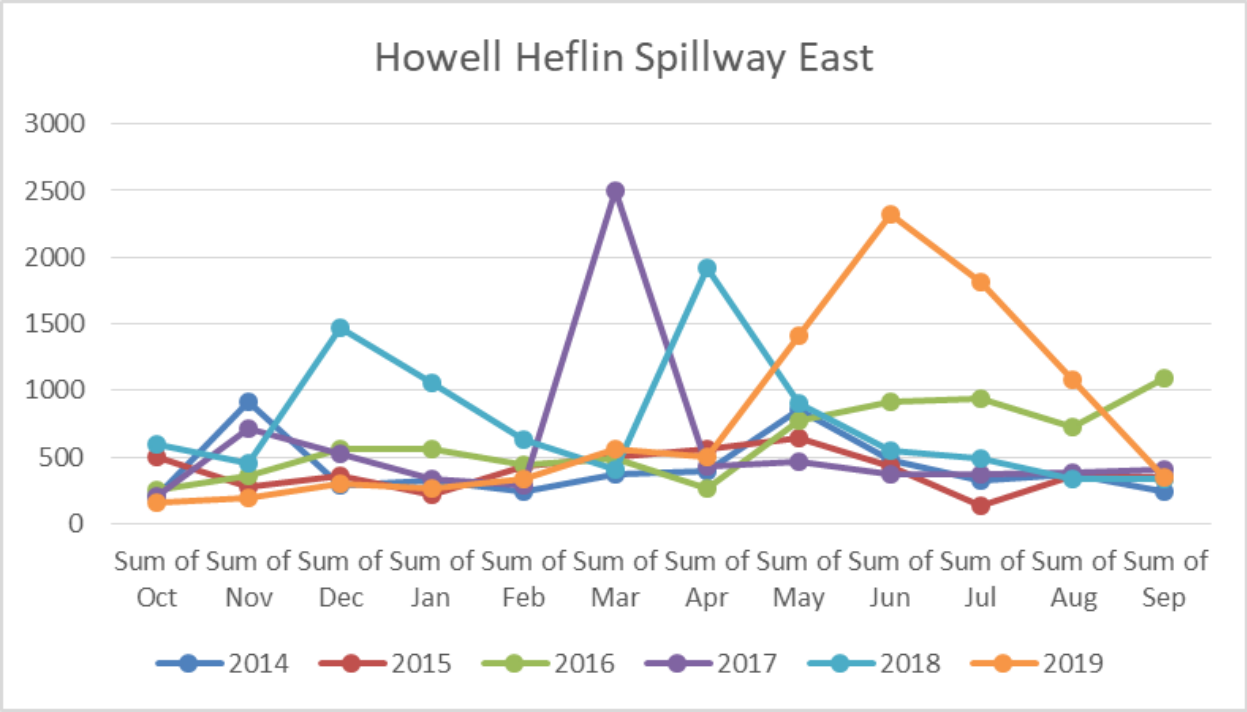


Figure 29: Howell Heflin Spillway East

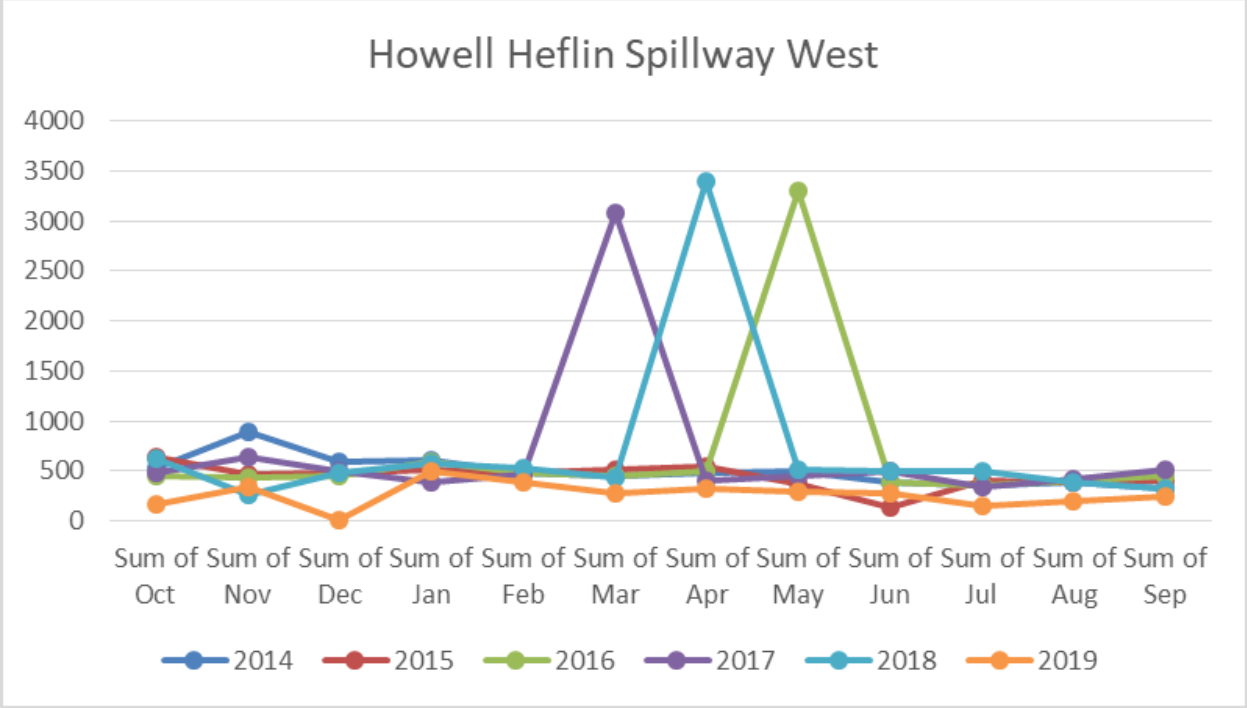


Figure 30: Howell Heflin Spillway West

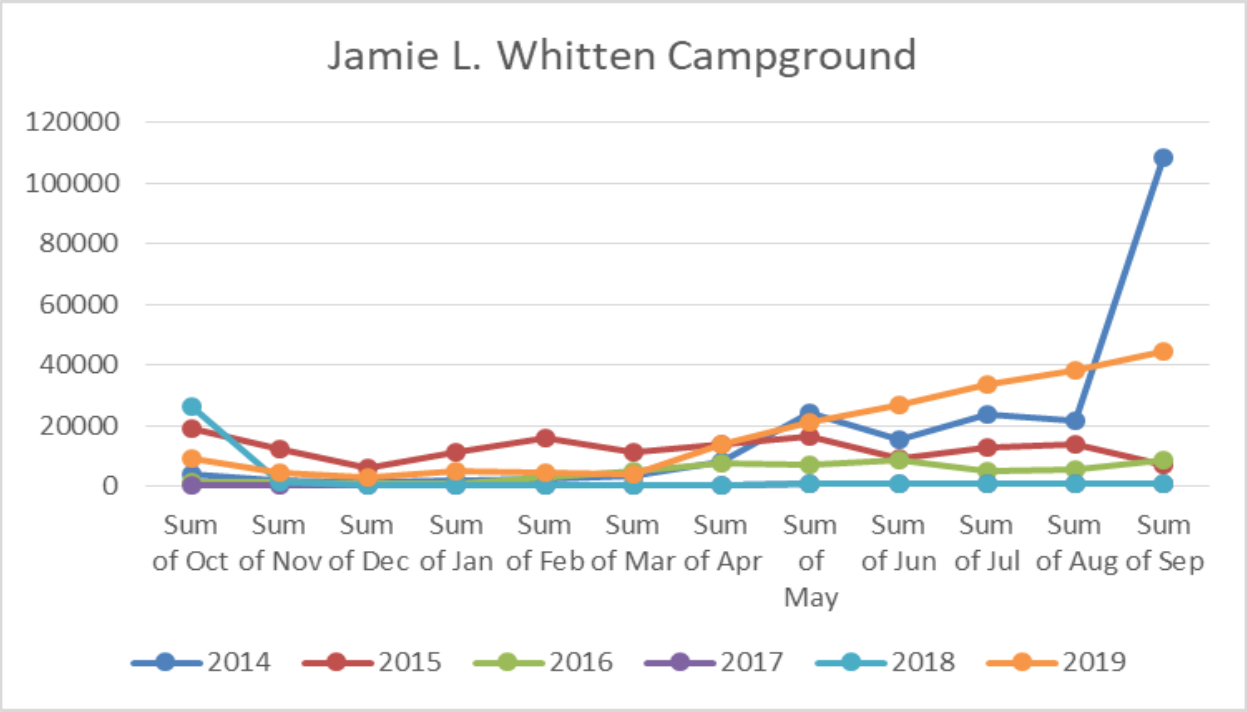


Figure 31: Jamie L. Whitten Campground

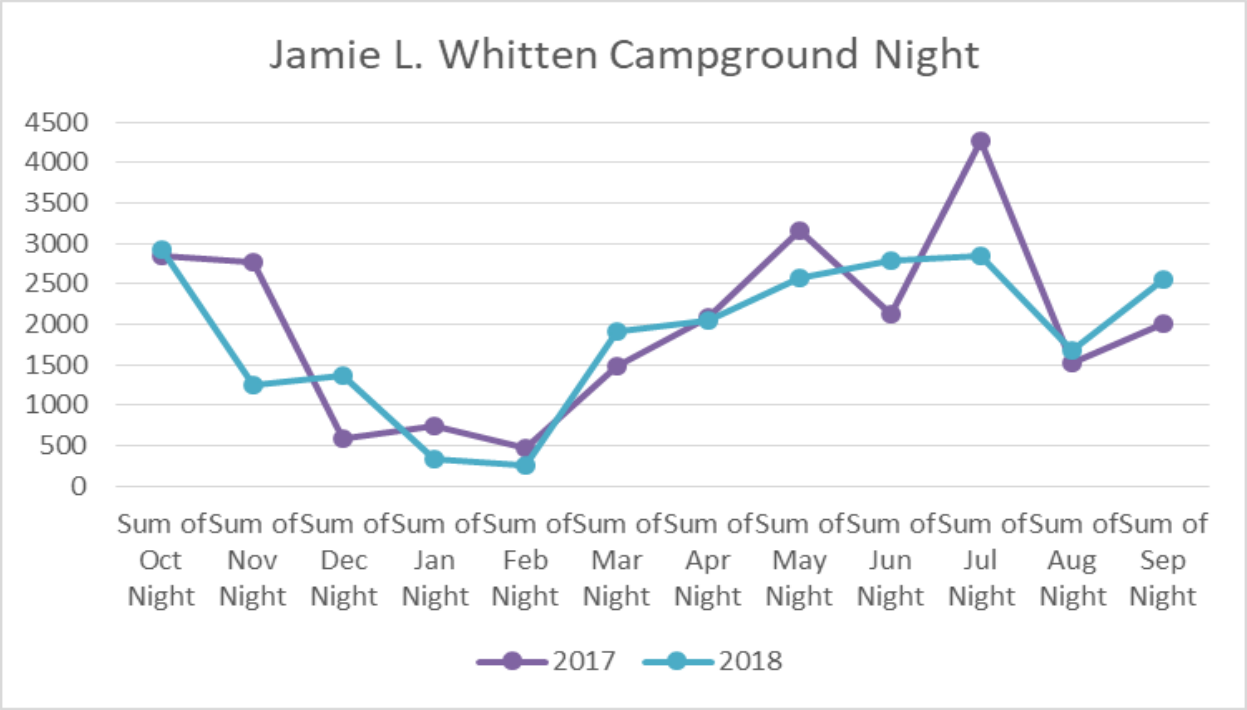


Figure 32: Jamie L. Whitten Campground (Night)

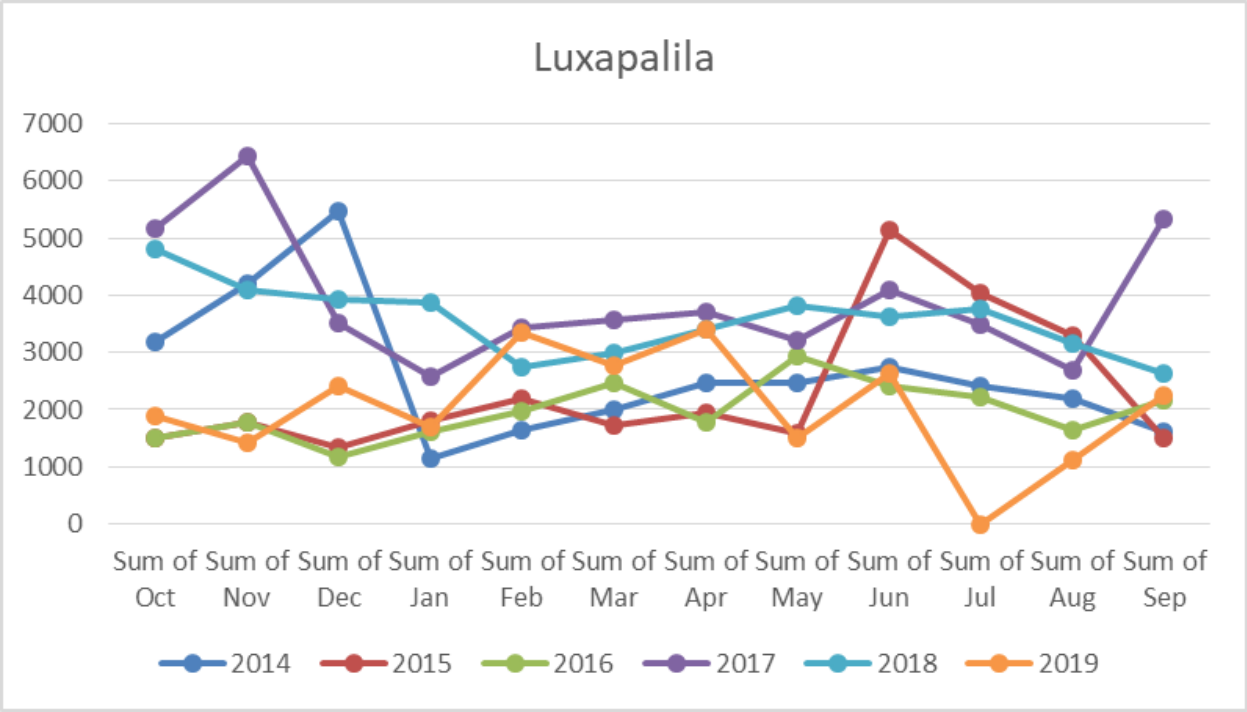


Figure 33: Luxapalila

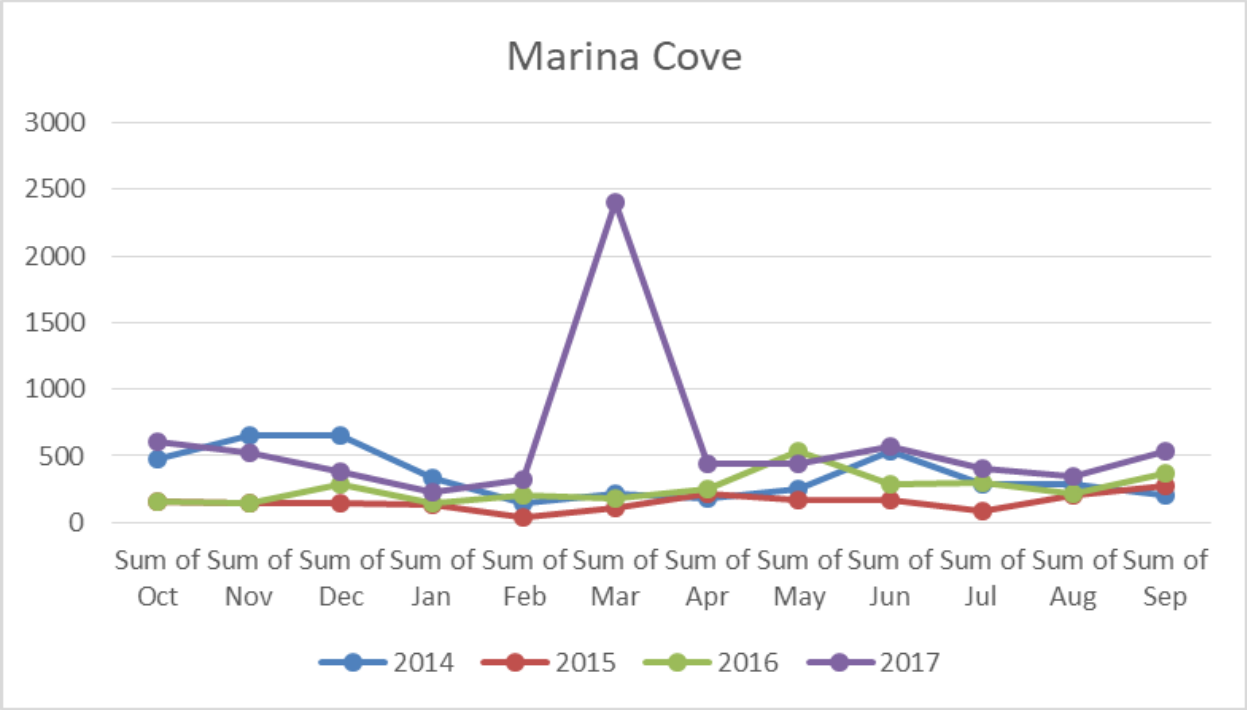


Figure 34: Marina Cove

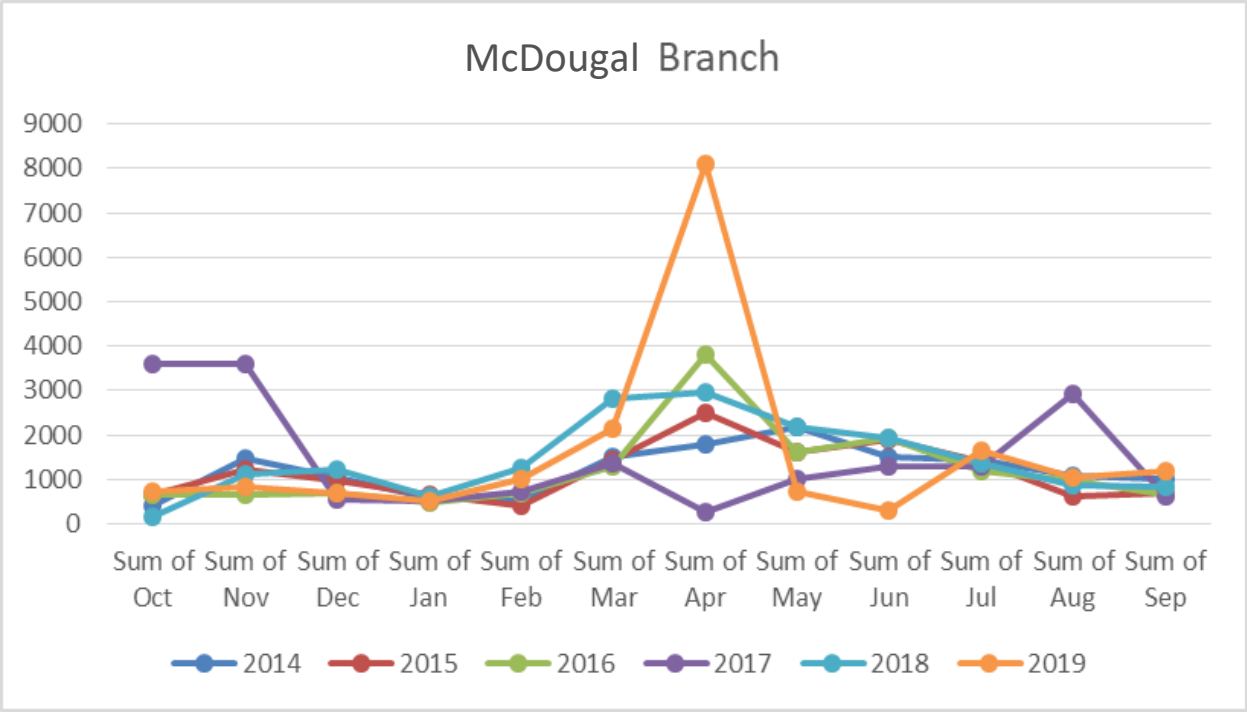


Figure 35: McDougal Branch

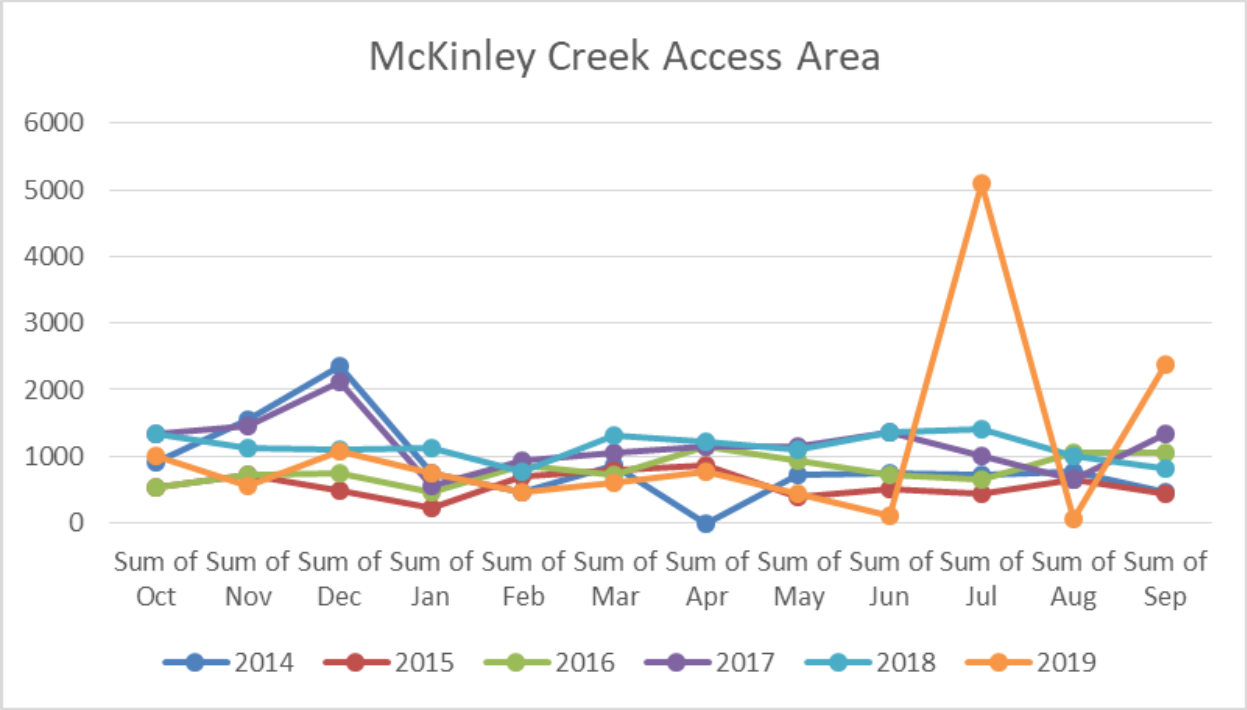


Figure 36: McKinley Creek Access Area

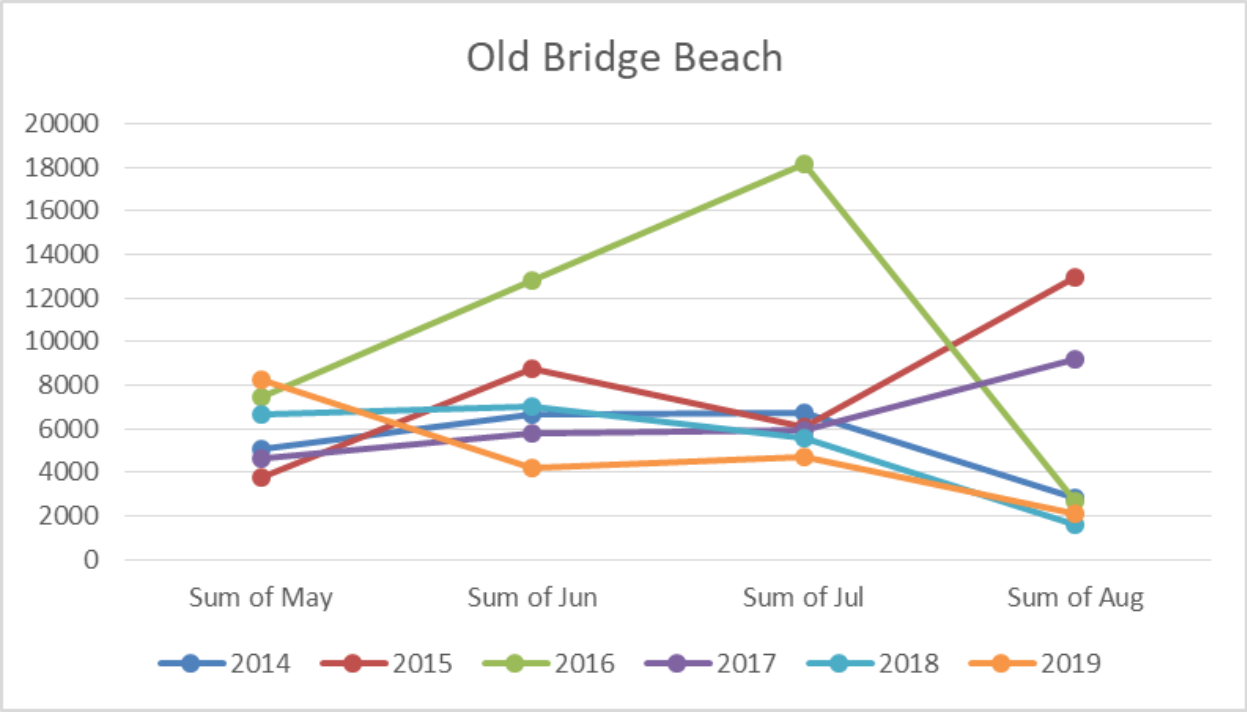


Figure 37: Old Bridge Beach

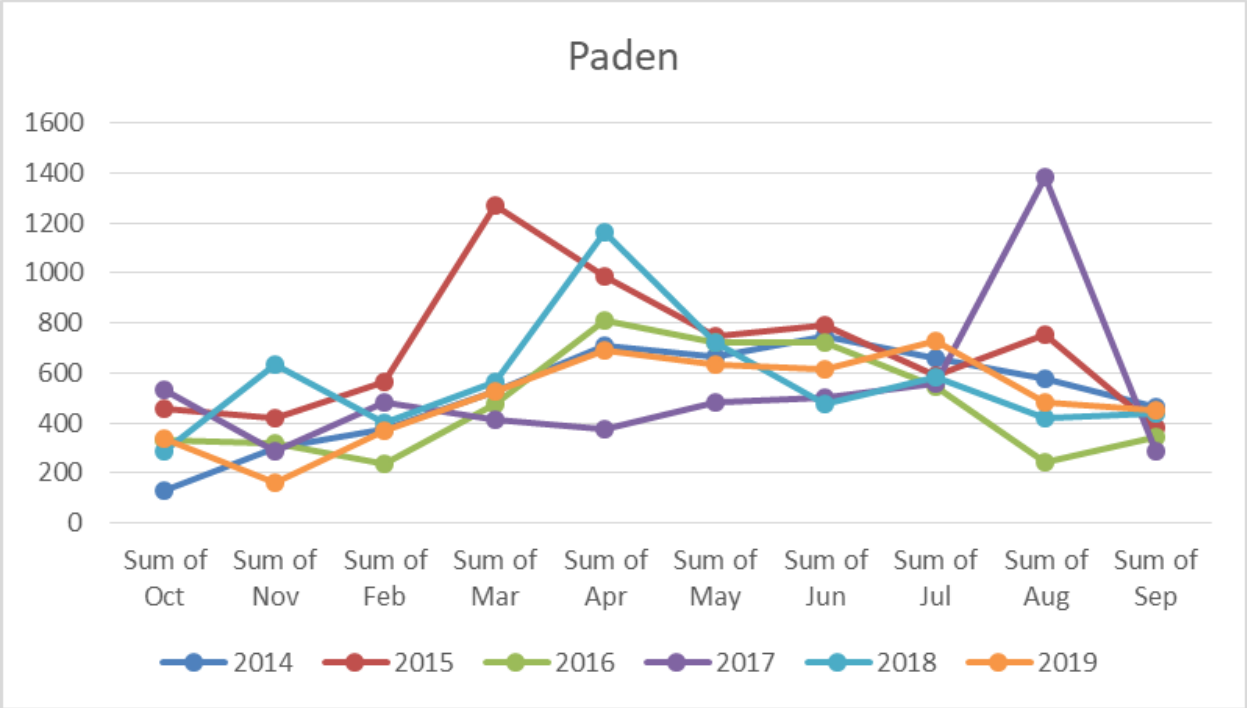


Figure 38: Paden

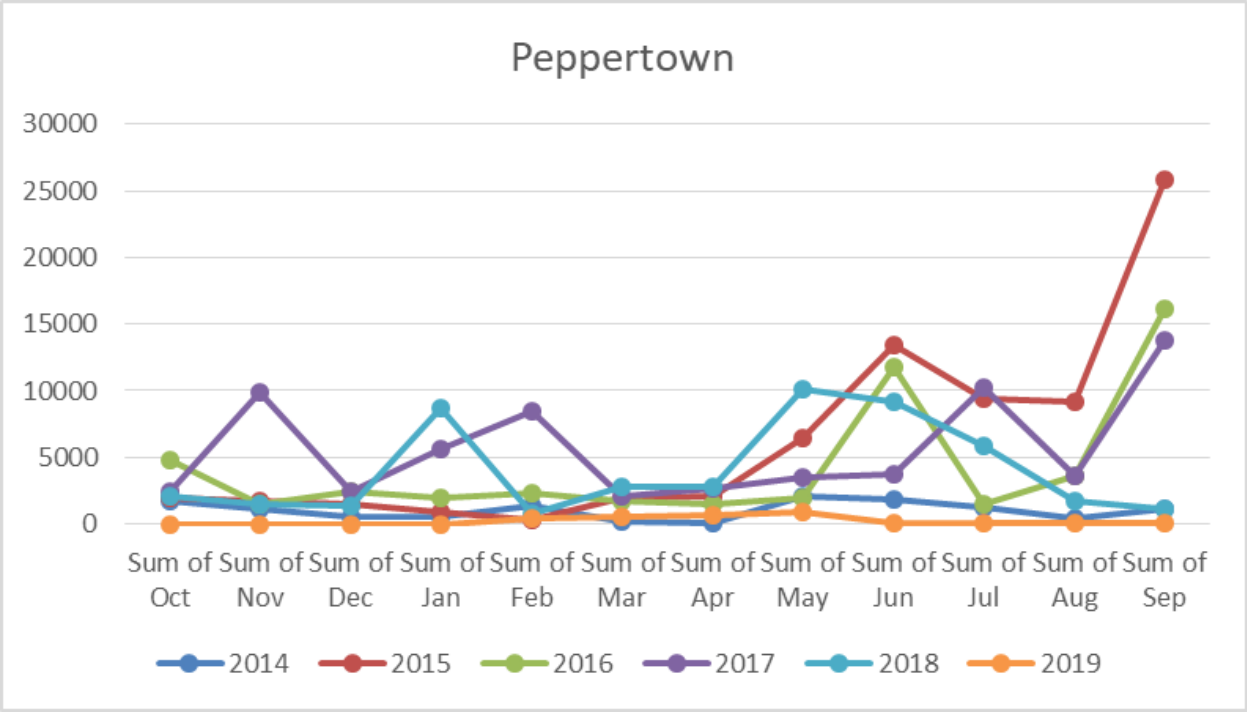


Figure 39: Peppertown

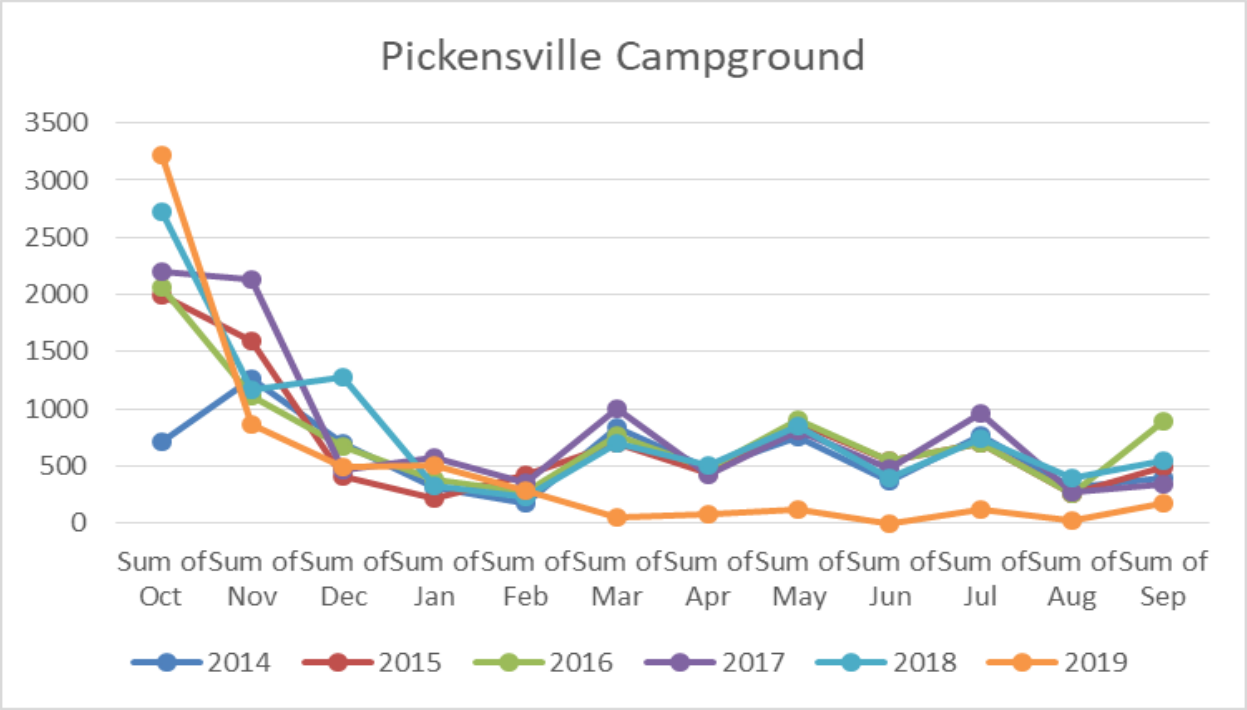


Figure 40: Pickensville Campground

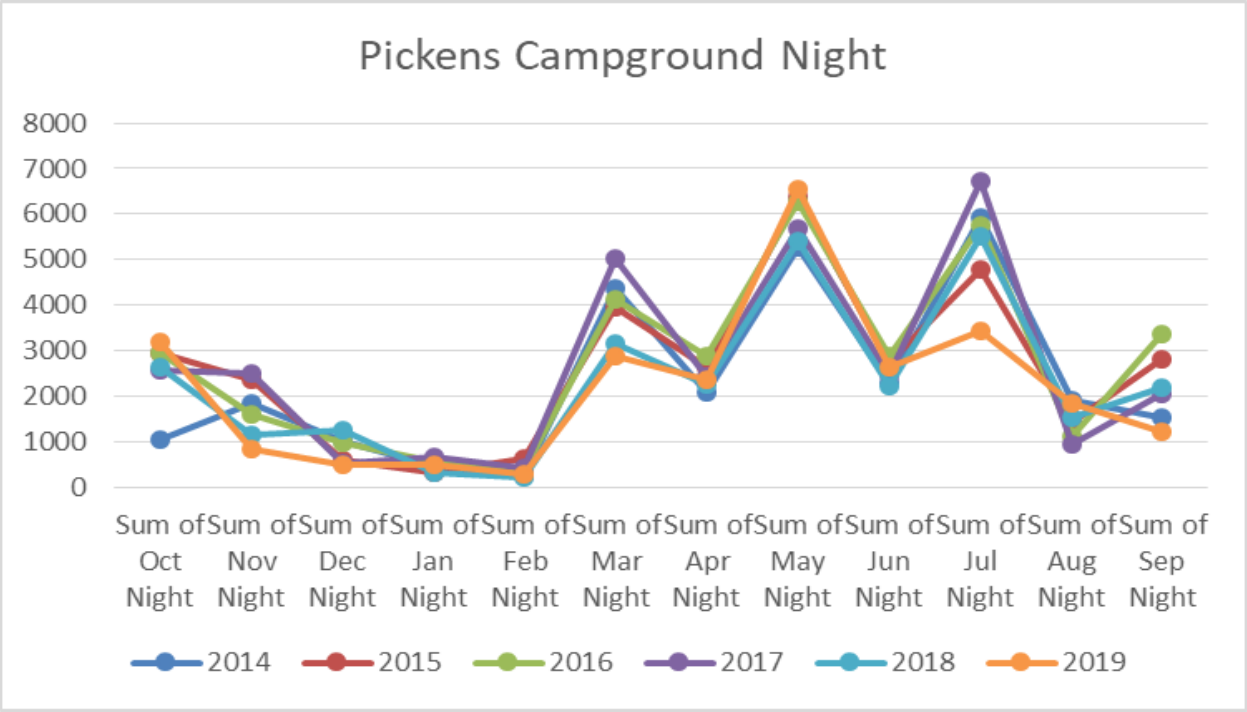


Figure 41: Pickensville Campground (Night)

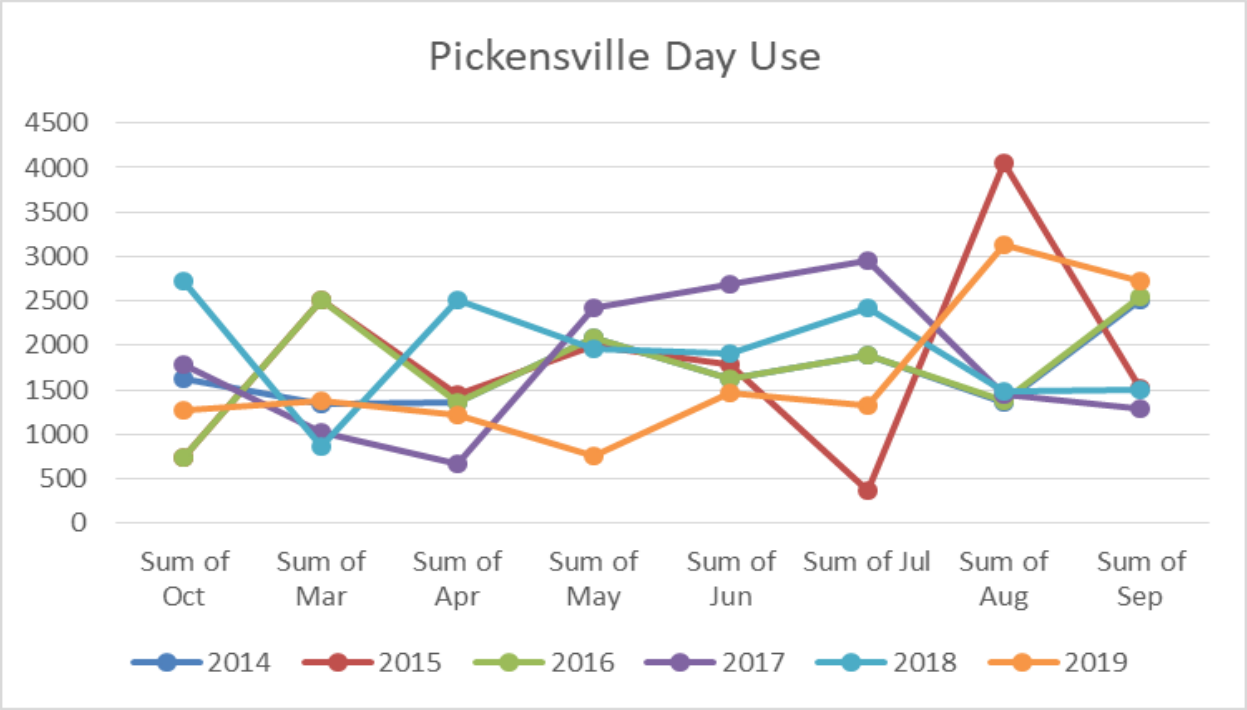


Figure 42: Pickensville Day Use

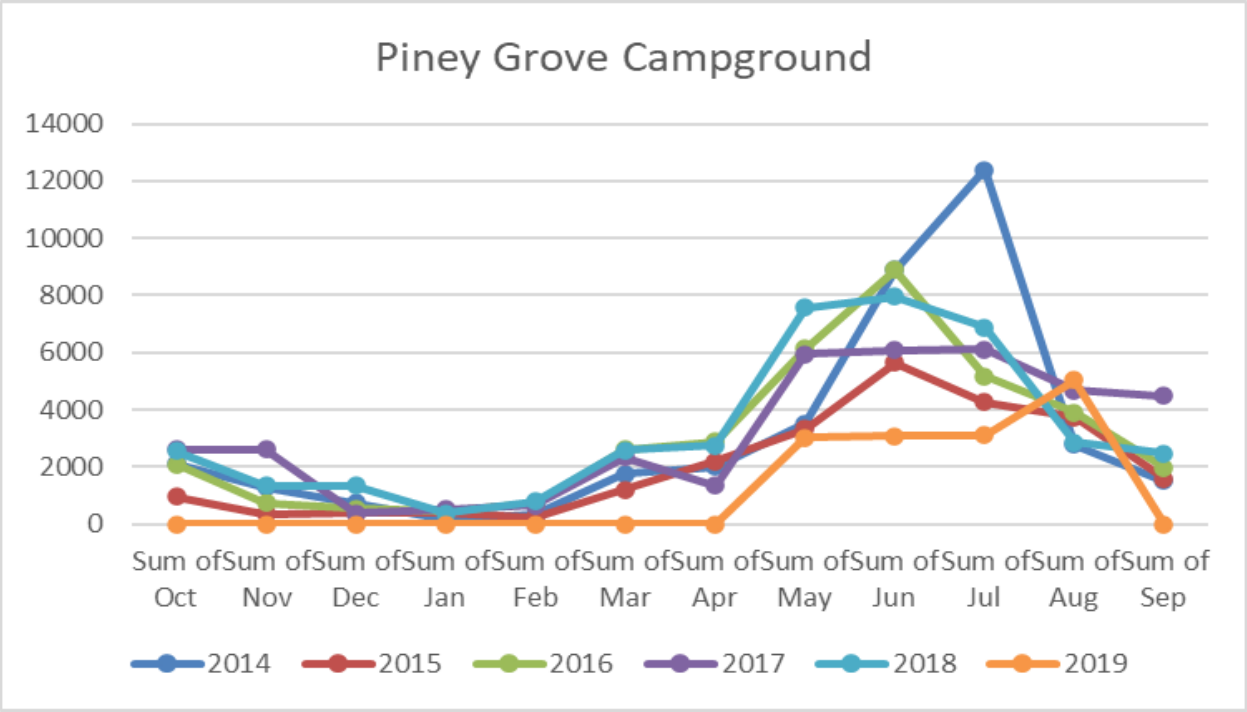


Figure 43: Piney Grove Campground

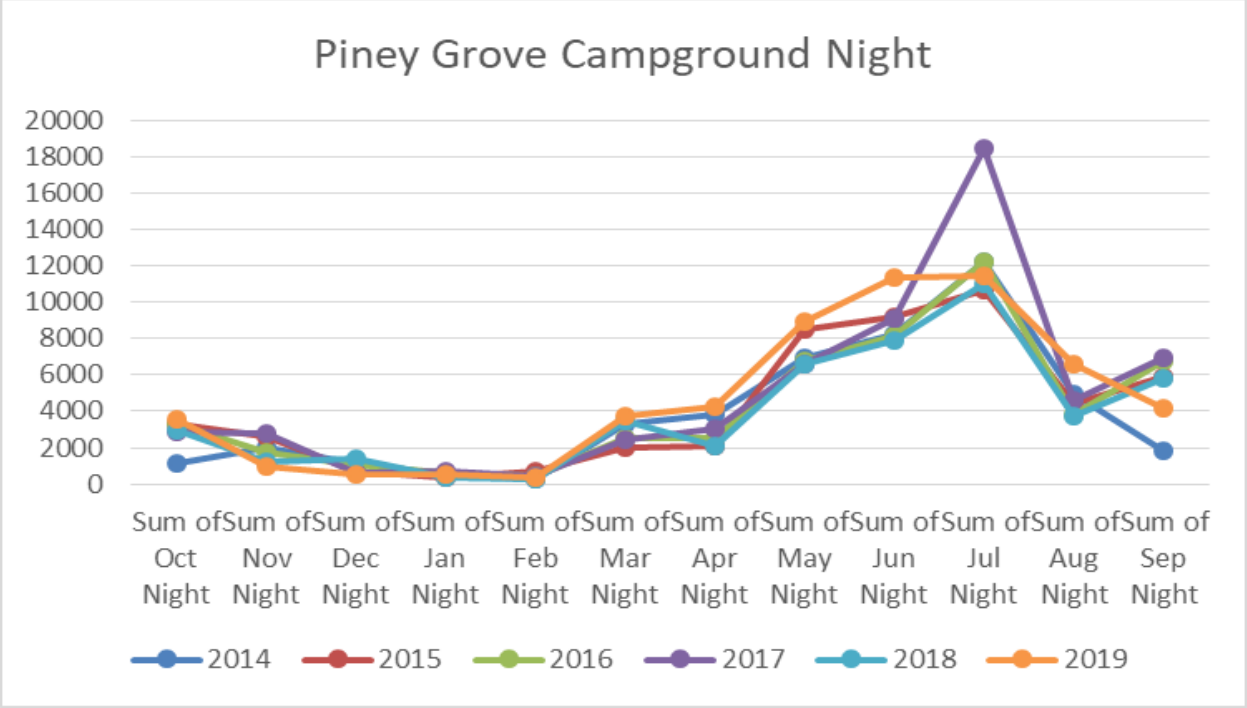


Figure 44: Piney Grove Campground (Night)

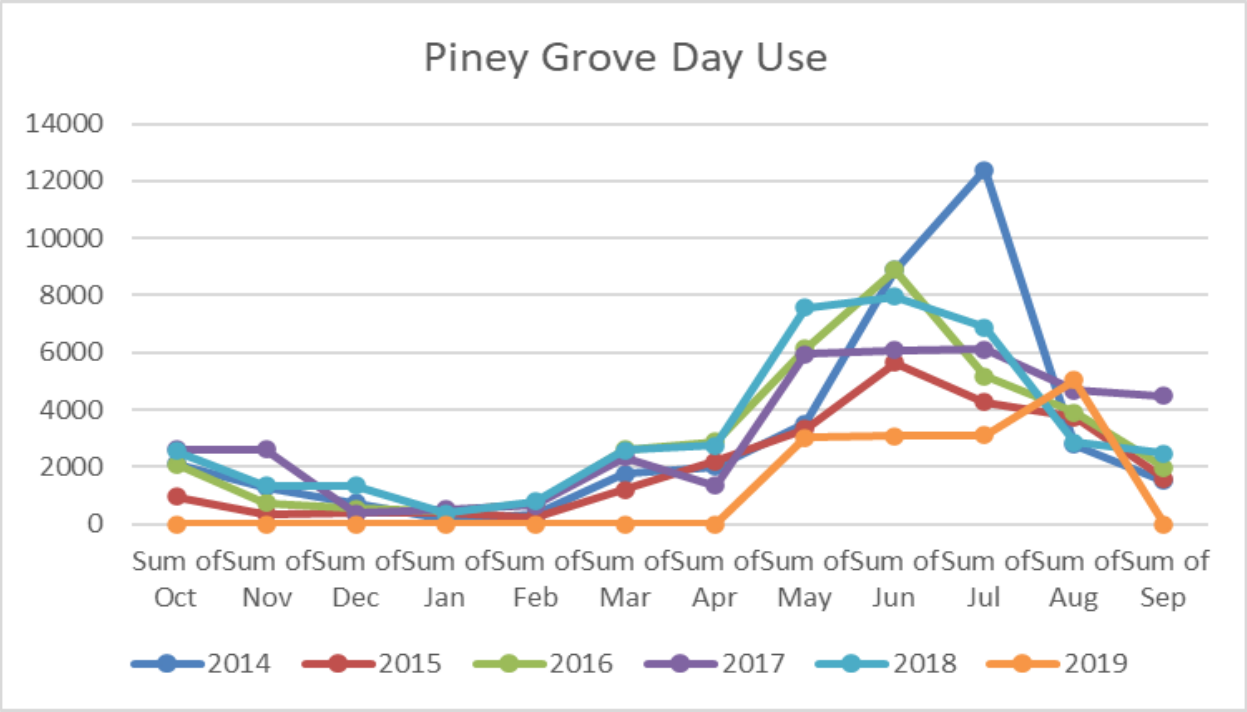


Figure 45: Piney Grove Day Use

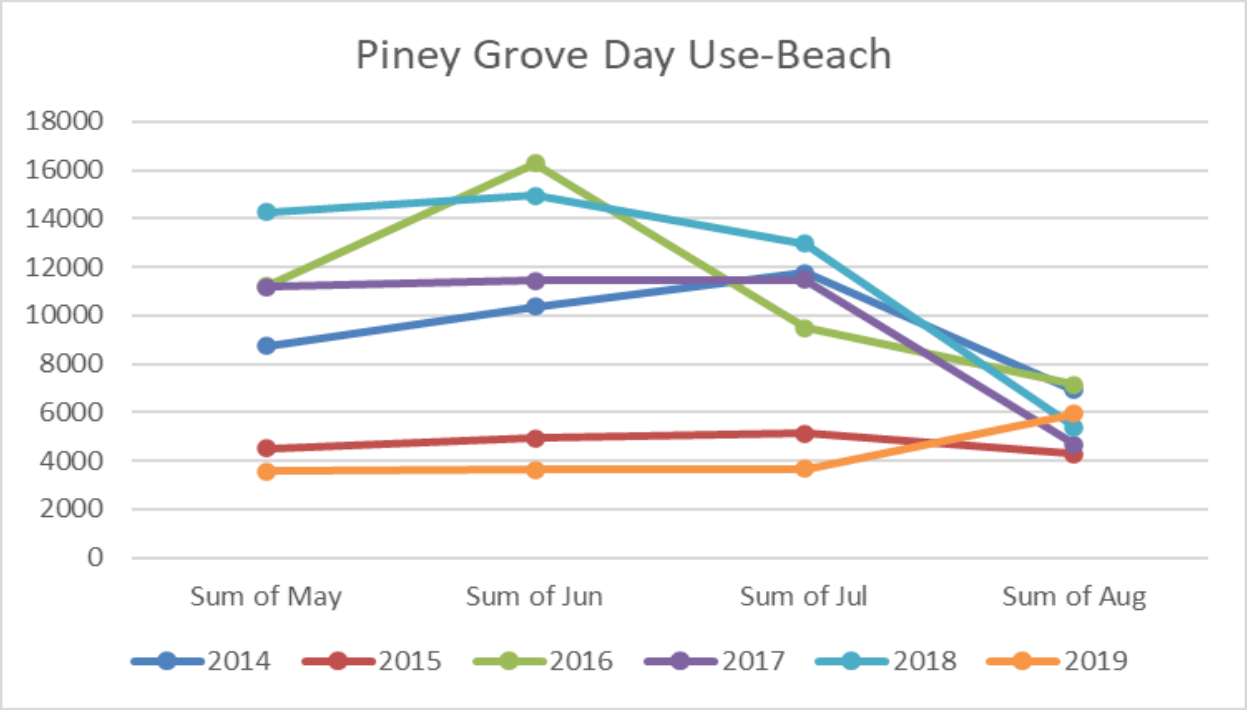


Figure 46: Piney Grove Day Use - Beach

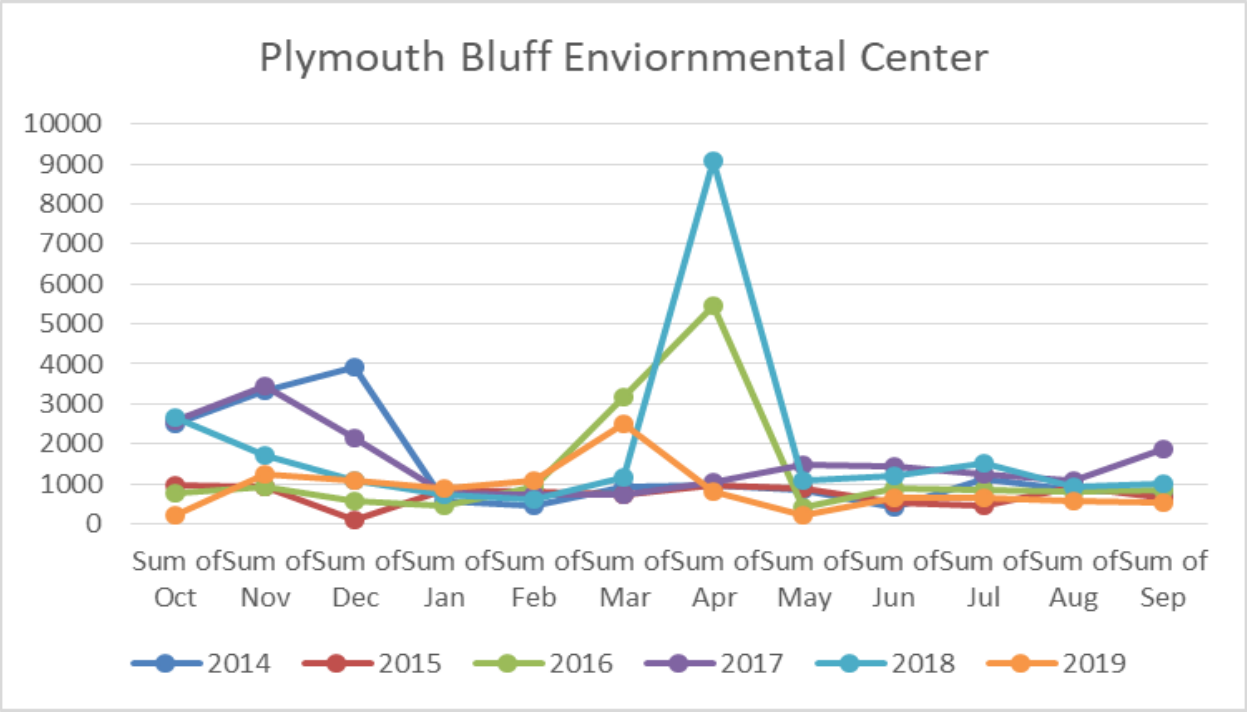


Figure 47: Plymouth Bluff Environmental Center

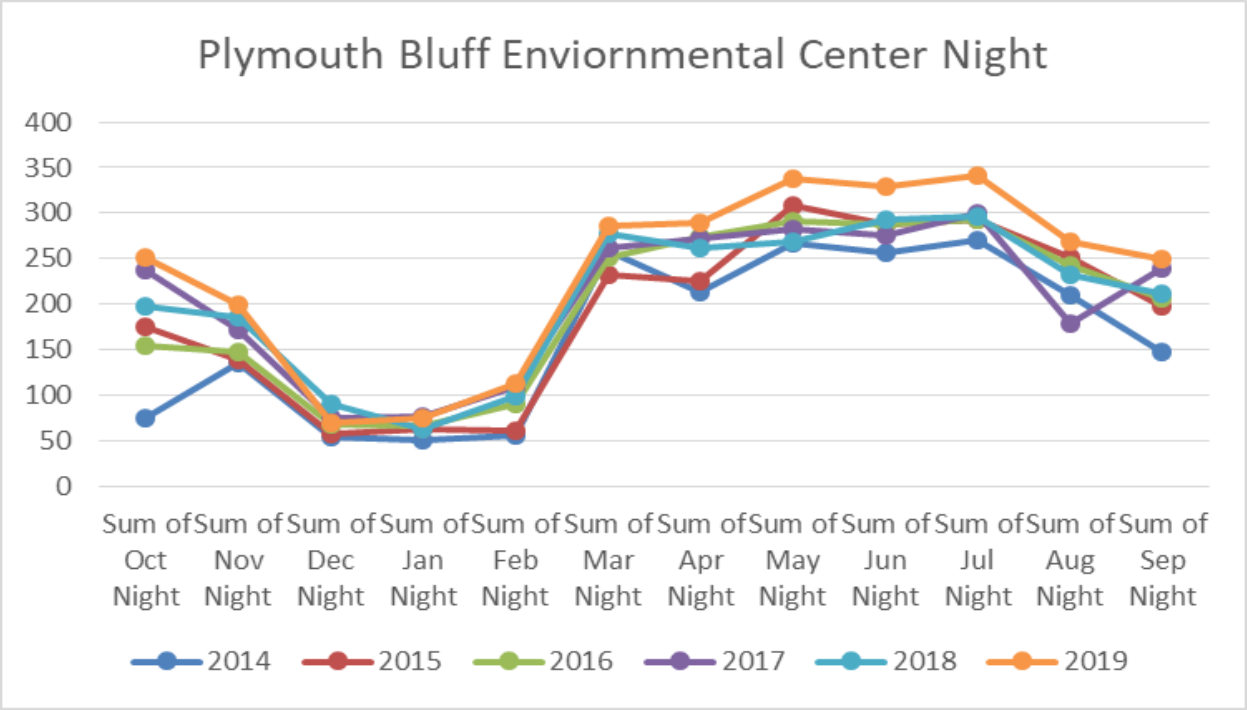


Figure 48: Plymouth Bluff Environmental Center (Night)

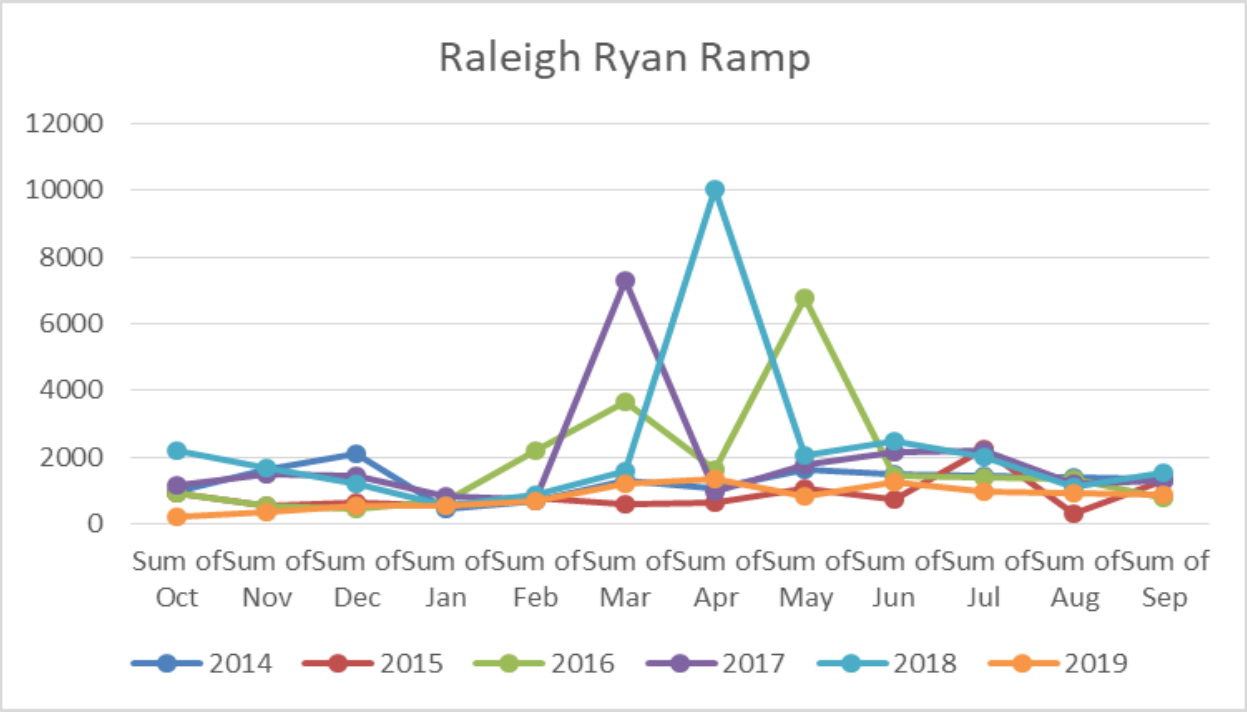


Figure 49: Raleigh Ryan Ramp

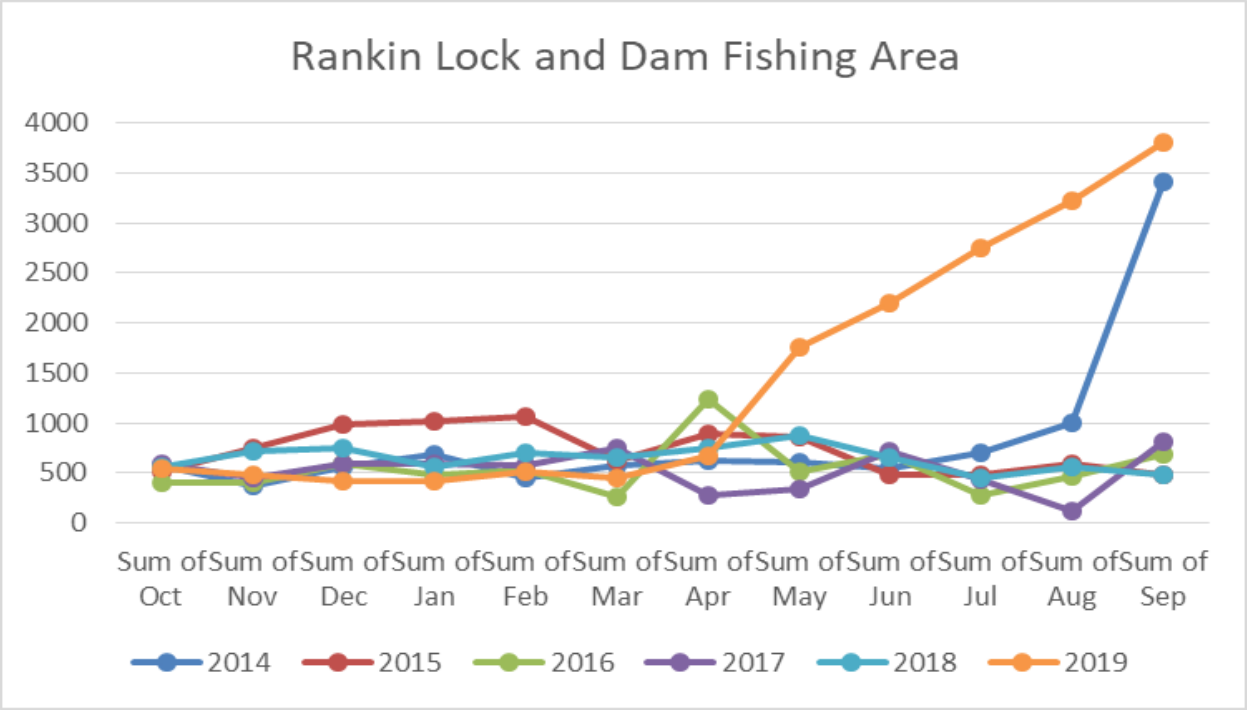


Figure 50: Rankin Lock and Dam Fishing Area

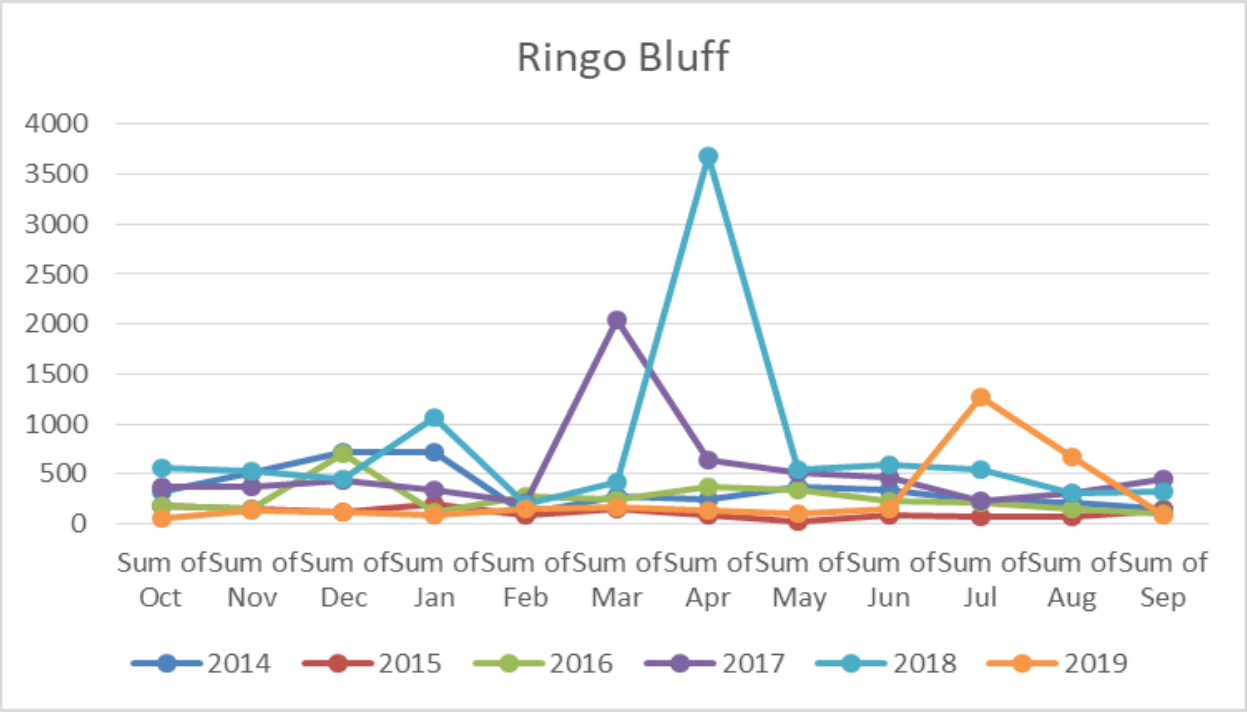


Figure 51: Ringo Bluff

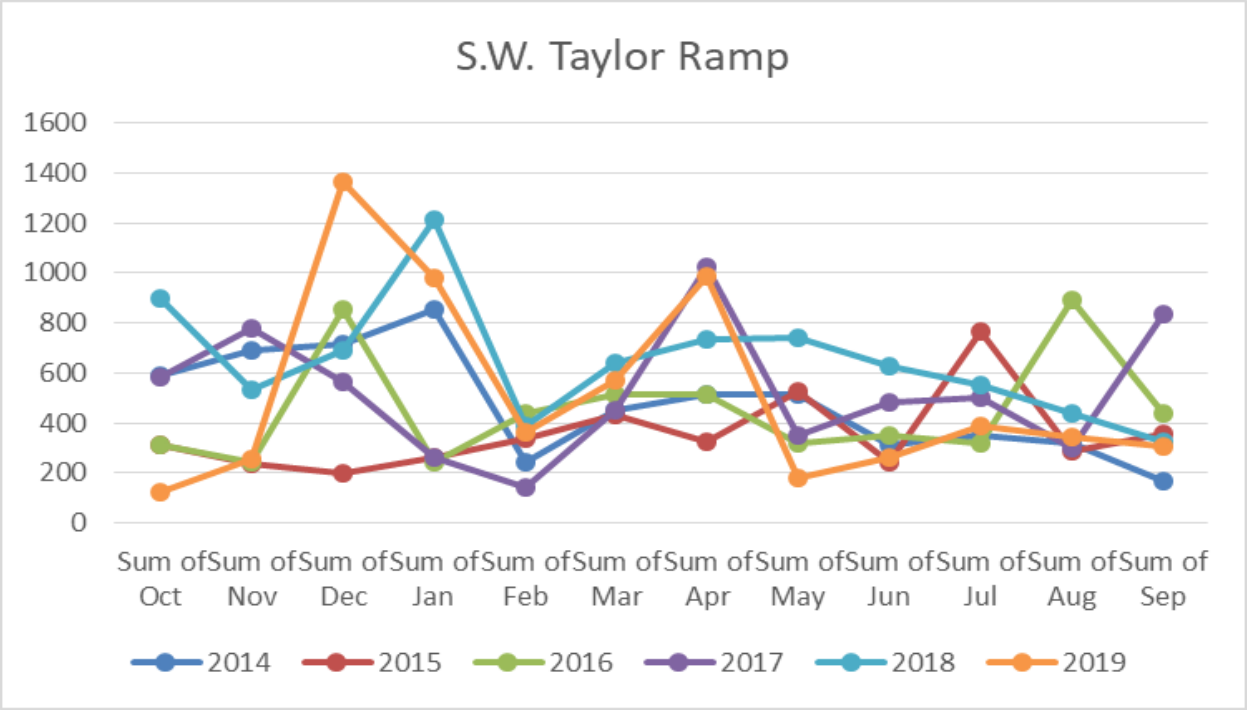


Figure 52: S.W. Taylor Ramp

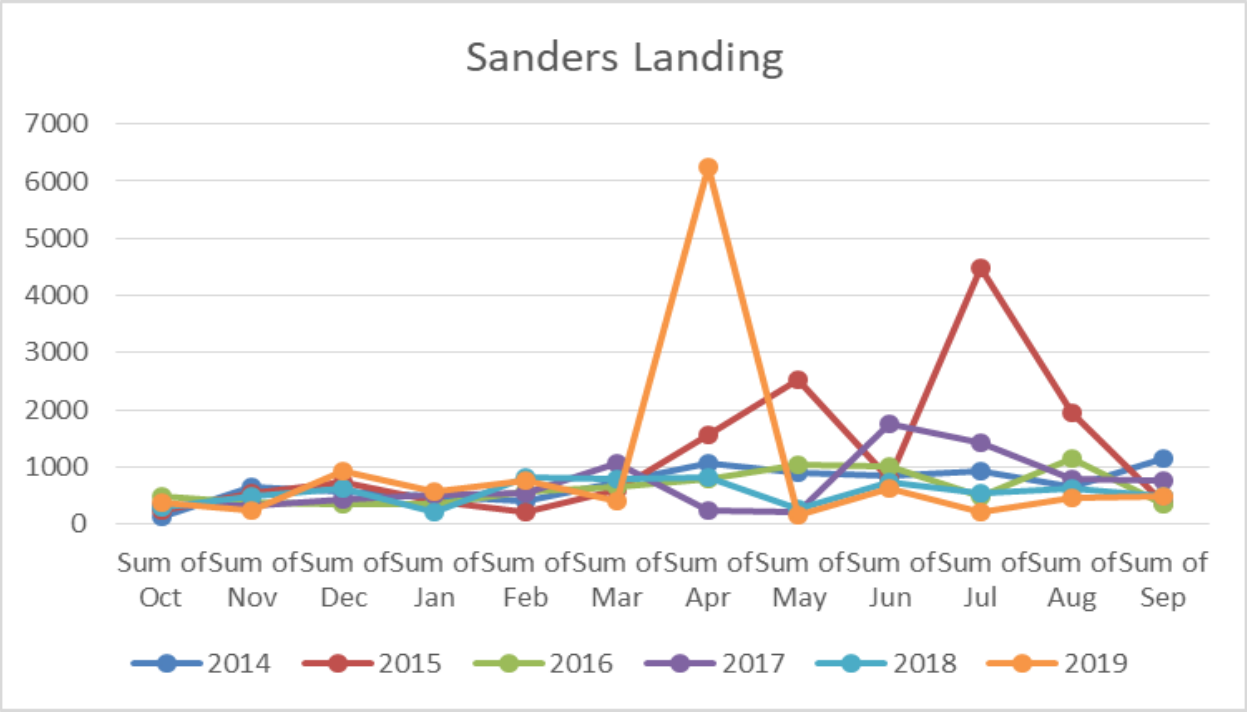


Figure 53: Sanders Landing

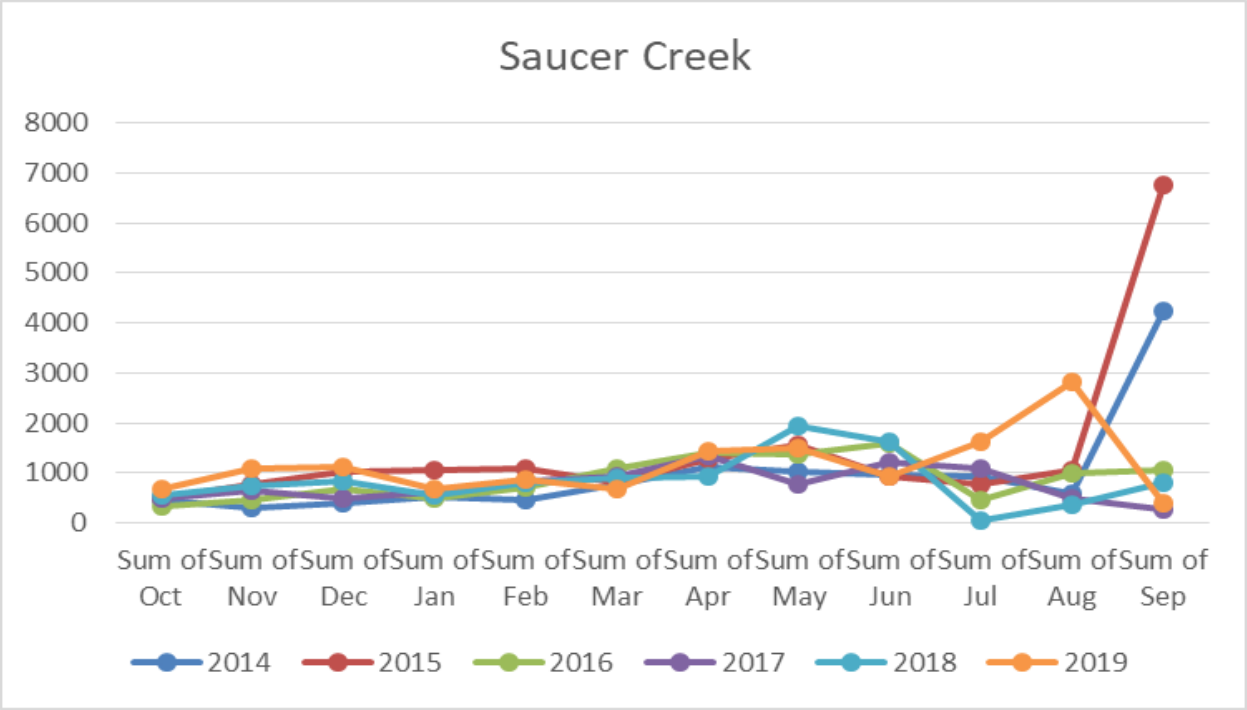


Figure 54: Saucer Creek

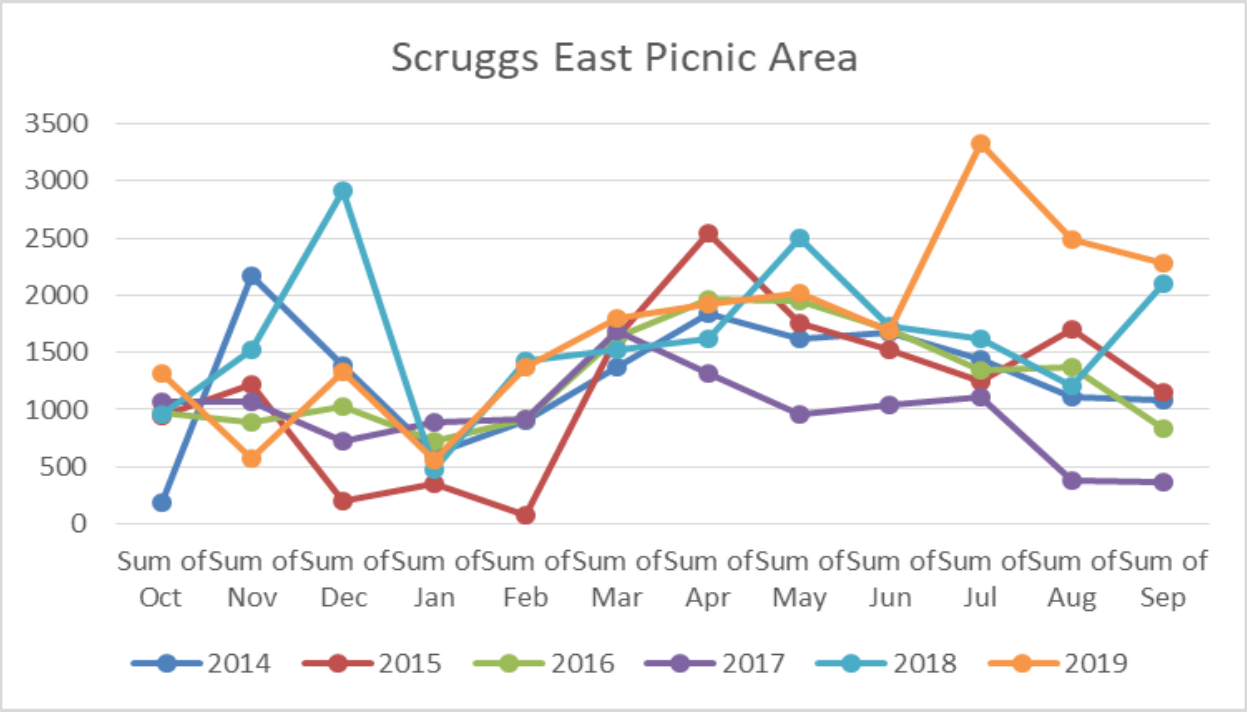


Figure 55: Scruggs East Picnic Area

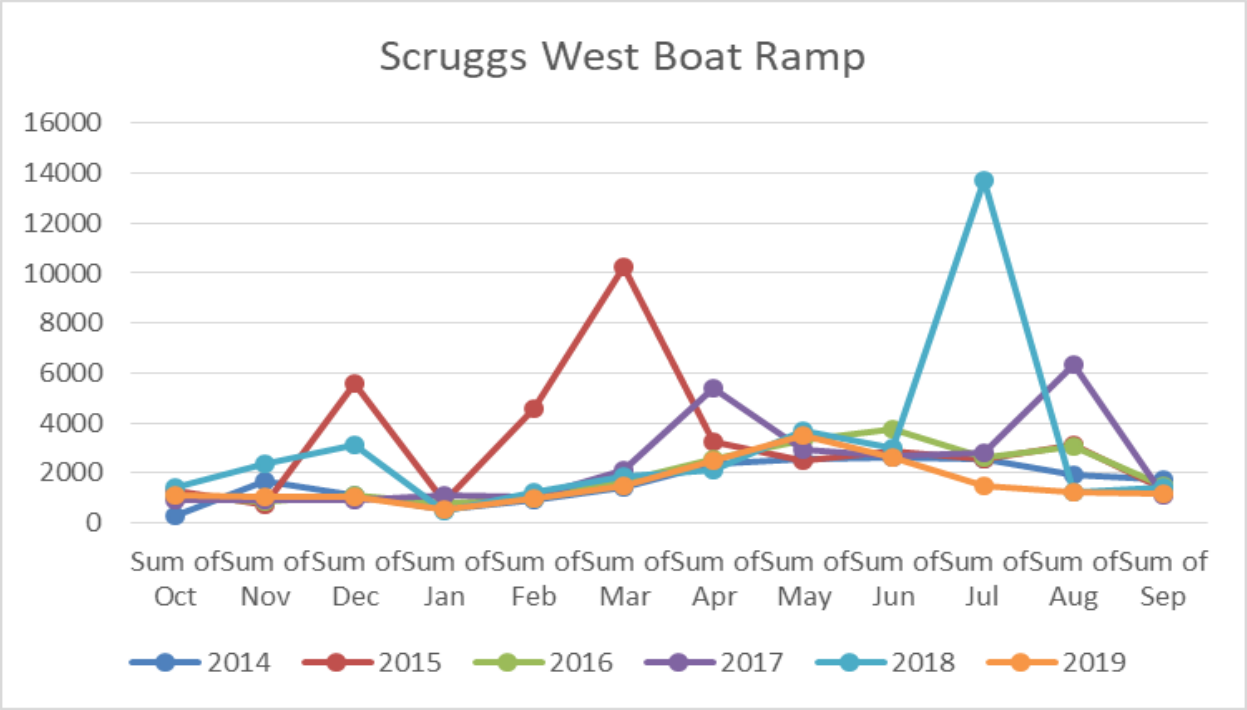


Figure 56: Scruggs West Boat Ramp

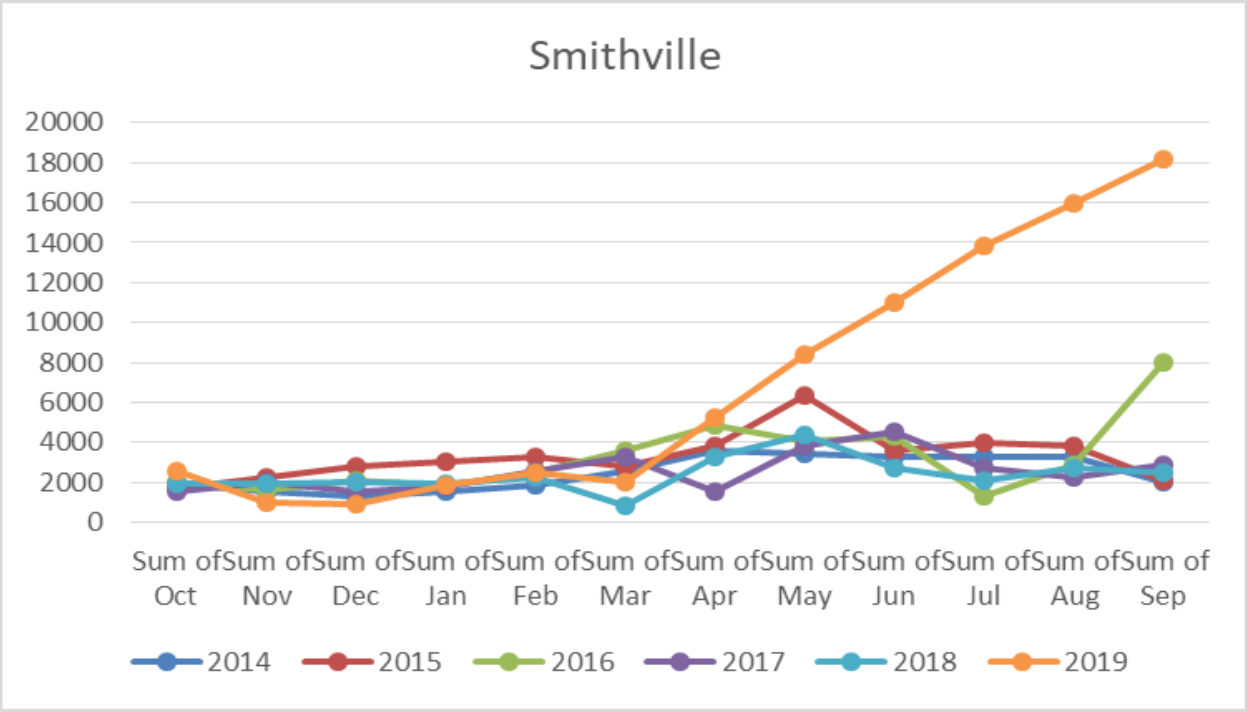


Figure 57: Smithville

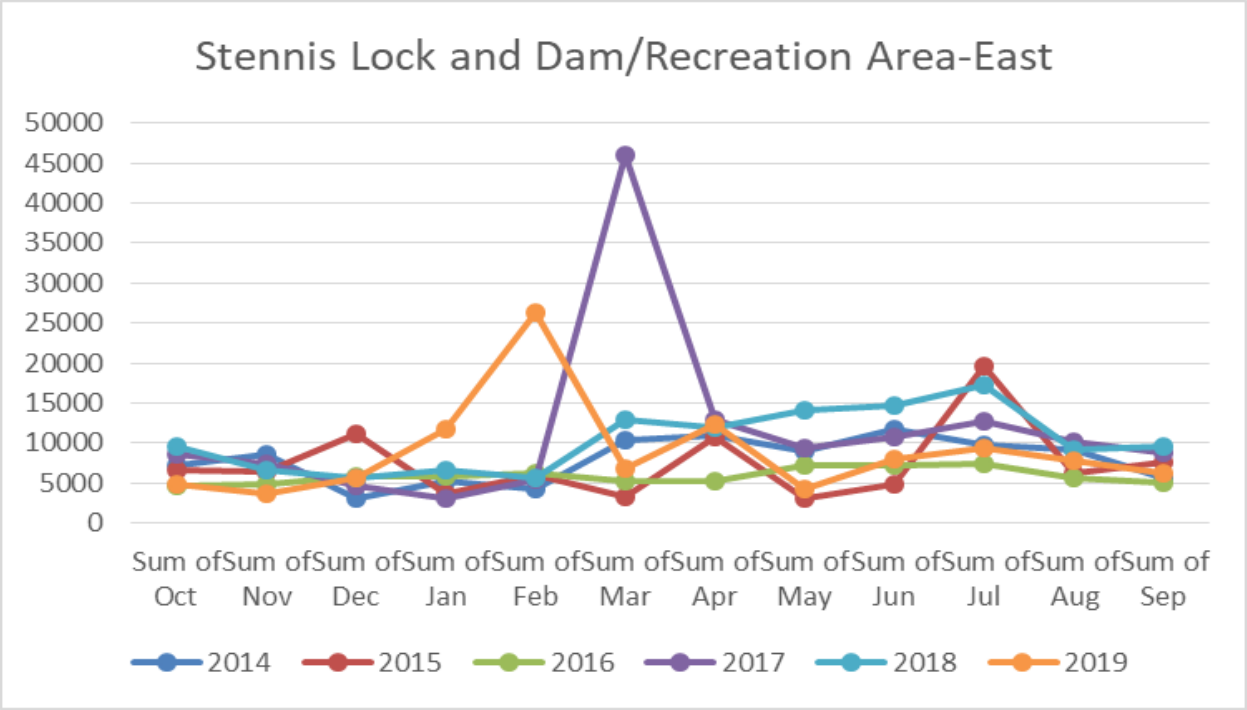


Figure 58: Stennis Lock and Dam/Recreation Area-East

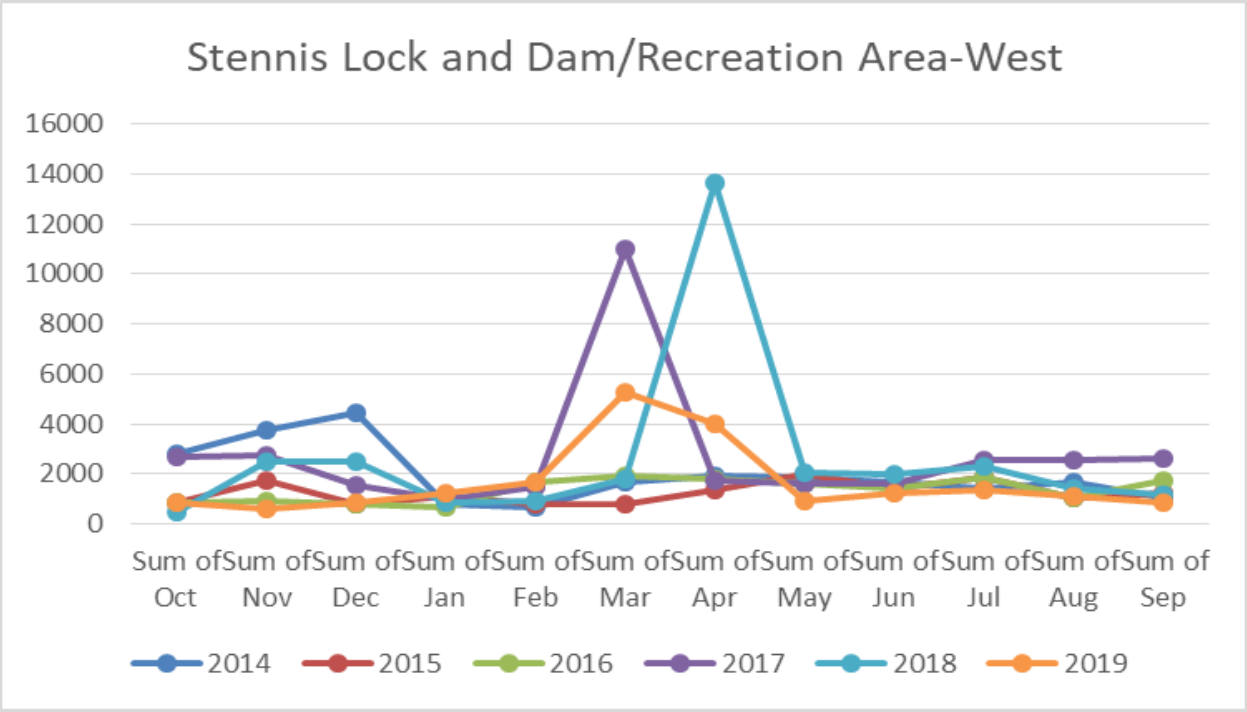


Figure 59: Stennis Lock and Dam/Recreation Area-West

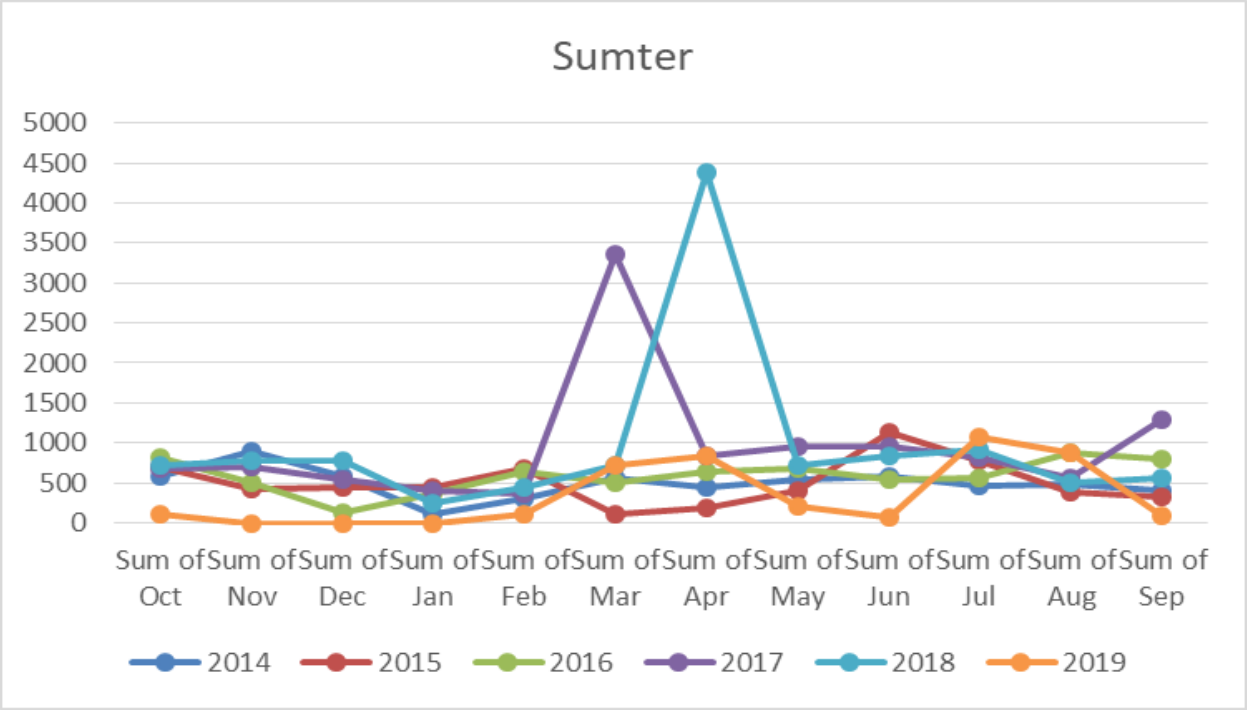


Figure 60: Sumter

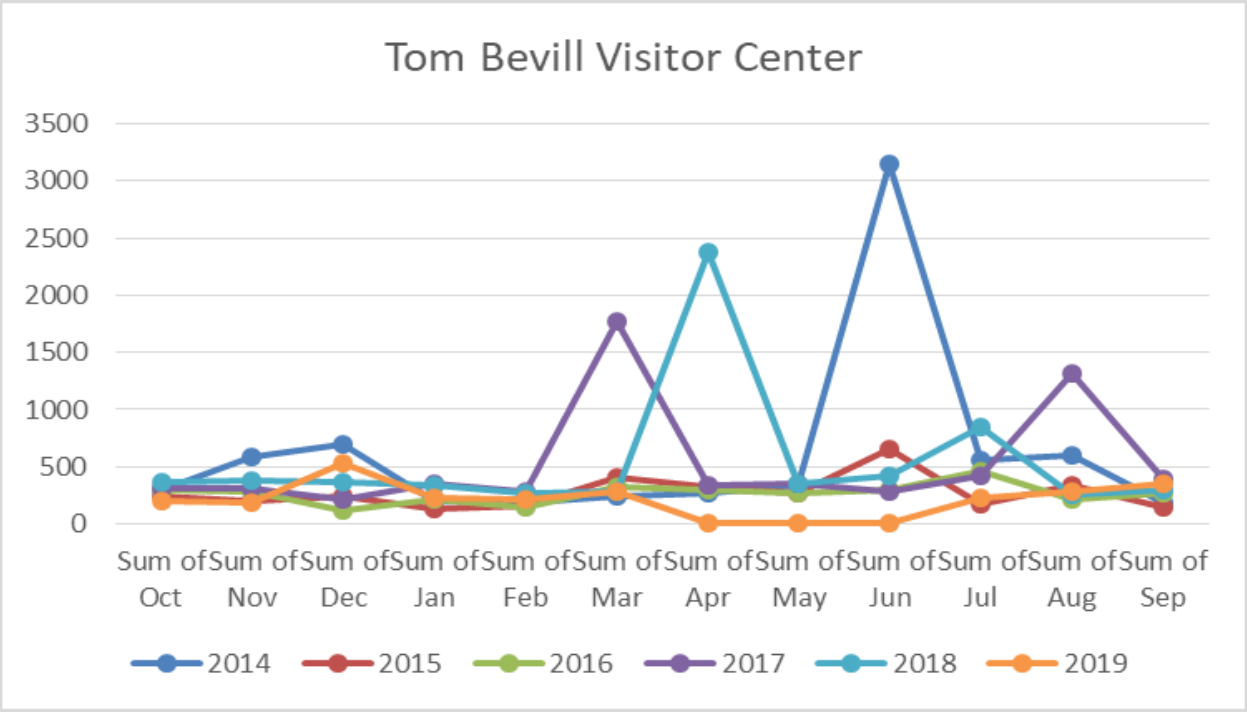
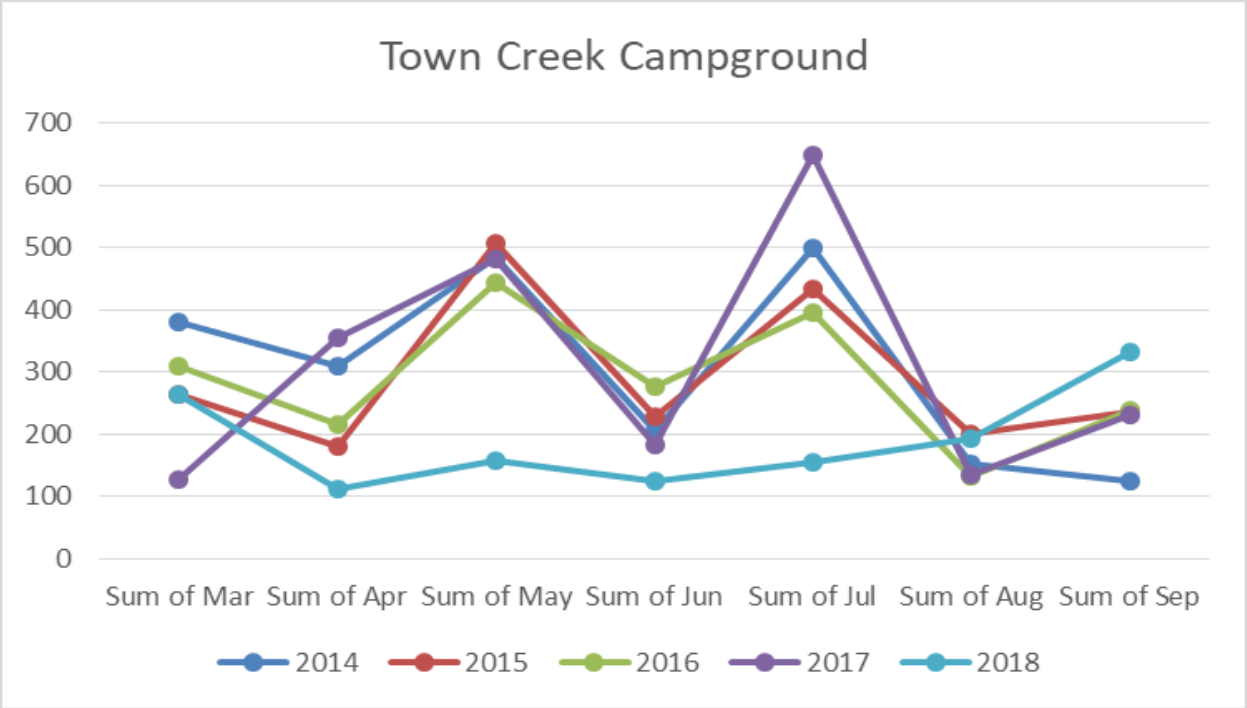


Figure 61: Tom Bevill Visitor Center



*No 2019 data

Figure 62: Town Creek Campground

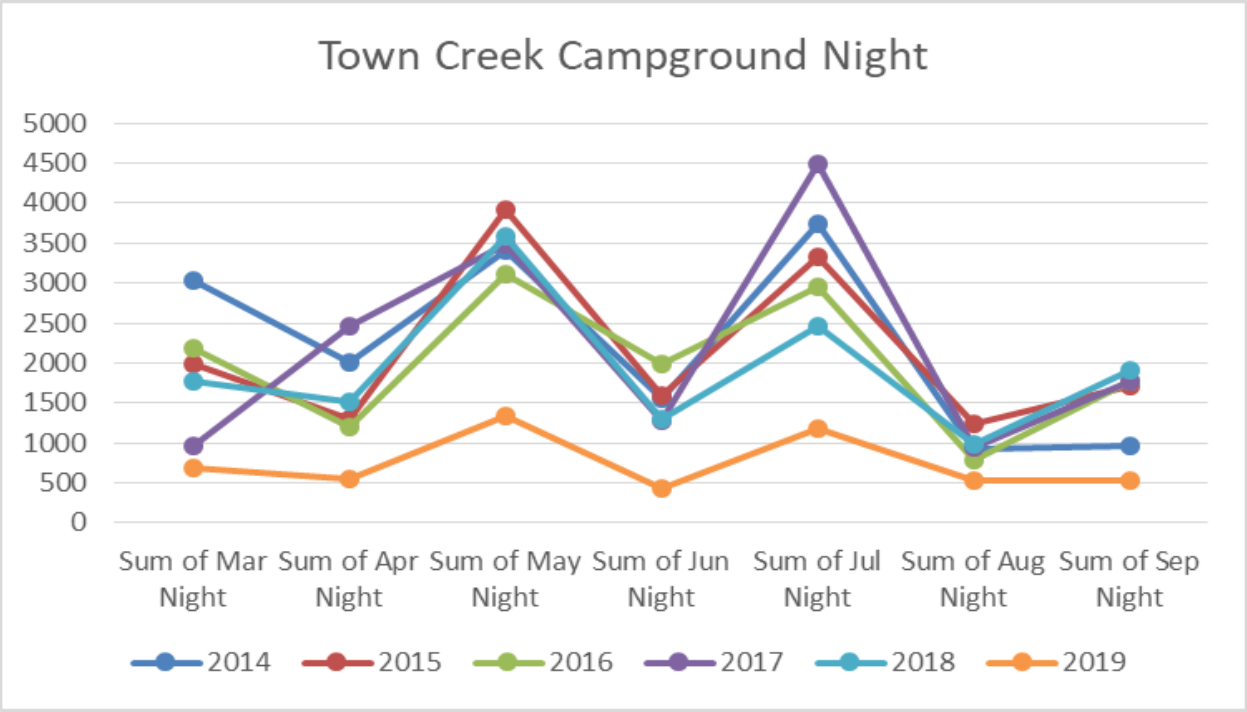


Figure 63: Town Creek Campground Night

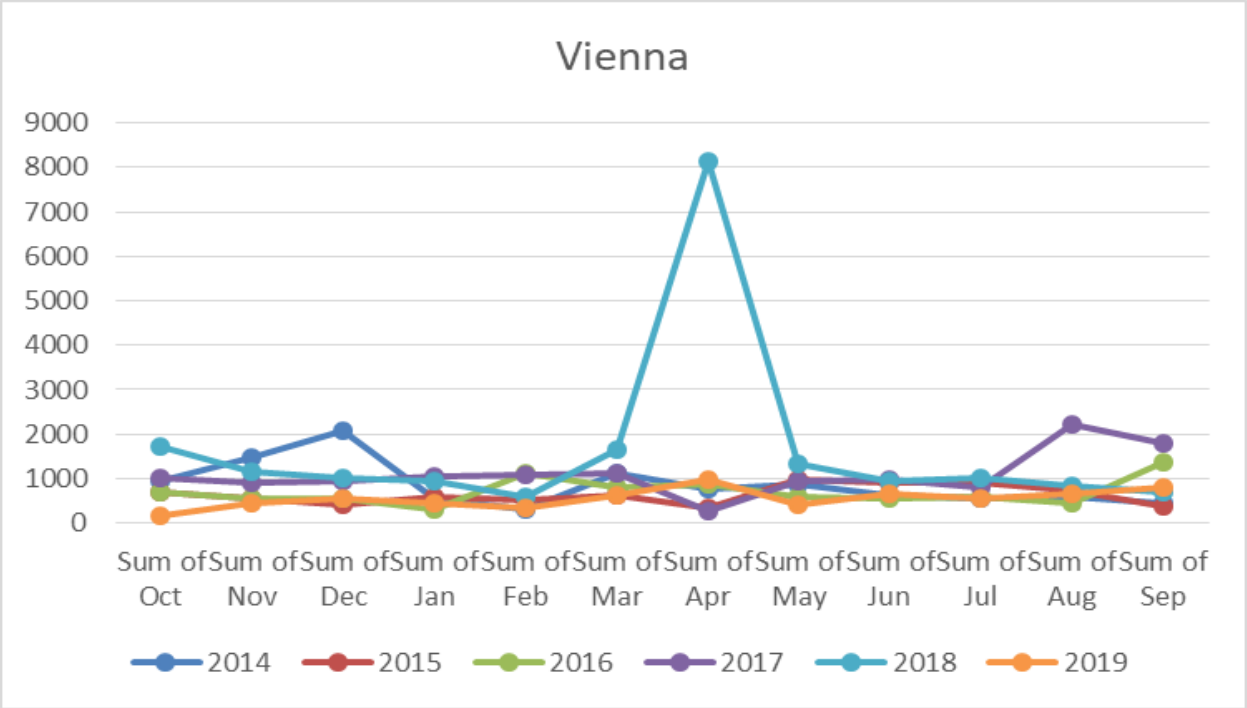
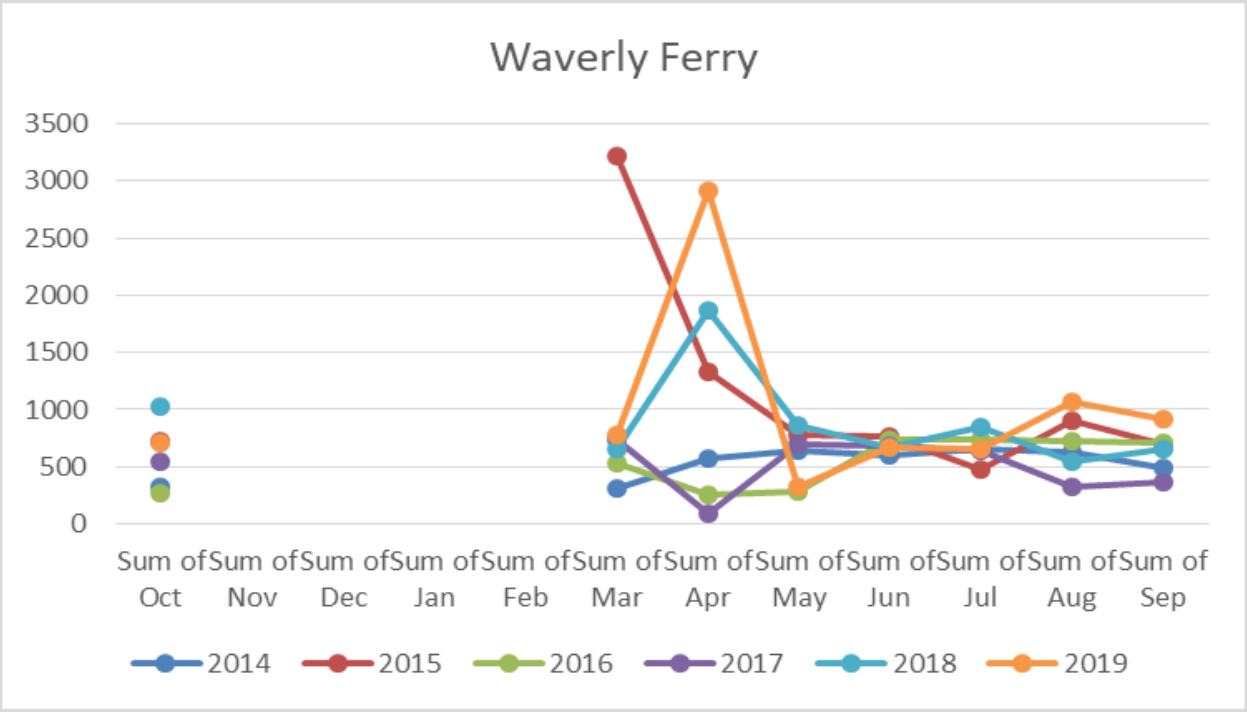


Figure 64: Vienna



*Closed from Nov-Feb.

Figure 65: Waverly Ferry

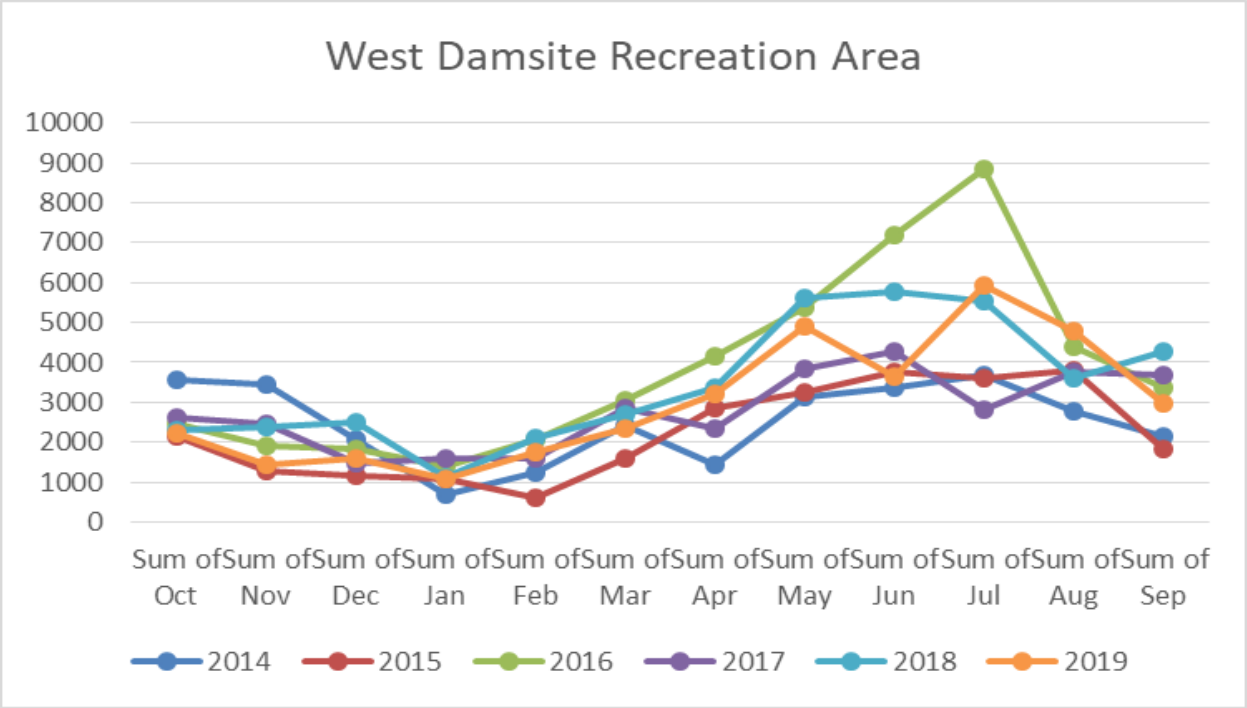


Figure 66: West Damsite Recreation Area

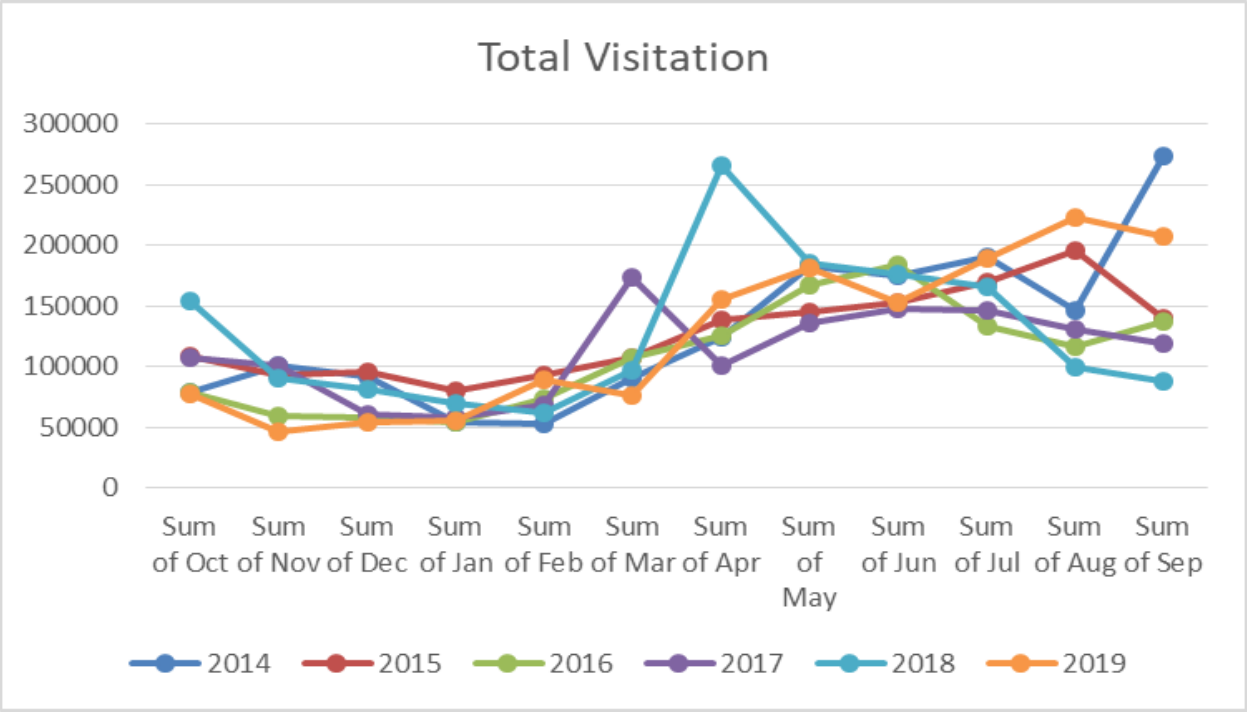


Figure 67: Total Visitation

4. RECREATION CARRYING CAPACITY

It is important to establish the carrying capacity of a project so that there are appropriate parking and facilities, and the quality of the recreation experience is maintained. Recreation carrying capacity can be analyzed in several ways. For this analysis, the parking spaces and general visitation data were used to establish general recreation carrying capacity. In order to determine peak season weekend day visitation, the visitation for May through July is summed. The 2014-2019 years are used to determine the average base values. Design load is calculated as the number of peak season visits multiplied by the percent of visitation occurring on weekends divided by the number of peak season weekend days. The table below shows the values used to establish the base design load.

There is some uncertainty in the analysis related to multiple factors including population projections, individual PSA turnover rates and variance in per capita use rate from year to year. The net difference in parking capacity therefor can vary from what is displayed below.

The campground formula is different from the typical PSAs that were explained above and because of this a different formula was used. Turnover became 36 hours with a placeholder of 1 in the formula because campers stay the whole weekend when they camp. Maximum people per campsite was given the placeholder of 8 in the formula because of the maximum number of visitors that can be at a campsite. Maximum

Campground Occupancy is then determined by using the max number of visitors multiplied by the number of campsites. Max Campground Occupancy is then subtracted by the design load to get the net differences. The net differences are then divided by the max people per campsite (8) which then determines the Campsites Needed or Leftover.

Table 4: Total Project Base Year Design Load

Year	Peak Season (May-July)	Annual Visits	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	549665	1736981	31.64%	13	75%	26	15855.72
2015	466774	1700048	27.46%	13	75%	26	13464.63
2016	482983	1476992	32.70%	13	75%	26	13932.2
2017	430308	1575030	27.32%	13	75%	26	12412.73
2018	527109	1727023	30.52%	13	75%	26	15205.07
2019	523107	1682611	31.09%	13	75%	26	15089.63

Table 5: Total Project Future Design Load

Year	Peak Season (May-July)	Annual Visits	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	549665	1736981	31.64%	13	75%	26	15855.72
2015	466774	1700048	27.46%	13	75%	26	13464.63
2016	482983	1476992	32.70%	13	75%	26	13932.2
2017	430308	1575030	27.32%	13	75%	26	12412.73
2018	527109	1727023	30.52%	13	75%	26	15205.07
2019	523107	1682611	31.09%	13	75%	26	15089.63
2020	495672	1645542	30.12%	13	75%	26	14298.23
2025	494307	1641009	30.12%	13	75%	26	14258.86
2030	492941	1636475	30.12%	13	75%	26	14219.45
2035	491575	1631941	30.12%	13	75%	26	14180.05
2040	490209	1627407	30.12%	13	75%	26	14140.64
2045	488844	1622874	30.12%	13	75%	26	14101.27

Table 6: Total Project Existing and Future Project Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	15856	3.25	3.69	2.25	1910	3083	1173
2015	13465	3.25	3.69	2.25	1622	3083	1461
2016	13932	3.25	3.69	2.25	1678	3083	1405
2017	12413	3.25	3.69	2.25	1495	3083	1588
2018	15205	3.25	3.69	2.25	1831	3083	1252
2019	15090	3.25	3.69	2.25	1818	3083	1265
2020	14298	3.25	3.69	2.25	1722	3083	1361
2025	14259	3.25	3.69	2.25	1717	3083	1366
2030	14219	3.25	3.69	2.25	1713	3083	1370
2035	14180	3.25	3.69	2.25	1708	3083	1375
2040	14141	3.25	3.69	2.25	1703	3083	1380
2045	14101	3.25	3.69	2.25	1698	3083	1385

Source: USACE, 2020.
Note: Parking data was collected from local Tennessee Tombigbee Waterway records.

The analysis of parking demand and supply in table 6 shows that there is likely adequate parking project wide through 2045. The net difference between existing supply and project demand shows that the existing supply will meet the projected demand.

In order to determine the parking demand at the project, the design load is used with assumptions for turnover rate (calculated as house the project is open divided by the average day use hours per person), person per vehicle and existing parking. The values for Day Use hours and Visitors per Vehicle were determined with project data specific to each individual survey type/PSA.

4.1 TENNESSEE-TOMBIGBEE WATERWAY PSAS DESIGN LOADS AND PARKING DEMAND TABLES

Table 7: Bay Springs Marina Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	2912	8544	1736981	0.49%	34.08%	13	75%	26	84
2015	3027	7683	1700048	0.45%	39.40%	13	75%	26	87.31731
2016	6117	13164	1476992	0.89%	46.47%	13	75%	26	176.4519
2017	3122	9526	1575030	0.60%	32.77%	13	75%	26	90.05769
2018	4828	11800	1727023	0.68%	40.92%	13	75%	26	139.2692
2019	4138	10259	1682611	0.61%	40.34%	13	75%	26	119.3654
2020	3992	10238	1645542	0.62%	39.00%	13	75%	26	115.1538
2025	3981	10209	1641009	0.62%	39.00%	13	75%	26	114.8365
2030	3970	10181	1636475	0.62%	39.00%	13	75%	26	114.5192
2035	3959	10153	1631941	0.62%	39.00%	13	75%	26	114.2019
2040	3948	10125	1627407	0.62%	39.00%	13	75%	26	113.8846
2045	3937	10097	1622874	0.62%	39.00%	13	75%	26	113.5673

Table 8: Bay Springs Marina Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	84	3.25	3.69	2.25	10	116	106
2015	87	3.25	3.69	2.25	10	116	106
2016	176	3.25	3.69	2.25	21	116	95
2017	90	3.25	3.69	2.25	11	116	105
2018	139	3.25	3.69	2.25	17	116	99
2019	119	3.25	3.69	2.25	14	116	102
2020	115	3.25	3.69	2.25	14	116	102
2025	115	3.25	3.69	2.25	14	116	102
2030	115	3.25	3.69	2.25	14	116	102
2035	114	3.25	3.69	2.25	14	116	102
2040	114	3.25	3.69	2.25	14	116	102
2045	114	3.25	3.69	2.25	14	116	102

Table 9: Jamie L. Whitten Campground Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	63724	217393	1736981	12.52%	29.31%	13	75%	26	1838.192
2015	38825	150698	1700048	8.86%	25.76%	13	75%	26	1119.952
2016	21114	56364	1476992	3.82%	37.46%	13	75%	26	609.0577
2017	2545	30729	1575030	1.95%	8.28%	13	75%	26	73.41346
2018	2545	56165	1727023	3.25%	4.53%	13	75%	26	73.41346
2019	81731	210527	1682611	12.51%	38.82%	13	75%	26	2357.625
2020	28279	117687	1645542	7.15%	24.03%	13	75%	26	815.7404
2025	28201	117363	1641009	7.15%	24.03%	13	75%	26	813.4904
2030	28123	117038	1636475	7.15%	24.03%	13	75%	26	811.2404
2035	28045	116714	1631941	7.15%	24.03%	13	75%	26	808.9904
2040	27967	116390	1627407	7.15%	24.03%	13	75%	26	806.7404
2045	27889	116066	1622874	7.15%	24.03%	13	75%	26	804.4904

Table 10: Jamie L. Whitten Campground Camping Demand

Year	Design Load	Turnover (36/Day Use Hours per Visitor)	Maximum People Per Campsite	Campsites	Maximum Campground Occupancy	Net Differences	Campsite Forecast
2014	1838	1	8	62	496	-1342	-168
2015	1120	1	8	62	496	-624	-78
2016	609	1	8	62	496	-113	-14
2017	73	1	8	62	496	423	53
2018	73	1	8	62	496	423	53
2019	2358	1	8	62	496	-1862	-233
2020	816	1	8	62	496	-320	-40
2025	813	1	8	62	496	-317	-40
2030	811	1	8	62	496	-315	-39
2035	809	1	8	62	496	-313	-39
2040	807	1	8	62	496	-311	-39
2045	804	1	8	62	496	-308	-39

Table 11: Luxapalila Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	7651	31544	1736981	1.82%	24.26%	13	75%	26	220.7019
2015	10761	27869	1700048	1.64%	38.61%	13	75%	26	310.4135
2016	7571	23648	1476992	1.60%	32.02%	13	75%	26	218.3942
2017	10806	47309	1575030	3.00%	22.84%	13	75%	26	311.7115
2018	11179	42830	1727023	2.48%	26.10%	13	75%	26	322.4712
2019	4134	24448	1682611	1.45%	16.91%	13	75%	26	119.25
2020	8811	32892	1645542	2.00%	26.79%	13	75%	26	254.1635
2025	8787	32801	1641009	2.00%	26.79%	13	75%	26	253.4712
2030	8763	32711	1636475	2.00%	26.79%	13	75%	26	252.7788
2035	8739	32620	1631941	2.00%	26.79%	13	75%	26	252.0865
2040	8714	32529	1627407	2.00%	26.79%	13	75%	26	251.3654
2045	8690	32439	1622874	2.00%	26.79%	13	75%	26	250.6731

Table 12: Luxapalila Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	221	2.5	4.8	2.1	22	20	-2
2015	310	2.5	4.8	2.1	31	20	-11
2016	218	2.5	4.8	2.1	22	20	-2
2017	312	2.5	4.8	2.1	31	20	-11
2018	322	2.5	4.8	2.1	32	20	-12
2019	119	2.5	4.8	2.1	12	20	8
2020	254	2.5	4.8	2.1	25	20	-5
2025	253	2.5	4.8	2.1	25	20	-5
2030	253	2.5	4.8	2.1	25	20	-5
2035	252	2.5	4.8	2.1	25	20	-5
2040	251	2.5	4.8	2.1	25	20	-5
2045	251	2.5	4.8	2.1	25	20	-5

Table 13: Old Bridge Beach Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	18468	21262	1736981	1.22%	86.86%	13	75%	26	532.7308
2015	18575	31497	1700048	1.85%	58.97%	13	75%	26	535.8173
2016	38432	41123	1476992	2.78%	93.46%	13	75%	26	1108.615
2017	16363	25571	1575030	1.62%	63.99%	13	75%	26	472.0096
2018	19264	20868	1727023	1.21%	92.31%	13	75%	26	555.6923
2019	17202	19315	1682611	1.15%	89.06%	13	75%	26	496.2115
2020	21801	26989	1645542	1.64%	80.78%	13	75%	26	628.875
2025	21741	26915	1641009	1.64%	80.78%	13	75%	26	627.1442
2030	21680	26840	1636475	1.64%	80.78%	13	75%	26	625.3846
2035	21620	26766	1631941	1.64%	80.78%	13	75%	26	623.6538
2040	21561	26692	1627407	1.64%	80.78%	13	75%	26	621.9519
2045	21500	26617	1622874	1.64%	80.78%	13	75%	26	620.1923

Table 14: Old Bridge Beach Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	533	3.1	3.87	3.1	44	151	107
2015	536	3.1	3.87	3.1	45	151	106
2016	1109	3.1	3.87	3.1	92	151	59
2017	472	3.1	3.87	3.1	39	151	112
2018	556	3.1	3.87	3.1	46	151	105
2019	496	3.1	3.87	3.1	41	151	110
2020	629	3.1	3.87	3.1	52	151	99
2025	627	3.1	3.87	3.1	52	151	99
2030	625	3.1	3.87	3.1	52	151	99
2035	624	3.1	3.87	3.1	52	151	99
2040	622	3.1	3.87	3.1	52	151	99
2045	620	3.1	3.87	3.1	52	151	99

Table 15: Pickensville Campground Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	1880	34981	1736981	2.01%	5.37%	13	75%	26	54.23077
2015	2108	40237	1700048	2.37%	5.24%	13	75%	26	60.80769
2016	2148	41830	1476992	2.83%	5.14%	13	75%	26	61.96154
2017	2244	42007	1575030	2.67%	5.34%	13	75%	26	64.73077
2018	1978	37616	1727023	2.18%	5.26%	13	75%	26	57.05769
2019	241	32139	1682611	1.91%	0.75%	13	75%	26	6.951923
2020	1730	38308	1645542	2.33%	4.52%	13	75%	26	49.90385
2025	1725	38203	1641009	2.33%	4.52%	13	75%	26	49.75962
2030	1721	38097	1636475	2.33%	4.52%	13	75%	26	49.64423
2035	1716	37992	1631941	2.33%	4.52%	13	75%	26	49.5
2040	1711	37886	1627407	2.33%	4.52%	13	75%	26	49.35577
2045	1706	37781	1622874	2.33%	4.52%	13	75%	26	49.21154

Table 16: Pickensville Campground Camping Demand

Year	Design Load	Turnover (36/Day Use Hours per Visitor)	Maximum People Per Campsite	Campsites	Maximum Campground Occupancy	Net Differences	Campsites Needed or Leftover
2014	54	1	8	176	1408	1354	169
2015	61	1	8	176	1408	1347	168
2016	62	1	8	176	1408	1346	168
2017	65	1	8	176	1408	1343	168
2018	57	1	8	176	1408	1351	169
2019	7	1	8	176	1408	1401	175
2020	50	1	8	176	1408	1358	170
2025	50	1	8	176	1408	1358	170
2030	50	1	8	176	1408	1358	170
2035	50	1	8	176	1408	1358	170
2040	49	1	8	176	1408	1359	170
2045	49	1	8	176	1408	1359	170

Table 17: Piney Grove Campground Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	24809	83788	1736981	4.82%	29.61%	13	75%	26	715.6442
2015	13230	74628	1700048	4.39%	17.73%	13	75%	26	381.6346
2016	20189	85936	1476992	5.82%	23.49%	13	75%	26	582.375
2017	18132	96287	1575030	6.11%	18.83%	13	75%	26	523.0385
2018	22411	86180	1727023	4.99%	26.00%	13	75%	26	646.4712
2019	-	56275	1682611	3.34%	-	13	75%	26	-
2020	18703	80850	1645542	4.91%	23.13%	13	75%	26	539.5096
2025	18652	80628	1641009	4.91%	23.13%	13	75%	26	538.0385
2030	18600	80405	1636475	4.91%	23.13%	13	75%	26	536.5385
2035	18549	80182	1631941	4.91%	23.13%	13	75%	26	535.0673
2040	18497	79959	1627407	4.91%	23.13%	13	75%	26	533.5673
2045	18446	79737	1622874	4.91%	23.13%	13	75%	26	532.0962

Table 18: Piney Grove Campground Camping Demand

Year	Design Load	Turnover (36/Day Use Hours per Visitor)	Maximum People Per Campsite	Campsites	Maximum Campground Occupancy	Net Differences	Campsite Forecast
2014	716	1	8	131	1048	332	42
2015	382	1	8	131	1048	666	83
2016	582	1	8	131	1048	466	58
2017	523	1	8	131	1048	525	66
2018	646	1	8	131	1048	402	50
2019	-	1	8	131	1048	-	-
2020	540	1	8	131	1048	508	64
2025	538	1	8	131	1048	510	64
2030	537	1	8	131	1048	511	64
2035	535	1	8	131	1048	513	64
2040	534	1	8	131	1048	514	64
2045	532	1	8	131	1048	516	65

Table 19: Piney Grove Day Use Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	24809	37437	1736981	2.16%	66.27%	13	75%	26	715.6442
2015	13230	24219	1700048	1.42%	54.63%	13	75%	26	381.6346
2016	20189	36054	1476992	2.44%	56.00%	13	75%	26	582.375
2017	18132	37725	1575030	2.40%	48.06%	13	75%	26	523.0385
2018	22411	39485	1727023	2.29%	56.76%	13	75%	26	646.4712
2019	9191	14223	1682611	0.85%	64.62%	13	75%	26	265.125
2020	18281	31670	1645542	1.92%	57.72%	13	75%	26	527.3365
2025	18230	31583	1641009	1.92%	57.72%	13	75%	26	525.8654
2030	18180	31496	1636475	1.92%	57.72%	13	75%	26	524.4231
2035	18130	31409	1631941	1.92%	57.72%	13	75%	26	522.9808
2040	18079	31321	1627407	1.92%	57.72%	13	75%	26	521.5096
2045	18029	31234	1622874	1.92%	57.72%	13	75%	26	520.0673

Table 20: Piney Grove Day Use Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	716	2.5	4.8	2.1	71	152	81
2015	382	2.5	4.8	2.1	38	152	114
2016	582	2.5	4.8	2.1	58	152	94
2017	523	2.5	4.8	2.1	52	152	100
2018	646	2.5	4.8	2.1	64	152	88
2019	265	2.5	4.8	2.1	26	152	126
2020	527	2.5	4.8	2.1	52	152	100
2025	526	2.5	4.8	2.1	52	152	100
2030	524	2.5	4.8	2.1	52	152	100
2035	523	2.5	4.8	2.1	52	152	100
2040	522	2.5	4.8	2.1	52	152	100
2045	520	2.5	4.8	2.1	52	152	100

Table 21: Piney Grove Day Use-Beach Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	30883	37786	1736981	2.18%	81.73%	13	75%	26	890.8558
2015	14593	18868	1700048	1.11%	77.34%	13	75%	26	420.9519
2016	37004	44138	1476992	2.99%	83.84%	13	75%	26	1067.423
2017	34103	38792	1575030	2.46%	87.91%	13	75%	26	983.7404
2018	42182	47570	1727023	2.75%	88.67%	13	75%	26	1216.788
2019	10838	16772	1682611	1.00%	64.62%	13	75%	26	312.6346
2020	27634	34249	1645542	2.08%	80.69%	13	75%	26	797.1346
2025	27558	34154	1641009	2.08%	80.69%	13	75%	26	794.9423
2030	27482	34060	1636475	2.08%	80.69%	13	75%	26	792.75
2035	27406	33966	1631941	2.08%	80.69%	13	75%	26	790.5577
2040	27329	33871	1627407	2.08%	80.69%	13	75%	26	788.3365
2045	27253	33777	1622874	2.08%	80.69%	13	75%	26	786.1442

Table 22: Piney Grove Day Use-Beach Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	891	3.1	3.87	3.1	74	124	50
2015	421	3.1	3.87	3.1	35	124	89
2016	1067	3.1	3.87	3.1	89	124	35
2017	984	3.1	3.87	3.1	82	124	42
2018	1217	3.1	3.87	3.1	101	124	23
2019	313	3.1	3.87	3.1	26	124	98
2020	797	3.1	3.87	3.1	66	124	58
2025	795	3.1	3.87	3.1	66	124	58
2030	793	3.1	3.87	3.1	66	124	58
2035	791	3.1	3.87	3.1	66	124	58
2040	788	3.1	3.87	3.1	66	124	58
2045	786	3.1	3.87	3.1	66	124	58

Table 23: Scruggs East Picnic Area Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	4734	15398	1736981	0.89%	30.74%	13	75%	26	136.5577
2015	4528	14364	1700048	0.84%	31.52%	13	75%	26	130.6154
2016	5003	15349	1476992	1.04%	32.59%	13	75%	26	144.3173
2017	3112	11514	1575030	0.73%	27.03%	13	75%	26	89.76923
2018	5848	19576	1727023	1.13%	29.87%	13	75%	26	168.6923
2019	7036	20702	1682611	1.23%	33.99%	13	75%	26	202.9615
2020	4980	16087	1645542	0.98%	30.96%	13	75%	26	143.6538
2025	4966	16042	1641009	0.98%	30.96%	13	75%	26	143.25
2030	4953	15998	1636475	0.98%	30.96%	13	75%	26	142.875
2035	4939	15954	1631941	0.98%	30.96%	13	75%	26	142.4712
2040	4925	15909	1627407	0.98%	30.96%	13	75%	26	142.0673
2045	4912	15865	1622874	0.98%	30.96%	13	75%	26	141.6923

Table 24: Scruggs East Picnic Area Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	137	1.75	6.86	2.1	10	8	-2
2015	131	1.75	6.86	2.1	9	8	-1
2016	144	1.75	6.86	2.1	10	8	-2
2017	90	1.75	6.86	2.1	6	8	2
2018	169	1.75	6.86	2.1	12	8	-4
2019	203	1.75	6.86	2.1	14	8	-6
2020	144	1.75	6.86	2.1	10	8	-2
2025	143	1.75	6.86	2.1	10	8	-2
2030	143	1.75	6.86	2.1	10	8	-2
2035	142	1.75	6.86	2.1	10	8	-2
2040	142	1.75	6.86	2.1	10	8	-2
2045	142	1.75	6.86	2.1	10	8	-2

Table 25: Scruggs West Boat Ramp Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	7733	19784	1736981	1.14%	39.09%	13	75%	26	223.0673
2015	7976	39043	1700048	2.30%	20.43%	13	75%	26	230.0769
2016	9670	23332	1476992	1.58%	41.45%	13	75%	26	278.9423
2017	8433	28306	1575030	1.80%	29.79%	13	75%	26	243.2596
2018	20446	35716	1727023	2.07%	57.25%	13	75%	26	589.7885
2019	7629	18802	1682611	1.12%	40.58%	13	75%	26	220.0673
2020	10446	27420	1645542	1.67%	38.10%	13	75%	26	301.3269
2025	10417	27345	1641009	1.67%	38.10%	13	75%	26	300.4904
2030	10388	27269	1636475	1.67%	38.10%	13	75%	26	299.6538
2035	10359	27193	1631941	1.67%	38.10%	13	75%	26	298.8173
2040	10331	27118	1627407	1.67%	38.10%	13	75%	26	298.0096
2045	10302	27042	1622874	1.67%	38.10%	13	75%	26	297.1731

Table 26: Scruggs West Boat Ramp Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	223	3.25	3.69	2.15	28	5	-23
2015	230	3.25	3.69	2.15	29	5	-24
2016	279	3.25	3.69	2.15	35	5	-30
2017	243	3.25	3.69	2.15	31	5	-26
2018	590	3.25	3.69	2.15	74	5	-69
2019	220	3.25	3.69	2.15	28	5	-23
2020	301	3.25	3.69	2.15	38	5	-33
2025	300	3.25	3.69	2.15	38	5	-33
2030	300	3.25	3.69	2.15	38	5	-33
2035	299	3.25	3.69	2.15	38	5	-33
2040	298	3.25	3.69	2.15	38	5	-33
2045	297	3.25	3.69	2.15	37	5	-32

Table 27: Stennis Lock and Dam/Recreation Area-East Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	30395	94995	1736981	5.47%	32.00%	13	75%	26	876.7788
2015	27600	88949	1700048	5.23%	31.03%	13	75%	26	796.1538
2016	21807	70196	1476992	4.75%	31.07%	13	75%	26	629.0481
2017	32785	139471	1575030	8.86%	23.51%	13	75%	26	945.7212
2018	46170	123998	1727023	7.18%	37.23%	13	75%	26	1331.827
2019	21548	107179	1682611	6.37%	20.10%	13	75%	26	621.5769
2020	30273	103830	1645542	6.31%	29.16%	13	75%	26	873.2596
2025	30189	103544	1641009	6.31%	29.16%	13	75%	26	870.8365
2030	30106	103258	1636475	6.31%	29.16%	13	75%	26	868.4423
2035	30023	102972	1631941	6.31%	29.16%	13	75%	26	866.0481
2040	29939	102685	1627407	6.31%	29.16%	13	75%	26	863.625
2045	29856	102399	1622874	6.31%	29.16%	13	75%	26	861.2308

Table 28: Stennis Lock and Dam/Recreation Area-East Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	877	3.25	3.69	2.25	106	401	295
2015	796	3.25	3.69	2.25	96	401	305
2016	629	3.25	3.69	2.25	76	401	325
2017	946	3.25	3.69	2.25	114	401	287
2018	1332	3.25	3.69	2.25	160	401	241
2019	622	3.25	3.69	2.25	75	401	326
2020	873	3.25	3.69	2.25	105	401	296
2025	871	3.25	3.69	2.25	105	401	296
2030	868	3.25	3.69	2.25	105	401	296
2035	866	3.25	3.69	2.25	104	401	297
2040	864	3.25	3.69	2.25	104	401	297
2045	861	3.25	3.69	2.25	104	401	297

Table 29: Stennis Lock and Dam/Recreation Area-West Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	4929	23721	1736981	1.37%	20.78%	13	75%	26	142.1827
2015	5252	14944	1700048	0.88%	35.14%	13	75%	26	151.5
2016	4898	16307	1476992	1.10%	30.04%	13	75%	26	141.2885
2017	5798	33238	1575030	2.11%	17.44%	13	75%	26	167.25
2018	6298	31634	1727023	1.83%	19.91%	13	75%	26	181.6731
2019	3451	20009	1682611	1.19%	17.25%	13	75%	26	99.54808
2020	5448	23257	1645542	1.41%	23.43%	13	75%	26	157.1538
2025	5433	23193	1641009	1.41%	23.43%	13	75%	26	156.7212
2030	5418	23129	1636475	1.41%	23.43%	13	75%	26	156.2885
2035	5403	23065	1631941	1.41%	23.43%	13	75%	26	155.8558
2040	5388	23000	1627407	1.41%	23.43%	13	75%	26	155.4231
2045	5373	22936	1622874	1.41%	23.43%	13	75%	26	154.9904

Table 30: Stennis Lock and Dam/Recreation Area-West Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	142	1.75	6.86	2.1	10	60	50
2015	152	1.75	6.86	2.1	11	60	49
2016	141	1.75	6.86	2.1	10	60	50
2017	167	1.75	6.86	2.1	12	60	48
2018	182	1.75	6.86	2.1	13	60	47
2019	100	1.75	6.86	2.1	7	60	53
2020	157	1.75	6.86	2.1	11	60	49
2025	157	1.75	6.86	2.1	11	60	49
2030	156	1.75	6.86	2.1	11	60	49
2035	156	1.75	6.86	2.1	11	60	49
2040	155	1.75	6.86	2.1	11	60	49
2045	155	1.75	6.86	2.1	11	60	49

Table 31: West Damsite Design Load

Year	Peak Season (May-July)	Annual Visits	Total Project Visitation	Area % of total vistation	Peak Season Visitation % of Total	Weekends in Peak Season	Percent of Visitation Occuring on Weekends	Number of Weekend Days	Design Load
2014	10193	29903	1736981	1.72%	34.09%	13	75%	26	294.0288
2015	10595	26890	1700048	1.58%	39.40%	13	75%	26	305.625
2016	21410	46075	1476992	3.12%	46.47%	13	75%	26	617.5962
2017	10927	33341	1575030	2.12%	32.77%	13	75%	26	315.2019
2018	16897	41299	1727023	2.39%	40.91%	13	75%	26	487.4135
2019	14484	35907	1682611	2.13%	40.34%	13	75%	26	417.8077
2020	13973	35832	1645542	2.18%	39.00%	13	75%	26	403.0673
2025	13935	35733	1641009	2.18%	39.00%	13	75%	26	401.9712
2030	13896	35634	1636475	2.18%	39.00%	13	75%	26	400.8462
2035	13858	35535	1631941	2.18%	39.00%	13	75%	26	399.75
2040	13819	35437	1627407	2.18%	39.00%	13	75%	26	398.625
2045	13781	35338	1622874	2.18%	39.00%	13	75%	26	397.5288

Table 32: West Damsite Parking Demand

Year	Design Load	Day Use Hours per Visitor	Turnover (12/Day Use Hours per Visitor)	Visitors Per Vehicle	Parking Space Demand	Existing Parking Space Supply	Net Differences
2014	294	3.25	3.69	2.25	35	116	81
2015	306	3.25	3.69	2.25	37	116	79
2016	618	3.25	3.69	2.25	74	116	42
2017	315	3.25	3.69	2.25	38	116	78
2018	487	3.25	3.69	2.25	59	116	57
2019	418	3.25	3.69	2.25	50	116	66
2020	403	3.25	3.69	2.25	49	116	67
2025	402	3.25	3.69	2.25	48	116	68
2030	401	3.25	3.69	2.25	48	116	68
2035	400	3.25	3.69	2.25	48	116	68
2040	399	3.25	3.69	2.25	48	116	68
2045	398	3.25	3.69	2.25	48	116	68

5. BOATING DENSITY ANALYSIS

A boating density analysis was undertaken to evaluate the possible need for adding additional boat slips at Tennessee-Tombigbee Waterway.

5.1 METHODOLOGY

The methods used to complete this study will draw, in part, on the information and data gathered from other sources. This will include utilization of established Recreation Opportunity Spectrum (ROS) classifications, utilization of current boater density safety standards, utilization of current optimum carrying capacities for outdoor recreation activities, best management practices (BMPs), environmental considerations for development, and other industry standards. This information and data will be correlated to existing recreation facilities relative to current recreation use and anticipated future recreation use. The below standards are used to evaluate the boating density.

Table 33: Water Recreation Opportunity Spectrum Classification Summary and Associated Boating Density Standard

Setting (Classification)	Generalized Description Summary of the Recreation Experiences by WROS Class	Standard (Acres per Boat)
Urban	Limited opportunities to see, hear, or smell the natural resources exist due to the extensive level of development, human activity, and natural resource modification. Meeting other visitors is expected, and socializing with family and friends is important. There is probability for a diverse range of visitors and activities, including groups and special events. Convenience is central and dominant.	1-10
Suburban	Limited or rare opportunities to see, hear, or smell the natural resources exist due to the widespread and prevalent level of development, human activity, and natural resource modification. Meeting other visitors is expected, and socializing with family and friends is important. There is probability for a diverse range of visitors and activities. Convenience is central and dominant.	10-20
Rural Developed	Occasional or periodic opportunities to see, hear, or smell the natural resources exist due to the common and frequent level of development, human activity, and natural resource modification. Brief periods of solitude are likely, although the presence of other visitors is expected. There is probability for a diverse range of visitors and activities. Moderate levels of comfort and convenience are expected.	20-50
Rural Natural	Frequent opportunities exist to see, hear, or smell the natural resources due to an occasional or periodic level of development, human activity, and natural resource modification. Independence and freedom with a moderate level of management presence are important. There is probability for a diverse range of visitors and activities, although experiences tend to be more resource-dependent. Comfort and convenience are not important or expected.	50-110

Setting (Classification)	Generalized Description Summary of the Recreation Experiences by WROS Class	Standard (Acres per Boat)
Semiprimitive	Widespread and prevalent opportunities exist to see, hear, or smell the natural resources due to a rare or minor level of development, human activity, and natural resource modification. Solitude through the lack of contact with other visitors and managers is important. Opportunities exist for more adventure-based enthusiasts and overnight visitors. Sensations of challenge, adventure, risk, and self-reliance are important.	110-480
Primitive	Extensive opportunities abound to see, hear, or smell the natural resources due to the rare and very minor level of development, human activity, and natural resource modification. Solitude and lack of the site, sound, and smells of others are important. Opportunities are plentiful for human-powered activities (e.g., canoeing, fly-fishing, backpacking, etc.). Sensations of solitude, peacefulness, tranquility, challenge, adventure, risk, testing skills, orienteering, and self-reliance are important.	480-3,200

Source: TVA, Accessed 2015

5.2 EXISTING FACILITIES

Currently there are 385 wet and dry slips. There are also several boat ramps located at the Corps operated recreation areas with a total of 1983 spaces for boat trailer parking.

5.3 ANALYSIS

To determine the appropriate classification for each condition, the usable surface area of the Tennessee-Tombigbee Waterway was calculated as well as the boating utilization assumptions. The tables below display the inputs used for this analysis. The average summer weekend day was used as the decision criteria for the boating density classification based on full pool surface acres of 45,000.

Table 34: Boating Facilities

	Existing	Maximum	Proposed Action
	Estimated Boating Units - Total		
Adjusted Private Access Boating Units	0	0	0
Commercial Wet Slips	294	294	294
Commercial Dry Slips	91	91	91
Subtotal Boating Units	385	385	385

	Estimated	Parking Spaces for Boating Unit	
Public Ramp Parking	1983	1983	1983
Private Community Ramp Parking	0	0	0
Subtotal Parking Spaces	1983	1983	1983

Source: USACE, 2015

Table 35: Boating Utilization

	Estimated % Boating Units In Use		
	Ave. Summer Weekday%	Ave. Summer Weekend Day %	Peak Holiday Summer %
Commercial Wet & Dry Slips	15%	25%	35%
Public/Private Ramp Parking	20%	60%	75%

Source: USACE, 2015

5.4 BOATING DENSITY CLASSIFICATION

Based on the analysis of the existing facilities assumption, an average of 34.991 acres per boat (Rural developed) in use during average summer weekend days and 27.744 acres per boat in use for peak summer holidays which would classify the setting as rural developed. Summer weekday conditions would be classified as Rural Natural with approximately 99.043 acres per boat in use.

Table 36: Boating Density Classification

	Ave. Summer Weekday		
	Existing	Max	Proposed
Est Boating Units in Use	454.35	454.35	454.35
Surface Acres Per Boating Unit	99.043	99.043	99.043
Classification	Rural Natural	Rural Natural	Rural Natural
	Ave. Summer Weekend Day		
	Existing	Max	Proposed
Est Boating Units in Use	1286.05	1826.05	1286.05
Surface Acres Per Boating Unit	34.991	34.991	34.991
Classification	Rural Developed	Rural Developed	Rural Developed
	Peak Holiday Summer		
	Existing	Max	Proposed
Est Boating Units in Use	1622.00	1622.00	1622.00
Surface Acres Per Boating Unit	27.774	27.774	27.774
Classification	Rural Developed	Rural Developed	Rural Developed

Source: USACE, 2015

6. REFERENCES

Recreation information (Section 2.3): https://www.sam.usace.army.mil/Missions/Civil-Works/Recreation/Lake-Seminole/

US Census data (Section 3.2): https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-total.html

APPENDIX D—2022 MITIGATION SUMMARY

CESAM-OP-CO (200A) 22 February 2023

MEMORANDUM FOR PD-EI (Malsom, Michael F)

SUBJECT: Administrative Accounting of Tennessee-Tombigbee Waterway Recreational Development, Disposal Area Usage, and Land Base Changes

1. The subject information is provided in accordance with the SOP for Administrative Accounting of Recreational Development on the Tennessee-Tombigbee Waterway and the SOP for Implementation of Section 301 of WRDA 2000.

2. Enclosure 1 is the FY22 summary of the recreational development footprint. There were no actions that resulted in acreage increases to the recreation footprint in FY22. The FY24 summary will reflect changes as a result of updates and development of the Project Master Plan.

3. Enclosure 2 includes the mitigation impacts by lake and summary of the total area used for maintenance within disposal areas.

4. Enclosure 3 is a summary of changes to the project lands increment of the mitigation land base as a result of real estate actions.

5. If there any questions regarding this matter, please contact Jonathan Johnsey at (662) 245-5474.

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JUSTIN V. MURPHREE
Operations Project Manager

3 Encl

Enclosure 1
TENNESSEE-TOMBIGBEE WATERWAY
Recreational Footprint 2022

Gainesville	Gainesville Boat Ramp	2.8
	Heflin Lock East Bank	2.0
	Heflin Spillway East	3.3
	Sumter Day Use	8.2
	Riverside Boat Ramp	3.7
	SWTaylor Boat Ramp	2.7
	SWTaylor Overlook	3.8
	Cochrane Campground	20.7
	Cochrane Day Use	14.0
	Vienna	3.7
	Memphis Boat Ramp	0.7
	Ringo Bluff Boat Ramp	3.5
	Barnes Bend	0.0
	Sipsey	0.0
Subtotal:		69.2
Aliceville	Tom Bevill Visitor Center	7.9
	Tom Bevill Picnic Area	1.8
	Pickensville Marina	8.4
	Pickensville Day Use Area	20.7
	Pickensville Campground	70.1
	Raleigh Ryan Boat Ramp	5.5
	Luxapalila Creek Area	29.8
	West Lowndes Boat Ramp	1.9
	Plymouth Bluff Env Center	15.5
	Columbus Riverwalk	11.2
Subtotal:		172.7
Columbus	Columbus East Bank Boat Ramp	8.1
	Columbus East Day Use Area	32.0
	Columbus Marina	19.2
	Stennis Lock Minimum Flow	1.8
	Stennis Lock Turnaround	1.1
	Waverly Day Use Area	18.5
	Dewayne Hayes Day Use Area	31.7
	Dewayne Hayes Campground	34.9
	Town Creek Campground	38.0
	Barton's Ferry Boat Ramp	1.0
	Morgan's Landing	22.1
	Highway 50	0.0
	McKinnley Creek	34.6
	Charles Younger Landing	5.4
Subtotal:		248.4
Aberdeen	Aberdeen East Bank	2.6
	Devil's Elbow	8.5
	Blue Bluff Boat Ramp	3.9
	Blue Bluff Beach	5.0
	Aberdeen Lock Minimum Flow	1.1
	Aberdeen Gazebo	1.2
	Blue Bluff Campground	28.7
	Blue Bluff Picnic Area	5.6
	Becker Bottom Boat Ramp	3.0
	Halfway Creek	0.0
	Acker Lake	0.0
	Coontail Road	0.0
Subtotal:		59.7

Enclosure 1
TENNESSEE-TOMBIGBEE WATERWAY
Recreational Footprint 2021

Canal	Amory Day Use Area	4.1
	Wilkins Lock Fishing Area	1.2
	Smithville Day Use Area	3.8
	Ironwood Bluff Boat Ramp	1.8
	Beans Ferry Boat Ramp	1.4
	Hwy 78 Boat Ramp	1.4
	Jamie Whitten Visitor Center	5.3
	Fulton Campground	18.7
	Fulton Boat Ramp	5.1
	Rankin Lock Fishing Area	2.3
	Beaver Lake Day Use Area	3.8
	Walkers Levee Boat Ramp	1.2
	Montgomery Lock Fishing Area	3.8
	Saucer Creek Boat Ramp	2.0
Subtotal:		56.0
Bay Springs	Old Bridge Beach	13.1
	Butler Dogtrot	0.1
	Whitten Lock Overlook	0.8
	Cotton Springs Boat Ramp	2.9
	West Damsite Boat Ramp & Marina	17.4
	West Damsite Picnic Area	7.8
	Gin Branch Boat Ramp	1.7
	Bayberry Boat Ramp	5.1
	Piney Grove Picnic Area	8.1
	Piney Grove Boat Ramp	4.2
	Piney Grove Campground	37.9
	Piney Grove Beach	12.2
	McDougal Boat Ramp	5.1
	Sanders Landing	0.4
	Crows Neck Boat Ramp	2.2
	Crows Neck Env Center	8.3
	Jackson Camp	0.0
	Natchez Trace	0.0
Subtotal:		127.3
Divide	Paden Overlook	8.4
	Divide Overlook	5.2
	Holcut Memorial Park	5.8
	Burnsville Boat Ramp	4.6
	Burnsville Park	22.8
	Little Yellow Creek	2.8
	Doskie Fishing Area	0.2
	Robinson Creek Fishing Area	0.4
	Scruggs Bridge Overlook Area	2.2
	Scruggs Bridge Access Area	4.1
Subtotal:		56.4
Total:		789.7

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - October 2022

Demopolis Lake **2022 DREDGING WAS PERFROMED AT MI 265.9 (D-36)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
D01	3.0	3.3	6.3	0.0	0.0	0.0	
D02	6.4	3.4	9.7	0.0	0.0	0.0	
D03	4.6	2.8	7.4	0.0	0.0	0.0	
D04	13.4	8.2	21.6	0.0	0.0	0.0	
D05	157.3	51.6	208.9	3.4	0.0	3.4	
D06	9.0	6.8	15.8	0.0	0.0	0.0	
D07	18.5	12.0	30.5	0.0	0.0	0.0	
D08	7.7	8.0	15.7	0.0	0.0	0.0	
D09	7.2	8.5	15.7	0.0	0.0	0.0	
D10	22.8	21.4	44.2	0.0	0.0	0.0	
D11/12	21.8	19.0	40.8	0.0	0.0	0.0	
D13	41.3	21.3	62.6	2.8	0.0	2.8	
D14	22.2	22.5	44.7	0.0	0.0	0.0	
D15	37.7	45.7	83.4	0.0	0.0	0.0	
D16	67.3	37.2	104.4	0.0	0.0	0.0	
D17	62.8	28.8	91.5	0.0	0.0	0.0	
D18	21.3	18.8	40.1	2.2	0.0	2.2	
D19	37.7	23.7	61.4	0.0	0.0	0.0	
D20	89.1	51.8	140.9	70.9	0.0	70.9	
D21	40.8	30.7	71.5	0.0	0.0	0.0	
D22	55.6	26.0	81.7	0.0	0.0	0.0	
D23	29.2	20.8	50.1	0.0	0.0	0.0	
D24	38.4	27.2	65.6	15.4	0.0	15.4	
D25	50.4	22.4	72.9	50.4	6.3	56.7	
D26	37.8	18.1	55.9	0.0	0.0	0.0	
D27	21.9	5.9	27.8	0.0	0.0	0.0	
D28	64.2	34.1	98.3	0.0	0.0	0.0	
D29	39.1	13.1	52.2	10.7	4.0	14.7	
D30A	48.9	16.9	65.8	48.9	0.0	48.9	
D30B	29.4	12.2	41.5	29.4	4.0	33.4	
D31A	71.0	33.1	104.1	10.8	0.0	10.8	
D31B	118.9	41.6	160.5	80.3	0.0	80.3	
D32	29.6	23.9	53.5	1.1	0.0	1.1	
D33	99.3	46.7	146.0	99.3	18.2	117.5	
D34	44.3	40.1	84.4	3.9	0.0	3.9	
D35A	43.2	15.6	58.8	0.0	0.0	0.0	
D35B	31.2	14.5	45.7	9.6	0.0	9.6	
D36	31.5	16.3	47.7	31.5	0.0	31.5	2022 dredging added no additional impact
	Total Acres =		2,429.7	Acres Impacted =		503.1	No change to impacted acreage in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - October 2022

Gainesville Lake **2022 DREDGING WAS PERFORMED AT MI 296 (G-18)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
G01	21.8	22.0	43.8	0.0	0.0	0.0	
G02	2.1	3.3	5.4	0.0	0.0	0.0	
G03	4.3	6.8	11.1	0.0	0.0	0.0	
G04	64.2	30.4	94.6	0.0	0.0	0.0	
G05	4.3	3.4	7.7	0.0	0.0	0.0	
G06	88.8	34.3	123.1	0.0	0.0	0.0	
G07	23.7	18.3	42.0	0.0	0.0	0.0	
G08	5.6	6.4	12.0	0.0	0.0	0.0	
G09	11.7	10.3	22.0	0.0	0.0	0.0	
G10	13.4	11.5	24.8	0.0	0.0	0.0	
G11	42.7	36.6	79.3	0.0	0.0	0.0	
G12	103.2	45.4	148.6	10.4	0.0	10.4	
G13	81.4	26.1	107.5	42.0	1.5	43.5	
G14	21.5	12.8	34.3	21.5	1.9	23.4	
G15	54.6	22.5	77.1	54.6	22.5	77.1	
G16	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G17	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G18	52.4	26.5	78.9	35.0	13.6	48.6	2022 dredging added 22 acres
G19	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G20A	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G20B	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G21	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G22	30.3	24.2	54.4	23.4	0.0	23.4	
G23	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
G24	45.4	22.2	67.6	45.4	0.0	45.4	
G25A	167.8	32.1	199.9	98.3	0.0	98.3	
G25B	43.2	NA	43.2	0.0	0.0	0.0	
G26	8.9	12.1	21.0	8.9	2.8	11.7	
	Total Acres =		1,298.4	Acres Impacted =		381.7	22 acres of additional impact in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - October 2022

Aliceville Lake **2022 DREDGING WAS PERFORMED AT MI 326 (AL-13) and 329 (AL-17)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
AL01A	45.6	NA	45.6	29.0	0.0	29.0	
AL01	62.8	30.5	93.4	51.3	7.3	58.6	
AL02	25.3	20.8	46.1	0.0	0.0	0.0	
AL03	10.1	12.2	22.3	0.0	0.0	0.0	
AL04	15.1	13.2	28.3	0.0	0.0	0.0	
AL05	5.2	5.4	10.6	0.0	0.0	0.0	
AL06	8.8	8.3	17.1	0.0	0.0	0.0	
AL07	24.1	18.1	42.2	24.1	0.0	24.1	
AL08	71.5	30.8	102.3	12.1	0.0	12.1	
AL09	10.2	11.2	21.4	10.2	2.2	12.4	
AL10	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
AL11/12	Private Ownership			0.0	0.0	0.0	Private - no credit / no mitigation impacts
AL13	78.5	29.9	108.4	78.5	29.9	108.4	2022 added no additional impact
AL14	85.3	32.4	117.7	39.2	0.0	39.2	
AL15	61.0	59.0	120.0	5.3	6.1	11.4	
AL16	94.3	44.2	138.5	22.8	0.0	22.8	
AL17	0.0	35.6	35.6	0.0	35.6	35.6	2022 dredging added 12.1 acres
AL18	65.9	27.2	93.1	5.3	0.0	5.3	
	White Slough		76.3	Mooring Fac		11.4	
	Total Acres =		1,118.8	Acres Impacted =		370.3	12.1 acre of additional impact in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - October 2022

Columbus Lake **2022 DREDGING WAS PERFORMED AT MI 349.5 (C-14)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
C01	112.2	NA	112.2	10.5	0.0	10.5	
C02	Private Ownership			0.0	0.0	0.0	Private ownership - no mitigation impacts
C03	57.2	25.0	82.2	0.0	0.0	0.0	
C04	140.3	91.2	231.5	4.0	0.0	4.0	
C05	100.9	34.7	135.6	0.0	4.0	4.0	
C06	153.2	67.9	221.0	0.0	0.0	0.0	
C07	39.5	27.3	66.9	0.0	0.0	0.0	
C08	66.1	60.9	127.0	0.0	0.0	0.0	
C09	42.2	22.0	64.2	0.0	0.0	0.0	
C10	56.5	29.9	86.4	0.0	3.9	3.9	
C11	110.8	41.4	152.2	0.0	0.0	0.0	
C12	77.8	29.2	106.9	0.0	6.3	6.3	
C13	39.3	16.3	55.6	7.2	0.0	7.2	
C14	166.3	41.2	207.5	166.3	41.2	207.5	2022 added no additional impact
C15	18.1	NA	18.1	0.0	0.0	0.0	
C16	71.6	20.0	91.6	12.1	0.0	12.1	
C17A	48.7	NA	48.7	0.0	0.0	0.0	
C17B	23.8	8.7	32.5	2.7	0.0	2.7	
C18	36.5	40.5	77.0	12.9	0.0	12.9	
C19	56.9	21.2	78.1	56.9	21.2	78.1	
C20A	44.1	NA	44.1	0.0	0.0	0.0	
C20B	16.9	117.0	133.9	0.0	17.1	17.1	
C21	192.1	NA	192.1	80.5	0.0	80.5	
	Total Acres =		2,365.2	Acres Impacted =		446.8	No Change to Impacted Acreage in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - October 2022

Aberdeen Lake **2022 DREDGING WAS PERFORMED AT MI 366.0 (AB-12)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
AB01	26.1	NA	26.1	5.7	0.0	5.7	
AB02	20.8	20.3	41.1	0.0	0.0	0.0	
AB03	25.2	23.3	48.5	0.0	0.0	0.0	
AB04	41.7	29.5	71.2	0.0	0.0	0.0	
AB05	24.6	37.1	61.7	0.0	0.0	0.0	
AB06	36.7	NA	36.7	36.7	0.0	36.7	
AB07	41.6	81.9	123.5	0.0	41.3	41.3	
AB08	24.7	19.4	44.1	0.0	0.0	0.0	
AB09	14.0	NA	14.0	6.5	0.0	6.5	
AB10	31.8	NA	31.8	0.0	0.0	0.0	
AB11	15.2	32.7	47.9	0.0	0.0	0.0	
AB12	54.3	107.0	161.3	54.3	107.0	161.3	2022 dredging added no additional impact
	Total Acres =		707.9	Acres Impacted =		251.5	No Change to Impacted Acreage in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - December 2022

Canal Section **2022 DREDGING WAS PERFORMED AT MI 386 (PB-03)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
AB13	42.9	NA	42.9	42.9	0.0	42.9	
AB14	25.1	NA	25.1	7.8	0.0	7.8	
AB15	Sold to City of Amory			0.0	0.0	0.0	Private - no credit / no mitigation impacts
PA01	61.4	4.5	65.9	4.2	0.0	4.2	
PB01	12.6	18.8	31.4	0.0	0.0	0.0	
PB02	10.5	NA	10.5	10.5	0.0	10.5	
PB03	26.3	NA	26.3	26.3	0.0	26.3	2022 added no additional impact
PB04	17.0	6.5	23.5	5.0	0.0	5.0	
PC01	29.9	NA	29.9	0.2	0.0	0.2	
PD01	34.7	NA	34.7	0.0	0.0	0.0	
PE01	25.1	NA	25.1	0.6	0.0	0.6	
PE02	3.8	NA	3.8	0.0	0.0	0.0	
PE03	34.4	NA	34.4	28.6	0.0	28.6	
PE04	36.5	NA	36.5	0.4	0.0	0.4	
	Total Acres =		390.0	Acres Impacted =		126.5	No Change to Impacted Acreage in 2022

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - January 2023

Divide Cut **2022 DREDGING WAS PERFORMED AT MI 420 (1705B), MI 430.6 (1004), MI 432.7 (905), and MI 436 (804)**

Disposal Area	Disposal Area Acreage			Acres Impacted			Comments
	Pri	Sec	Total	Pri	Sec	Total	
1705B	39.1		39.1	5.2		5.2	2022 added no additional impact
1701	83.5		83.5	4.4		4.4	
1503	116.6		116.6	0.0		0.0	
1304	480.2		480.2	0.0		0.0	
1005	284.5		284.5	0.0		0.0	
1004	21.1		21.1	11.0		11.0	2022 Dredging added 3.0 acres
905	106.5		106.5	7.9		7.9	2022 Dredging added 1.7 acres
802	65.5		65.5	0.3		0.3	
804	42.8		42.8	24.7		24.7	2022 added no additional impact
2003	14.0		14.0	0.5		0.5	
3004	36.9		36.9	5.5		5.5	
15E (503)	169.2		169.2	6.6		6.6	
602A	110.7		110.7	5.6		5.6	
	Total Acres =		1,570.6	Acres Impacted =		71.8	4.7 acres of additional impact

MITIGATION IMPACTS ASSOCIATED WITH MAINTENANCE DREDGING AND MATERIAL PLACEMENT IN UPLAND DISPOSAL AREAS

Last Update - December 2022

Lake or Pool	Total Available Acreage	Total Acreage Impacted	Change From Previous Report
Demopolis Lake	2,429.7	503.1	no change
Gainesville Lake	1,298.4	381.7	22 acre increase
Aliceville Lake	1,118.8	370.3	12.1 acre increase
Columbus Lake	2,365.2	446.8	no change
Aberdeen Lake	707.9	251.5	no change
Canal Section	390.0	126.5	no change
Divide Cut	1,570.6	71.8	4.7 acre increase
Totals After 2022 Dredging	9,880.5	2,151.7	38.8 acre increase

All 2022 dredging and disposal area maintenance activities resulted in a total increase of 38.8 acres of mitigation impacts.

Enclosure 3

SUMMARY OF CHANGES TO PROJECT LANDS INCREMENT OF THE TENN-TOM WILDLIFE MITIGATION PROGRAM AS A RESULT OF WRDA 2000

FY 2022

Barton Ferry County Rd. Improvement	MS	Lowndes	Oct-02	Easement	0.16	0	286.64
Bursnville Port	MS	Tishomingo	Aug-04	Sale	26.4	0	260.24
Lowndes County Port	MS	Lowndes	Sep-04	Sale & Exchange	19.1	76.3	317.44
Amory Port	MS	Monroe	Jun-05	Sale	156	0	161.44
Tract 806	MS	Lowndes	Sep-06	Sale	3.8	0	157.64
Lowndes County Port	MS	Lowndes	Sep-06	Sale	58.45	0	99.19
Nanih Waiya Acquistions	MS	Neshoba	Oct-06	Purchase	0	408.92	508.11
Amory Port	MS	Monroe	Aug-08	Sale	104.1	0	404.01
Corinth Water Intake / Doskie	MS	Tishomingo	Jun-09	Easement	4.94	0	399.07
ES Miller Tract	AL	Pickens	Dec-10	Purchase	0	390.7	789.77
City of Columbus Welcome Sign	MS	Lowndes	Aug-11	Easement	0.71	0	789.06
Clay County Port	MS	Clay	Apr-12	Sale	20.28	0	768.78
Lowndes County Port Auth. - Kior	MS	Lowndes	Dec-12	Sale	7.43	0	761.35
Bumsville - YCP - Railroad Spur	MS	Tishomingo	Jan-13	Easement	5.38	0	755.97
Ward Bayou - SMEPA	MS	Jackson	Nov-13	Easement	0.04	0	755.93
David K. Nelson WMA - Alabama Power	AL	Hale	Nov-13	Easement	7.71	0	748.22
LCPA - Road Realignment	MS	Lowndes	Jan-14	Easement	8.98	0	739.24
Chism Tract Acquistion	MS	Monroe	Sep-15	Purchase	0	85	824.24
Parish Tract Acquistion	MS	Monroe	Sep-15	Purchase	0	77	901.24
Hayes Tract Acquistion	MS	Neshoba	Nov-15	Purchase	0	59	960.24
Columbus Riverwalk	MS	Lowndes	2-May	Easement	11.23	0	949.01
Bumsville - YCP - Railroad Spur #2	MS	Tishomingo	Jun-16	Easement	3.42	0	945.59
Nanih Waiya Winston County ROW	MS	Winston	Sep-17	Easement	0.55	0	945.04
NMRWSD - Water Intake	MS	Itawamba	Sep-17	Easement	5.63	0	939.41
Fulton Exchange	MS	Itawamba	Nov-17	Exchange	3.4	3.4	939.41
Monroe County ROW	MS	Monroe	Feb-18	Easement	0.14	0	939.27
Itawamba County ROW	MS	Itawamba	Jul-19	Easement	0.16	0	939.11
Tishomingo Bridges ROW	MS	Tishomingo	Dec-22	Easement	0.75	0	938.36
				TOTAL	448.76	1387.12	938.36

APPENDIX E—STANDARD OPERATING PROCEDURE FOR IMPLEMENTATION OF SECTION 301 OF THE WATER RESOURCES DEVELOPMENT ACT OF 2000

STANDARD OPERATING PROCEDURE FOR IMPLEMENTATION OF SECTION 301 OF THE WATER RESOURCES DEVELOPMENT ACT OF 2000 (PUBLIC LAW 106-541)

Prepared By:

U.S. Army Corps of Engineers, Mobile District
Mobile, Alabama

July 15, 2002

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Department of the Army
U. S. Army Engineer District, Mobile

CESAM **July 2002**

STANDARD OPERATING PROCEDURE FOR IMPLEMENTATION OF SECTION 301 OF THE WATER RESOURCES DEVELOPMENT ACT OF 2000 (PUBLIC LAW 106-541)

1. Purpose. Establish standard procedures to implement Section 301 of the Water Resources Development Act (WRDA) of 2000 (Public Law 106-541), hereafter referred to as Section 301.

2. Applicability. This Standard Operating Procedure (SOP) applies to the U.S. Army Corps of Engineers (USACE), hereafter referred to as the Mobile District, personnel involved in the implementation of Section 301 of WRDA 2000 as it relates to the Tennessee-Tombigbee Waterway (TTW) Wildlife Mitigation Project authorized by Section 601(a) of WRDA 1986 (Public Law 99-662).

3. References.

a. TTW, Alabama and Mississippi, Wildlife Mitigation Feasibility Study (Volumes I-III), 1983

b. Section 601(a) of WRDA 1986 (Public Law 99-662)

c. Section 301 of WRDA 2000 (Public Law 106-541)

4. Appendices.

a. Appendix A: Summary of the Need for Section 301 of WRDA 2000

b. Appendix B: Procedures for the Sale/Exchange of Project Lands

c. Appendix C: Procedures for the Outgrant of Project Lands

d. Appendix D: Procedures for Utilization of Project Lands by the Mobile District

e. Appendix E: Procedures for the Acquisition of Replacement Lands.

f. Appendix F: Habitat Value Replacement Procedures for Separable Lands

g. Appendix G: Procedures for Evaluating the Net Habitat Change as a Result of Re-using Disposal Areas

h. Appendix H: Section 601 (a) of WRDA 1986 (Public Law 99-662)

i. Appendix I: Section 301 of WRDA 2000

j. Appendix J: Habitat Values Table and Description of the Habitat Mapping Units from the Fish and Wildlife Planning Aid Report (1980)

5. Definitions.

a. Consult - To provide all pertinent information, seek comments, and attempt to settle all questions and objections.

b. Disposal Areas – Diked areas on the TTW built for the disposal of dredged material and later included as part of the project lands. Most of the disposal areas in the River section of the TTW are two-celled with a larger primary cell separated from a smaller secondary cell by a cross dike. Most of the areas in the Canal and Divide Cut sections are single-celled.

c. Mitigation Project - The project lands and separable lands that comprise the TTW Wildlife Mitigation Project were authorized by Reference 3.b.

d. Outgrant - A lease, license, or easement issued to an entity allowing the use of government property for some purpose.

e. Project Lands - Lands that were originally purchased for the development of three waterway projects (the Alabama River, Black Warrior and Tombigbee Rivers, and TTW) and then later included in the TTW Wildlife Mitigation Project. These lands were initially purchased for such purposes as recreational development, operations, and maintenance, and are identified in the Mitigation Implementation Plans.

f. Replacement Lands - Lands acquired through an exchange or direct purchase to offset the removal of project lands from the Mitigation Project pursuant to Section 301.

g. Separable Lands - Approximately 88,000 acres of lands purchased exclusively for mitigation of the TTW in accordance with reference 3.b.

6. Procedures. - Section 301 of WRDA 2000 deals with three separate components of the TTW Wildlife Mitigation Project: project lands, disposal areas, and separable lands. In addition, there are four separate possible actions related to the project lands component: sale/exchange, outgrant, utilization by the Mobile District, and acquisition of replacement lands. Specific procedures for implementing Section 301 in relation to each of these components and actions are included in Appendices B through G.

7. Policy. - In general, Section 301 gives the Mobile District the authority to remove up to 3,000 acres of project lands from the mitigation program; utilize, outgrant, sell or exchange those lands

for certain purposes; and use the proceeds to buy replacement lands. Separable lands may not be sold but may be outgranted for certain limited purposes.

a. Consultation: Prior to any of the above actions, the U. S. Fish and Wildlife Service (FWS) and appropriate state wildlife agency Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and/or Alabama Department of Conservation and Natural Resources (ADCNR) will be consulted. In the rare case of an unresolved disagreement at the local level, the issue will be elevated within 30 days to the USACE, South Atlantic Division (SAD) and the issue will be coordinated with the FWS Regional Office. The SAD Commander will have the final decision in the resolution process.

b. Removal: Project lands will be removed from the Mitigation Project only as needed and only if an equal or greater amount of replacement lands have already been acquired. There will always be an equal or positive balance of acres.

c. Sales/Exchanges: Sales and exchanges will be based on fair market value.

d. Monetary Consideration: All proceeds from sales will be used to cover the cost of acquisition. For outgrants of project lands, the grantee will be required to reimburse the USACE for costs associated with acquiring an equal amount of replacement lands.

e. Acquisition of Replacement Lands:

(1) The Mobile District will strive to acquire a reserve of replacement lands before they are needed by:

seeking to resolve outstanding debts from real estate actions that took place prior to the passage of WRDA 2000, and/or

purchasing up to 1,000 acres with other funds as those funds become available.

(2) Bottomland hardwood and associated habitats will receive primary consideration.

(3) The lands shall be contiguous to lands already in the Mitigation Project, unless otherwise agreed to by the USACE, FWS, and ADCNR or MDWFP.

(4) The amount of land acquired must always be equal to or greater than the amount of land removed. There is no ceiling on the total amount of acres that may be acquired with the funds obtained from sales.

(5) In general, replacement lands will be acquired in the same state where the project lands were removed from the Mitigation Project. For example: If the lands removed from the Mitigation Project are located in Alabama, the replacement lands will be acquired in Alabama. If special circumstances exist, this policy may be altered after interagency coordination. For example: the initial purchase of reserve replacement lands could be from either or both states because no project lands will have been removed from the Mitigation Project.

(6) Efforts will be made to reduce overhead costs associated with the acquisition of lands to maximize the amount of land purchased with available funds. If there is already a reserve of acres available from previous actions and if the current action involves only a small amount of land, the money may be held until additional monies become available. The purpose of this would be to reduce the percentage of overhead costs and allow for the purchase of a larger block of land.

f. Separable Lands: These lands may be outgranted for transportation, utilities, and related needs. The grantee shall fully mitigate for any wildlife habitat lost in accordance with procedures established in this SOP and agreed upon by the FWS, ADCNR, and MDWFP.

g. Disposal Areas: Most of the Mobile District's owned disposal areas were included in the project lands increment of the Mitigation Project. Therefore, to the maximum extent practical, the Mobile District will use such actions as raising dikes and removing material to maximize the re-use of disposal areas in order to preserve, for as long as possible, the habitat in undisturbed disposal areas. Reference 3.a predicted that a total of 4,538 acres of disposal areas would be used for maintenance. The TTW Project Office (OP-CO) office will maintain an inventory of the total area used for maintenance within disposal areas that were included as part of the project lands increment of the Mitigation Project. If this total area exceeds 4,538 acres, the Mobile District will consult with the FWS, ADCNR, and MDWFP and then mitigate for the lost habitat value. (See Appendix G for specific accounting procedures).

8. **Record Keeping:** The OP-CO will maintain the accounting record of the reserve acres purchased, the acres added to and removed from the Mitigation Project, and detailed maps of those areas. This information will be inserted into the Mitigation Implementation Plans and the General Plans. The OP-CO will also maintain an annual accounting of disposal area use. The Mobile District will annually provide all of this information to the FWS, ADCNR, and MDWFP.

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Colonel, Corps of Engineers
District Engineer

/S/ Larry E. Goldman
Larry E.Goldman
Field Supervisor
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/S/ Sam Polles
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Mississippi Department of Wildlife, Fisheries and Parks

/S/ Richard Liles
Richard Liles
Acting Commissioner
Alabama Department of Conservation and Natural Resources

APPENDIX A

Appendix A

Summary of the Need For Section 301 of the Water Resources Development Act of 2000 (Public Law 106-541)

Purpose. The purpose of this paper is to provide a historical document that will summarize the need for Section 301 of WRDA 2000. More specifically, this document addresses the following:

- A brief history of the TTW Mitigation Project and the current status of its implementation.

- The unintended consequences of the TTW Mitigation Project.

- The unintended consequences and shortcomings of WRDA 1992.

Brief History of the Mitigation Project and Current Status.

With some legislative adjustments, Section 601 of WRDA 1986 authorized the TTW Mitigation Project in accordance with the 31 August 1985 Chief of Engineers report. The authorization requires the intensive wildlife management of certain project lands previously purchased for construction and operation of water resource development projects, and the acquisition and management of 88,000 acres of separable lands. The specific project lands were identified in the Tennessee-Tombigbee Wildlife Mitigation Feasibility Study (WMFS) (1983) and Mitigation Implementation Plans. At that time, the Administration's mitigation policy required that management of project lands be maximized for mitigation credits in order to minimize the requirements for separable mitigation lands. The 88,000 acres of separable mitigation lands were to be acquired from "willing sellers" only, and were to be "predominately" bottomland hardwoods, with a minimum requirement of 34,000 acres.

The Unintended Consequences of the TTW Mitigation Project.

While diligent efforts were undertaken during the WMFS to designate any project lands that could be managed for mitigation credits in accordance with administration policy, this action had a significant unintended result. Most TTW project lands (and almost all access to the waterway itself) became encumbered with a mitigation designation that could not be compromised in order to facilitate reasonable access to the waterway for regional economic development (ports, utilities, etc.). There was no available authority or administrative mechanism to allow such access and still maintain the integrity of the authorized mitigation plan.

When this constraint became apparent in about 1990, the Mobile District, FWS, and the states began to develop draft legislation intended to fix this problem. While all agencies supported some form of legislative relief that would allow access to the TTW and protect the mitigation plan, different versions of legislative language were floated. The WRDA 1992 included a version

of the language that was not an exact match with any of the versions developed by the USACE or FWS.

WRDA 1992 Language to Address the Unintended Consequences and why it failed to Successfully Address the Problem.

WRDA 1992, Section 102 (a), provided authority to release or excess lands to facilitate economic development along the waterway in exchange for lands that would provide for an offset to accommodate the mitigation purpose. Under Section 102(a), exchanges must meet two tests: (1) "lands acquired under this subsection shall fully replace lost habitat value"; and (2) lands exchanged must have an equivalent fair market value.

The agencies had fundamental disagreements on how to interpret the requirement to "fully replace lost habitat value." The USACE interpreted the language to mean that any exchange of land under this legislation must maintain an equivalent pool of TTW mitigation land and its associated habitat value. Impacts to the properties once excessed would be addressed under the Section 404 permit program, if applicable. The FWS believed that the intent of the legislation was to offset the lost acreage plus fully mitigate (up front) the anticipated impact of the subsequent development. These varying interpretations led to protracted and unresolved debate over habitat value replacement guidelines.

There were several other fatal flaws that made Section 102(a) problematic and unworkable such as:

- Section 102(a) was built upon the concept of outright land exchanges to accommodate reasonable development opportunities. Consequently, the legislation was not especially helpful to the USACE for addressing impacts to the mitigation project resulting from unanticipated project operation and maintenance (O&M) requirements or real estate management actions that would normally be handled by leases or easements (power lines, pipelines, etc.).

- Under Section 102(a), land exchanges were to be handled in a very piecemeal and reactive manner. Consequently, the Mobile District was handling numerous very small land exchanges. In each case, the requesting entity would have to determine the replacement requirement, and then buy a suitable sized replacement property with the right type(s) of habitats. This would prove to be a very cumbersome process. Additionally, exchanges of lands to adequately offset mitigation requirements might demand actions beyond the legal authorities and capabilities of the requesting agency or organization. For example, a county government that might be interested in developing a port along the TTW may find that it does not have the legal authority to buy replacement lands that lie in an adjacent county jurisdiction.

- Section 102 (a) did not give the USACE the latitude or authority to accept cash from a requesting organization to facilitate acquisition of replacement lands, or to do it in a more organized, proactive manner. For example, it would be much more effective and efficient to

receive cash for each property excessed and then to subsequently acquire larger, more beneficial replacement mitigation properties.

Section 102(a) was so fraught with problems and implementation issues it was never actually used to conduct an exchange. Several entities were permitted to access the project lands under interim arrangements (leases) that were agreeable to the FWS, ADCNR, and MDWFP. As a condition of their access to the property, these entities agreed to address the mitigation-offset requirement as required when an agreeable approach was developed and pertinent authority provided via legislation.

An additional Unintended Consequence of the TTW Mitigation Project.

In 1998, the OP-CO proposed the removal of material from full or nearly full dredged material disposal areas in order to re-use them and prevent or at least delay the need for using undisturbed disposal areas or building additional disposal areas. This action was delayed because River Section disposal areas were also encumbered with the mitigation designation. Calculations in the 1983 WMFS were based on the assumption that construction disposal areas would generally remain undisturbed after construction. This problem became the catalyst for new legislation to replace section 102(a) of WRDA 1992.

A Summary of the New Legislation (Section 301 of WRDA 2000)

The main goal of the new legislation was to provide the USACE with sufficient authority to make necessary adjustments to the authorized Water Resources Development Projects and mitigation project in order to:

- maintain and improve the integrity of the authorized mitigation.

- provide full and equal consideration to the well-being of the critically important natural resources in the TTW corridor as a result of these adjustments.

- to facilitate appropriate and reasonable access to the TTW in the interest of operation and maintenance of the project, regional economic development, and broad based recreational opportunities.

- respond to unexpected future conditions.

The draft language for Section 301 was thoroughly coordinated among the Mobile District and SAD, FWS and the State wildlife agencies. The language was revised many times until all parties could support it.

APPENDIX B

APPENDIX B

PROCEDURES FOR THE SALE OR EXCHANGE OF PROJECT LANDS

The procedures for the sale or exchange of project lands identified below will be completed by the responsible Mobile District's Division identified in parenthesis below.

Step 1. Purpose: Determine if the proposed use is consistent with other project uses including port, industry, transportation, recreation, and other regional needs. (OP)

Step 2. Identification: Acquire a survey and legal description from the requestor. (OP)

Step 3. Consultation: Consult with the FWS, ADCNR and/or MDWFP. (PD)

Step 4. Monetary Value: Determine the fair market value of the land(s) to be purchased/exchanged. (RE)

Step 5. NEPA: Review existing documentation for NEPA compliance (Programmatic Environmental Assessment/Finding of No Significant Impact for the Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, Land Sales/Exchanges/Outgrants of Project Lands and Acquisition of Replacement Lands). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 6. Removal: If an equal or greater amount of replacement lands is already in possession, then the lands may be removed from the Mitigation Project and the sale/exchange may proceed. (PD)

Step 7. Acquisition: If an equal or greater amount of replacement lands are not already in possession, they must be acquired prior to completion of the sale/exchange. Specific procedures for the acquisition of replacement lands are included in Appendix E. (PD)

Step 8. Other Permits: If required, a Section 404/10 Permit will be pursued and issued separately. The entity may apply for a permit at the same time or at a later date. The application will be handled like any other application (as if the property had never been in the Mitigation Project). If any mitigation is required as part of that process, the entity will provide that mitigation in addition to the lands or funds provided for the Mitigation Project. (OP)

APPENDIX C

APPENDIX C

PROCEDURES FOR THE OUTGRANT OF PROJECT LANDS

Whenever an outgrant of project lands rather than a sale or exchange is in the best interest of the public (such as a road crossing, utility, recreation area, etc.), the following procedures will be followed. These procedures will also be followed when a temporary outgrant for a port or an industrial development is issued until a sale can be completed. Typically, a sale should be completed within two years.

Step 1. Public Interest: Determine if the proposed action is in the public interest. (OP)

Step 2. Identification: Acquire a survey and legal description of the lands from the requestor. (OP)

Step 3. Evaluate Impact: Determine how many acres of habitat will be changed. If no habitat will be changed, the action may proceed without further consideration of this SOP. (For example, an underground utility line installed across a mowed area or down a road shoulder may not change habitat.) If the action will change the existing habitat, the remaining steps will be followed. (OP/PD)

Step 4. Purpose: Determine if the action is consistent with other project uses including port, industry, transportation, recreation, and other regional needs. (OP)

Step 5. Consultation: Consult with the FWS, ADCNR and/or MDWFP. (PD)

Step 6. NEPA: Review existing documentation for NEPA compliance (Programmatic Environmental Assessment/Finding of No Significant Impact for the Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, Land Sales/Exchanges/Outgrants of Project Lands and Acquisition of Replacement Lands). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 7. Removal: If equal or greater amounts of replacement lands are already in possession, the land may be removed from the Mitigation Project and the action may proceed. (PD)

(If the purpose of the action is recreational development on the TTW, the lands need not be removed from the mitigation program unless the total recreational development on the TTW has already or will exceed the 3,890 acres of recreational development allowed by the WMFS. The total recreational development on the TTW is tracked in accordance with the Mobile District's SOP for Administrative Accounting of Recreational Development on the TTW. For example: Assume that a county wishes to lease an area and construct a picnic area. The total amount of land to be developed will be 25 acres. If the current amount of recreational development on the TTW is 500 acres, the new total amount of development will be 525 acres. Since 525 acres is less than 3,890 acres of recreational development discussed in the WMFS, the development may

proceed without removing any acres from the Mitigation Project and without consideration of this SOP.)

Step 8. Acquisition: The grantee will pay the USACE the appraised fee market value of the land. If an equal or greater amount of replacement lands is not already in possession, it must be acquired before the land is removed and the outgrant is executed. If an equal or greater acreage of replacement lands is already in possession, the outgrant may proceed and the replacement lands will be acquired later to achieve the greatest environmental benefit. Specific procedures for the acquisition of replacement lands are included in Appendix E. (RE)

Step 9. Other Permits: If required, a Section 404/10 Permit will be pursued and issued separately. The entity may apply for a permit at the same time or at a later date. The application will be handled like any other application (as if the property had never been in the Mitigation Project). If any mitigation is required as part of that process, the entity will provide that mitigation in addition to the funds provided for replacement lands. (OP)

APPENDIX D

APPENDIX D

PROCEDURES FOR THE UTILIZATION OF PROJECT LANDS BY THE MOBILE DISTRICT (EXCLUDING RE-USE OF DISPOSAL AREAS)

Whenever the Mobile District identifies the need to utilize project lands for the development, operation, maintenance, or modification of the water resource development project (excluding re-use of disposal areas), the following procedures will be followed.

Step 1. Impact: Determine if the action will alter the existing wildlife habitat. If not, the following procedures do not apply. (For example: a water line across an open field may not alter any habitat.) (OP)

Step 2. WMFS: Determine if the action was addressed as an impact in reference 3.a. (If so, then the following procedures do not apply.) (OP)

Step 3. Consultation: Consult with the FWS, ADCNR and/or MDWFP. (PD)

Step 4. NEPA: Review existing documentation for NEPA compliance (Programmatic Environmental Assessment/Finding of No Significant Impact for the Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, Land Sales/Exchanges/Outgrants of Project Lands and Acquisition of Replacement Lands). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 5. Removal: If the proposed action will not cause the total acreage of replacement lands to be reduced by more than 25%, then no further consultation with the FWS, ADCNR, and the MDWFP is required prior to the removal of the lands. (PD/OP)

If the proposed action will cause the total acreage of replacement lands to be reduced by more than 25%, then the Mobile District will meet with the FWS and appropriate state wildlife agency to: (1) discuss the proposed action in detail; (2) discuss alternatives to minimize impacts to the 25% threshold; and (3) discuss opportunities to replenish the amount of replacement lands impacted by the 25% threshold. The Mobile District will pursue all available means to obtain additional habitat. However, the agencies recognize that the USACE is bound by the budget proposed by the President and enacted by Congress.

Step 6. Acquisition: Specific procedures for the acquisition of replacement lands are included in Appendix E. (PD)

APPENDIX E

APPENDIX E

PROCEDURES FOR THE ACQUISITION OF REPLACEMENT LANDS

The following procedures will be followed for the acquisition of replacement lands by direct purchase or exchange:

Step 1. List: PD and OP-CO will coordinate with the FWS and state wildlife agencies to create and maintain prioritized lists of tracts belonging to willing sellers in each state. These lists will be updated as needed and will be based on the following criteria:

- The owners must be willing sellers.
- Bottomland hardwoods and associated habitats shall receive primary consideration.
- The lands shall be located adjacent to other mitigation lands unless approved by the Mobile District, FWS, and the ADCNR and/or MDWFP.
- Tracts that will solve management problems (such as in-holdings and lack of access) will receive special consideration.
- Tracts with species of special concern or critical habitat will receive special consideration.
- Tracts that have already been included in an approved real estate design memorandum will receive special consideration.

Step 2. Acquire Reserve: RE will acquire a reserve of replacement lands by: a) seeking to resolve outstanding debts from real estate actions that took place prior to the passage of WRDA 2000, and b) using the initial funding ($529,000) and the prioritized lists to acquire a reserve of replacement lands. (RE)

Step 3. Location: In general, replacement lands will be acquired in the same state where the project lands were removed from the Mitigation Project. For example: if the lands removed from the Mitigation Project are located in Alabama, the replacement lands will be acquired in Alabama. If special circumstances exist, this may be adjusted after interagency coordination. For example: With the initial purchase of reserve acreage, no project lands will have been removed, so the purchase could be from either or both States. (PD)

Step 4. Coordination: PD will consult with the FWS and the ADCNR and/or MDWFP prior to the acquisition of any replacement lands. (PD)

Step 5. NEPA: Review existing documentation for NEPA compliance (Programmatic Environmental Assessment/Finding of No Significant Impact for the Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, Land Sales/Exchanges/Outgrants of Project Lands and Acquisition of Replacement Lands). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 6. Maintaining a Reserve: Mobile District will pursue all available means to obtain additional habitat. However, the agencies recognize the USACE is bound by the budget proposed by the President and enacted by Congress. OP-CO will maintain maps and a continuous record of the reserve acres of replacement lands acquired, and the acres added to and removed from the Mitigation Project. Land acquisition will proceed in accordance with the procedures set forth in this appendix based on the availability of funding and acceptable tracts. (OP)

Step 7. Banking of Funds: If there is a reserve of replacement lands, funds from small transactions will be held by RE in the Corps of Engineers Financial Management System (CEFMS) until sufficient funds have accumulated to purchase acceptable tracts. Funds will not be banked any longer than necessary, but they may be held for an indefinite period of time provided these steps are followed: (RE)

a. Accumulate the funds in a separate work item tied to a non-expiring appropriation used to fund the mitigation project such as 96x3122.
b. Use the property identification number of the tract that was sold to create a partial retirement against that asset in CEFMS.
c. Create an asset bill in CEFMS.
d. Create a Collection for Self in CEFMS.
e. After the collection is processed and certified, move the money from the initial funding register to the work item created to hold the funds.

APPENDIX F

APPENDIX F

HABITAT VALUE REPLACEMENT PROCEDURES FOR SEPARABLE LANDS

When a request for an outgrant or permit for the use of separable lands is received, the Mobile District will use the following procedures:

Step 1. Purpose: Determine if the proposed action is necessary to address transportation, utility, and related activities. (OP)

Step 2. Identification: Acquire a survey and legal description from the requestor. (OP)

Step 3. Consultation: Consult with the FWS, ADCNR and/or MDWFP. (PD)

Step 4. Present Habitat: Determine the present habitat type(s) of the area using field investigation, GIS, aerial photography, and/or other acceptable methods.

If the present habitat is bottomland hardwood and/or wetlands, go to step 5
If the present habitat is some other type, go to step 6. (OP)

Step 5. In-Kind Replacement: If the present habitat will be altered and it is bottomland hardwood & cypress tupelo (BHCT), marsh (M), and/or natural oxbow lakes & beaver ponds (NOLBP), then the habitat must be replaced with bottomland hardwood and/or wetlands. The number of acres of replacement lands required will be determined as follows:

- Calculate the present habitat value using the following formula: (OP)

$$a\,(b + c) = d$$

Where a = number of acres to be modified by the proposed action
b = baseline habitat value per acre for BHCT, M, or NOLBP (see Appendix J)
c = management potential per acre for BHCT, M, or NOLBP (see Appendix J)
d = total habitat value

- Calculate the amount of replacement acreage required using the following formula and advise the grantee: (OP)

$$d/g = f$$

Where d = total habitat value
g = management potential value of BHCT, M, or NOLBP (see Appendix J)
f = number of acres required to replace the total habitat value loss

- Then go to Step 11.

Step 6. Present Habitat Value: Calculate the present habitat value using the following formula: (OP)

$$a\,(b + c) = d$$

Where a = number of acres to be modified by the proposed action
b = baseline habitat value per acre (see Appendix J)
c = management potential per acre (see Appendix J)
d = total habitat value

Step 7. Modified Habitat: Calculate the habitat value for the modified habitat using the following formula: (OP)

$$a'\,(b' + c') = d'$$

Where a' = number of acres to be modified
b' = modified baseline habitat value per acre (see Appendix J)
c' = modified management potential per acre (see Appendix J)
d' = total habitat value of the modified acreage

Step 8. Habitat Value Change: Calculate the change in habitat value as a result of the action using the following formula: (OP)

$$d - d' = j$$

Where j = habitat value change of acres modified (could be positive or negative)

Step 9. Determination: Determine in consultation with the FWS and the ADCNR and/or MDWFP whether the action will have enough impact to require replacing the habitat (in some cases, the habitat value loss may be only a few units). The following factors will be considered on a case-by-case basis to determine whether compensation for the loss of habitat value is required: habitat potential, habitat value, limiting wildlife requisites, effects on wildlife within the affected area and surrounding habitats, capability for continued management, and fragmentation. If compensation for the habitat value lost is warranted, then it will be replaced using Steps 9 and 10, and the prospective grantee will be required to provide suitable replacement acreage. (PD)

Step 10. Identify Replacement Acreage: Calculate the amount of replacement acreage required using the following formula and advise the grantee: (OP)

$$d/g = f$$

Where d = total habitat value loss
g = management potential value of suitable replacement lands (see Appendix J)

f = number of acres required to replace the total habitat value loss

Step 11. Suitable Replacement Lands: When the grantee offers specific replacement lands, consult with the FWS and ADCNR and/or MDWFP. The lands must be adjacent or contiguous to other TTW wildlife mitigation lands unless otherwise agreed to by the Mobile District and these agencies. (PD)

Step 12. NEPA: Review existing documentation for NEPA compliance (Programmatic Environmental Assessment/Finding of No Significant Impact for the Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, Land Sales/Exchanges/Outgrants of Project Lands and Acquisition of Replacement Lands). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 13. Changes: Document changes to the mitigation maps and tabulations, and insure that grantee marks new boundary lines. (OP)

Step 14. Other Permits: If required, a Section 404/10 Permit will be issued separately. The entity may apply for the permit at the same time or at a later date. The application will be handled like any other application (as if the property had never been in the Mitigation Project). If any mitigation is required as part of that process, the entity will provide that mitigation in addition to the lands provided as replacement lands. (OP)

Example #1 of Using HVRP on Separable Lands

Assume a utility company has requested permission for an easement across separable lands to install a power line. The easement will be 1,000 feet long and 50 feet wide for a total of 1.1 acres. The habitat of the site is now classified as abandoned fallow and agriculture. The company will clear the right-of-way and mow it annually. The easement will parallel an existing county road. The Operations Manager (OM) determines that the project is necessary for public utility service and acquires a survey and legal description from the company. The FWS and the state wildlife agency are consulted about the proposal. Neither agency objects since the project will parallel an existing road and will not impact any threatened or endangered species or critical habitat. The OM calculates the present habitat value using the habitat values from the Table in Appendix I and the following formula:

1.1 acres (49.28 units of habitat value + 16.75 units of management potential) =

72.63 units

The OM reviews the habitat descriptions in the WMFS and determines that the modified habitat should be classified as pasture. Since the easement will be mowed only once annually it is expected to most closely resemble the description of the pasture habitat. The OM then calculates the habitat value of the modified habitat using the habitat values from the table in Appendix J and the following formula:

1.1 acres (37.15 units of habitat value + 12.64 units of management potential) =

49.75 units

The change in habitat value is calculated using the following formula:

72.63 units – 49.75 units = 22.88 units of habitat value lost

Planning and Environmental Division informs the FWS and ADCNR and/or MDWFP. After consultation, it is determined that the utility company must replace the 22.88 units. The utility company offers to provide bottomland hardwood that is nearby and contiguous to the existing mitigation lands. The replacement acreage needed is calculated using the following formula:

22.88 units lost/16.36 units of management potential for BH = 1.40 acres

If the wildlife agencies agree with the location of the lands, the utility company deeds the land to the Mobile District and marks new boundary lines. The OP-CO makes changes to maps and tabulations as needed. The proposed project is evaluated for Section 404/10 Permits through a separate process.

Example #2 of Using HVRP on Separable Lands

Assume a utility company has requested permission for an easement across separable lands to install a power line. The easement will be 1,000 feet long and 50 feet wide for a total of 1.1 acres. The habitat of the site is 0.8 acres of bottomland hardwood and 0.3 acres of marsh. The company will clear the rights-of-way and mow it annually. The easement will parallel an existing county road. The Operations Manager (OM) determines that the project is necessary for public utility service and acquires a survey and legal description from the company. The FWS and the state wildlife agency are consulted about the proposal. Neither agency objects since the project will parallel an existing road and will not impact any threatened or endangered species or critical habitat. The OM calculates the present habitat value using the habitat values from the table in Appendix J and the following formula:

0.8 acres (57.85 units of habitat value + 16.36 units of management potential) = 59.37 units
0.3 acres (50.35 units of habitat value + 7.15 units of management potential) = 17.25 units
Total 76.62 units

Since the habitat to be altered is bottomland hardwood and wetlands, the habitat must be replaced in-kind. The utility company offers to provide forested bottomland hardwood and cypress tupelo habitat nearby and contiguous to the existing mitigation lands. The replacement acreage needed is calculated using the following formula:

76.62 units lost/16.36 units of management potential for BHCT = 4.68 acres

If the wildlife agencies agree with the location of the lands, the utility company deeds the land to the Mobile District and marks new boundary lines. The OP-CO makes changes to maps and tabulations as needed. The proposed project is evaluated for Section 404/10 Permits through a separate process.

APPENDIX G

APPENDIX G

PROCEDURES FOR EVALUATING THE HABITAT IMPACT ASSOCIATED WITH THE RE-USE OF DISPOSAL AREAS

The WMFS acknowledged that predicting the habitat of the disposal areas over the life of the project would be complicated and difficult. Each of the three sections of the TTW was addressed separately. For the River Section, calculations were based on the assumption that 60% of the River Section disposal areas would be used during construction and 40% would be used for maintenance (page C-27). The WMFS assumed that 5,599 acres would be filled during construction and then allowed to proceed through natural succession. It also assumed that 3,732 acres would be maintained in an early stage of succession through repeated disposal use.
For the Canal and Divide Sections, the WMFS predicted that all of the maintenance disposal areas (356 acres in the Canal Section and 450 acres in the Divide Cut Section) would be maintained in an early stage of succession through repeated disposal use. Table 1 shows that the WMFS predicted that a total of 4,538 acres would be used for maintenance.

Table 1. – Acreage Predicted for Disposal of Maintenance Material by the WMFS

Section	Acres
River	3,732
Canal	356
Divide	450
Total	4,538

In reality, very few disposal areas were completely filled during construction. Since construction, the Mobile District has continued to deposit maintenance material on top of the construction material in many disposal areas. The dikes of some of these disturbed areas have also been raised to increase the disposal area capacity. These actions have prevented natural succession in these disposal areas, but they have also resulted in the preservation of wetland and bottomland hardwood habitat found in many of the undisturbed disposal areas.

The following procedures will be used to evaluate the habitat impact associated with the re-use of disposal areas.

Step 1. NEPA: Review existing documentation for NEPA compliance (Environmental Assessment [dated 27 September 2000] and Finding of No Significant Impact [dated 6 November 2000]) for the Proposed License/Contract to Remove Dredged Material from Upland Disposal Sites in Mississippi and Alabama, Tennessee-Tombigbee Waterway). Also, conduct individual environmental reviews for i.e., cultural resources, threatened and endangered species, recreation, etc. (PD)

Step 2. Accounting of Habitat Impact: For all disposal areas included in the project lands increment of the Mitigation Project, the OP-CO will create and maintain an inventory of the number of acres covered with material from maintenance dredging operations or altered by the raising of dikes or relocation of material. The acreage will be determined using a combination of the most accurate and practical means available such as GIS, GPS, aerial photography, dredging records, and visual inspections. This record will be updated annually and supplied to the FWS, ADCNR, and MDWFP. An example of how the inventory will be calculated and tracked is included below. (OP)

Step 3. Habitat Gain: No further action is necessary as long as the total area identified in the inventory as being used for maintenance is less than 4,538 acres. (PD)

Step 4. Habitat Loss: If the total area identified in the inventory is more than 4,538 acres, the Mobile District will consult with the FWS, ADCNR, and MDWFP, and insure mitigation for the habitat value lost. (PD)

EXAMPLE OF HOW TO EVALUATE THE HABITAT IMPACT ASSOCIATED WITH THE RE-USE OF DISPOSAL AREAS

Assume the following:

- Disposal Area AB-12 is a three-celled area totaling 178.7 acres. Dredged material has been pumped into the area annually, and the dikes have been raised to increase the capacity of the site. The entire area has been periodically disturbed.
- Area AB-11 is a two-celled area with a total of 56.5 acres. One acre was covered with material during construction, but the area has never been used for maintenance.
- Area AB-10 is a 33.9-acre, single cell disposal area that was partially used (8.7 acres) during construction.

All three of these areas are part of the project lands. Table 1 shows a matrix of how the acreage should be calculated and tracked.

Table 1. – Accounting of Maintenance Usage of TTW Disposal Areas

Area	Acreage*			Acres Used for Maintenance		
	Primary	Secondary	Total	Primary	Secondary	Total
AB-10	33.9	N/A	33.9	0	N/A	0
AB-11	16.4	40.1	56.5	0	0	0
AB-12	57.2	121.5	178.7	57.2	121.5	178.7
Total			269.1	57.2	121.5	**178.7**

*Acreage taken from Table 4-4 of the WMFS

Assume that the OP-CO does the following work:

--removes 100,00 cubic yards from AB-12 and deposits 75,000 cubic yards.
--deposits 50,000 cubic yards into the primary cell of AB-11 covering the one acre of construction material and four additional acres of habitat.
--deposits 20,000 cubic yards in AB-10 on top of some of the construction material, covering three acres with sand and gravel.

After the dredging season, the accounting matrix is revised as follows.

Table 2. – Revised Accounting of Maintenance Usage of TTW Disposal Areas

Area	**Acreage**			**Acres Used for Maintenance**		
	Primary	**Secondary**	**Total**	**Primary**	**Secondary**	**Total**
AB-10	33.9	N/A	33.9	3	N/A	3
AB-11	16.4	40.1	56.5	5	0	5
AB-12	57.2	121.5	178.7	57.2	121.5	178.7
Total			269.1	65.2	121.5	**186.7**

APPENDIX H

TENNESSEE-TOMBIGBEE WATERWAY, ALABAMA AND MISSISSIPPI

Tennessee-Tombigbee Waterway Wildlife Mitigation, Alabama and Mississippi: Report of the Chief of Engineers, dated August 31, 1985, at a total cost of $60,200,000. The Secretary is authorized to acquire from willing sellers in a timely manner at fair market value 88,000 acres of land for mitigation of wildlife losses resulting from construction and operation of the project for the Tennessee-Tombigbee Waterway, Alabama and Mississippi. Such lands shall be in addition to, and not in lieu of, lands currently owned by the United States in the project area which are designated as wildlife mitigation lands for such project. Of the lands acquired under this section, not less than 20,000 acres shall be acquired in the area of the Mobile-Tensaw River delta, Alabama, and not less than 25,000 acres shall be acquired in the areas of the Pascagoula River, the Pearl River, and the Mississippi River delta, Mississippi. Other lands acquired under this section may be acquired anywhere in the States of Alabama and Mississippi. The Secretary shall select lands to be acquired under this section in consultation with appropriate State and Federal officials. Emphasis shall be placed on acquisition of lands which are predominantly flood plain forest, except that the 34,000 acres of bottomland hardwood lost as a result of the construction of the navigation project shall be replaced in-kind. The States of Alabama and Mississippi shall provide for the management for wildlife purposes of lands acquired under this section and lands currently owned by the United States in the project area which are designated as wildlife mitigation lands for such project. Subject to such amounts as are provided in appropriation Acts, the Secretary shall reimburse such States for such management and initial development costs as specified in a plan for management of mitigation lands to be developed by the Secretary, the United States Fish and Wildlife Service, and the States of Alabama and Mississippi.

APPENDIX I

Appendix I

[[Page 2571]]

WATER RESOURCES DEVELOPMENT ACT
OF 2000

[[Page 114 STAT. 2572]]

Public Law 106-541
106th Congress

An Act

To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. <<NOTE: Dec. 11, 2000 - [S. 2796]>>

Be it enacted by the Senate and House of Representatives of the United States of America in Congress <<NOTE: Water Resources Development Act of 2000. Inter- governmental relations.>> assembled,

TITLE III--PROJECT-RELATED PROVISIONS

SEC. 301. TENNESSEE-TOMBIGBEE WATERWAY WILDLIFE MITIGATION PROJECT, ALABAMA AND MISSISSIPPI.

(a) In General.--The Tennessee-Tombigbee Waterway Wildlife Mitigation Project, Alabama and Mississippi, authorized by section 601(a) of Public Law 99-662 (100 Stat. 4138) is modified to authorize the Secretary to--

(1) remove the wildlife mitigation purpose designation from up to 3,000 acres of land as necessary over the life of the project from lands originally acquired for water resource development projects included in the Mitigation Project in accordance with the Report of the Chief of Engineers dated August 31, 1985;

(2) sell or exchange such lands in accordance with subsection (c)(1) and under such conditions as the Secretary determines to be necessary to protect the interests of the United States, utilize such lands as the Secretary determines to be appropriate in connection with development, operation, maintenance, or modification of the water resource development projects, or grant such other interests as the Secretary may determine to be reasonable in the public interest; and

(3) acquire, in accordance with subsections (c) and (d), lands from willing sellers to offset the removal of any lands from the Mitigation Project for the purposes listed in subsection (a)(2) of this section.

(b) Removal <<NOTE: Effective date.>> Process.--Beginning on the date of enactment of this Act, the locations of these lands to be removed will be determined at appropriate time intervals at the

discretion of the Secretary, in consultation with appropriate Federal and State fish and wildlife agencies, to facilitate the operation of the water resource development projects and to respond to regional needs related to the project. Removals under this subsection shall be restricted to Project Lands designated for mitigation and shall not include lands purchased exclusively for mitigation purposes (known as Separable Mitigation Lands). Parcel identification,

[[Page 114 STAT. 2600]]

removal, and sale may occur assuming acreage acquisitions pursuant to subsection (d) are at least equal to the total acreage of the lands removed.

(c) Lands To Be Sold.--(1) Lands to be sold or exchanged pursuant to subsection (a)(2) shall be made available for related uses consistent with other uses of the water resource development project lands (including port, industry, transportation, recreation, and other regional needs for the project).

(2) Any valuation of land sold or exchanged pursuant to this section shall be at fair market value as determined by the Secretary.

(3) The Secretary is authorized to accept monetary consideration and to use such funds without further appropriation to carry out subsection (a)(3). All monetary considerations made available to the Secretary under subsection (a)(2) from the sale of lands shall be used for and in support of acquisitions pursuant to subsection (d). The Secretary is further authorized for purposes of this section to purchase up to 1,000 acres from funds otherwise available.

(d) Criteria for Land To Be Acquired.--The Secretary shall consult with the appropriate Federal and State fish and wildlife agencies in selecting the lands to be acquired pursuant to subsection (a)(3). In selecting the lands to be acquired, bottomland hardwood and associated habitats will receive primary consideration. The lands shall be adjacent to lands already in the Mitigation Project unless otherwise agreed to by the Secretary and the fish and wildlife agencies.

(e) Dredged Material Disposal Sites.--The Secretary shall utilize dredged material disposal areas in such a manner as to maximize their reuse by disposal and removal of dredged materials, in order to conserve undisturbed disposal areas for wildlife habitat to the maximum extent practicable. Where the habitat value loss due to reuse of disposal areas cannot be offset by the reduced need for other unused disposal sites, the Secretary shall determine, in consultation with Federal and State fish and wildlife agencies, and ensure full mitigation for any habitat value lost as a result of such reuse.

(f) Other Mitigation Lands.--The Secretary is also authorized to transfer by lease, easement, license, or permit lands acquired for the Wildlife Mitigation Project pursuant to section 601(a) of Public Law 99-662, in consultation with Federal and State fish and wildlife agencies, when such transfers are necessary to address transportation, utility, and related activities. The Secretary shall ensure full mitigation for any wildlife habitat value lost as a result of such sale or transfer. Habitat value replacement requirements shall be determined by the Secretary in consultation with the appropriate fish and wildlife agencies.

(g) Repeal.--Section 102 of the Water Resources Development Act of 1992 (106 Stat. 4804) is amended by striking subsection (a).

APPENDIX J

BASELINE HABITAT UNIT VALUES AND MANAGEMENT POTENTIALS
PER ACRE FOR VARIOUS TTW WILDLIFE MITIGATION PROJECT LANDS

HABITAT	BASELINE HABITAT UNIT VALUES[1]	MANAGEMENT POTENTIALS[1]	REPLACEMENT HABITAT
Bottomland Hardwoods & Cypress/Tupelo	57.85	16.36	NOTE 1: In-kind replacement only.
Marsh (includes secondary disposal cells managed as moist soil units that may be requested by a public or private entity)	50.35	7.15	NOTE 2: Replacement with bottomland hardwoods is encouraged; however, in-kind is acceptable.
Natural Oxbow Lakes & Beaver Ponds	39.48	5.61	NOTE 3: Replacement with bottomland hardwoods is encouraged; however, in-kind is acceptable as well as any preceding habitat type in the table.
Cutover Woodlands	43.72	13.38	NOTE 4: Replacement with bottomland hardwoods is encouraged; however, in-kind is acceptable as well as habitats of greater baseline habitat unit value, other than abandoned fallow & agriculture.
Upland Woodlands	43.10	6.12	NOTE 4
Mixed Pine/Hardwoods	42.53	6.04	NOTE 4
Planted Pine	35.43	6.20	NOTE 4
Natural Pine	35.05	6.13	NOTE 4
Abandoned Fallow & Agriculture	49.28	16.75	NOTE 3
Pasture	37.17	12.64	NOTE 3
Cropland	34.75	11.82	NOTE 3
Sand & Gravel Deposits	19.76	2.67	NOTE 3

[1]Source: Fish and Wildlife Planning Aid Report for the Tennessee-Tombigbee Waterway, Fish and Wildlife Service, 1980.

Tennessee-Tombigbee Waterway Habitat Descriptions

The habitat mapping units defined in the report, "An Ecological Study of the Tennessee-Tombigbee Waterway" were used as a base to determine distinctive habitats. These mapping units classified forest cover types as to size and density of tree or groups of tree species. The twenty-one different habitat types, including non-forest areas, were reduced to thirteen through grouping by the study team. Two other types resulting from project construction were added resulting in fifteen separate types. A discussion of the resulting types follows.

Bottomland Hardwoods - This habitat type is indicative of the better drained and highly productive bottomland soils. It is generally a very diverse plant community supporting a variety of tree species with composition dependent on soil moisture levels. It is considered high value habitat for forest game and is also important for waterfowl and many nongame species. Such area is subject to seasonal flooding as part of the floodplain. Common tree species in this habitat making up the overstory are willow oak (Quercus phellos), water oak (Quercus nigra), swamp chestnut oak (Quercus michauxii), cherrybark oak (Quercus falcata var. pagodaefolia), various hickories (Carya sp.) sweetgum (Liquidambar styraciflua), elms (Ulmus sp.), hackberry (Celtis laevigata), and sycamore (Plantanus occidentalis). The 32 sample sites checked supported timber stands ranging in age from 20 to 60 years old. The average age class was about 50. Species found in the understory include redbud (Cercis canadensis), American holly (Ilex opaca) ironwood (Carpinus caroliniana), hop hornbeam (Ostrya virginiana), winged elm (Ulmus alata), river birch (Betula nigra), hazel alder (Alnus serrulata), black gum (Nyssa sylvatica), sourwood (Oxydendrum arboreum), dogwood (Cornus florida), sassafras (Sassafras albidum), white ash (Fraxinus americana), paw paw (Asimina triloba), red mulberry (Morus rubra), yellow poplar (Liriodendron tulipifera), black cherry (Prunus serotina), persimmon (Diospyros virginiana), red maple (Acer rubrum), and beech (Fagus grandifolia). Seedlings of the overstory tree species were also present. Ground cover plant species identified in bottomland hardwood areas were varied. Species present in a given site were dependent on the degree of wetness during the growing season. Common ones encountered were blackberry (Rubus sp.), hog peanut (Amphicarpa bracteata), greenbrier (Smilax sp.), poison oak (Rhus toxicodendron), wood sorrel Oxalis sp.), violets (Viola sp.), Virginia creeper (Parthenocissus quinquefolia), pepper vine (Ampelopsis arborea), honeysuckle (Lonicera japonica), grape (Vitis sp.), spike grass (Uniola sp.), lizard's tail (Saururus sp.), smartweed (Polygonum sp.), trumpet creeper (Campsis radicans), privet (Ligustrum sp.), and cane (Arundinaria sp.).

Cypress-Tupelo - This habitat type can range from pure stands of cypress (Taxodium distichum) or tupelo gum (Nyssa aquatica) to a mixture of the two species. Their occurrence is dependent on a water table near or at the ground surface or on soils shallowly impounded. Their occurrence along the Tombigbee River is usually in association with old river bend cutoffs, sloughs and natural low wet areas within the floodplain. Such areas are high value habitat for waterfowl, wading birds,

songbirds, aquatic furbearers, squirrels, and many other game and nongame species. The eight plots checked supported stands ranging in age from 25 to 60 years old. The average age was 50 years old.

Understory species are dependent on wetness of the soil. Where water exists, the understory usually consists of seedlings of the overstory, buttonbush (Cephalanthus occidentalis) and willow (Salix sp.). Where water levels retreat during the growing season such species as red maple, sweetgum, elm, and ash may invade along the margin

Ground cover is also dependent on moisture conditions. Plant species identified were cypress grass (Cyperus sp.), smartweed, arrowhead (Sagittaria sp.), coontail (Ceratophyllum sp.), lizard's tail, hedge hyssop (Gratiola sp.), and spike rush (Eleocharis sp.). Species such as violets, trumpet creeper, smilax, poison oak, muscadine, and blackberry were identified around the edges of the swamp area.

Cutover Woodland - Scattered along the length of the waterway are timber stands that have experienced disturbance through fairly recent logging activity. The four sample plots checked had stands remaining in the 25 to 30 year class. Stump size and distribution indicated only the larger trees suitable for lumber had been removed. Harvest of this nature can be conducive to the production of ground cover and understory plants proving improved food sources for game and nongame wildlife species on such areas. Tree species in the overstory that were identified were willow oak, water, northern and southern red oak, blackjack oak, post oak, shumard oak, sweetgum, black cherry, sassafrass, red maple, sycamore, hackberry ash, hickory, cypress, loblolly pine, and shortleaf pine.

Understory plants were represented by redbud, buckeye, sourwood, dogwood, blackgum, sparkleberry, hazel alder, and tree seedlings of the overstory. Understory plants were most abundant here than in stands experiencing little or no thinning in recent years.

Ground cover plants identified were smilax, honeysuckle, ratan, blackberry, poison oak, Virginia creeper, muscadine, pepper vine, beggarlice, partridge pea, and pokeweed. Ground cover was more abundant than on areas where the overstory supported a closed canopy.

Upland Hardwoods - Dry upland sites involving lands obtained for recreational areas, disposal sites, and in blocking out for land acquisition provide the setting for this habitat type. Typical tree species found in the overstory are post oak (Quercus stellata), southern red oak (Quercus falcata), cherrybark oak (Quercus falcata var. pagodaefolia), northern red oak (Quercus alba), scarlet oak (Quercus coccinea), sweetgum, hickory, blackgum, yellow poplar and a scattering of shortleaf pine (Pinus echinata) and loblolly pine (Pinus taeda). The six sample plots visited supported timber stands ranging in age from 40 to 60 years old. The average age was about 45 years old.

Understory plants on these drier sites were huckleberry (Gaylussacia sp.) sumac (Rhus sp.), dogwood, sourwood, black cherry, redbud, persimmon, maple, sassafrass, hawthorne (Crataegus sp.), and seedlings of the overstory species.

Ground cover plants in this habitat type were not abundant probably due to heavy leaf litter. Common ones identified were poison oak, smilax, beggarlice, common lespedeza, broomsedge, (Andropogon sp.), muscadine, goldenrod, Virginia creeper, honeysuckle, sensitive brier (Schrankia microphylla) and mullien (Verbascum sp.).

Mixed Pine Hardwoods - This habitat type at lower elevations is usually the result of cover disturbance in past years either as severe timber harvest, fire, or land use change for agricultural purposes. Such areas are scattered throughout the

project area but is the major type in the Divide Section where situations are not conducive for bottomland hardwoods or river swamp formation. The overstory is occupied by loblolly and shortleaf pines, sweetgum, hickory, yellow poplar, southern red oak, northern red oak, scarlet oak, blackjack oak, post oak, willow and water oaks, white oak, elm, and hackberry. The 15 sample plots selected contained stands ranging in age from 25 to 60 years old and averaging about 40 years old.

Understory plants identified were dogwood, persimmon, black gum, blackberry, sweetgum, red maple, red cedar, northern red oak, winged elm, mulberry, willow and water oaks, sassafras, sumac, redbud, southern red oak, sourwood, and American hornbean.

Ground cover was represented by common lespedeza, honeysuckle, muscadine, goldenrod, poison oak, smilax, ragweed, partridge pea, daisy fleabane, panic grass, broomsedge, lizard's tail, beggarlice, hog peanut and blackberry.

Natural Pine - Natural occurring pine stands are the result of change in natural succession that is conducive to their survival and dominance within the project area. Usually such stands occur as the result of invasion of abandoned agricultur lands with little or no competition from other species. Loblolly pine stands are common along the main river and lower elevations along the Canal Section on suitab sites. Mixtures of loblolly and shortleaf are more common on higher elevations along the Canal and Divide Sections. The twelve plots checked contained stands ranging in age from 16 to 60 years old. The average age was approximately 40 years.

Understory species identified in these pine stands were water oak, willow oak, red oak, white oak, post oak, sweetgum, elm, hickory, redbud, honey locust, red cedar, persimmon, black gum, elderberry (Sambuccus sp.), and seedlings of the overstory.

Ground cover plants identified were poison oak, yellow jessamine (Gelsemium sp.), panic grass, muscadine, American beautyberry, smilax, blackberry, hog peanut, Virginia creeper, honeysuckle, ragweed, golden rod, partridge pea, sericea, beggarlice, common lespedeza, daisy fleabane, and native lespedeza (Lespedeza procumbens).

Planted Pine - Pine plantings are usually established on abandoned agriculture fields of a submarginal value for row crops. Loblolly pine is the species normally utilized in the upper Tombigbee basin for such effort. The seven plots checked during sampling averaged about 20 years of age.

Understory species in planted pine stands were limited to seedlings of sweetgum, elm, redbud, persimmon, and various oaks.

Ground cover plants identified were blackberry, honeysuckle, ragweed, goldenrod, partridge pea, beggarlice, common lespedeza, native lespedeza, poison oak, and assorted grasses.

Marsh - These shallow water areas support aquatic vegetation and are surrounded by sedges, grasses, and shrubby growth. Plants identified in this habitat type in the nine plots checked were water lily (Nymphaea sp.), duckweed, water millet (Zizaniopsis sp.), arrowhead, bladderwort (Utricularia sp.), smartweed, water hyssop (Bacopa sp.), lizard's tail, spike rush (Eleocharis sp.), false loosestrife (Ludwigia sp.), willow and buttonbush.

Abandoned and Fallow Agriculture Lands - These areas are the result of agricultural land rotation practices or discontinued use due to economic factors. The five sample plots checked were estimated to be out of cultivation from two to five years. The average length of time in present cover was estimated to be three years. The five year old plot had a developing overstory of loblolly pine, sweetgum, persimmon, and oaks. The other plots contained very small seedlings of the same species.

Ground cover was varied due to the early stage of succession. Species identified were ragweed, blackberry, broomsedge, partridge pea, smilax, goldenrod, common lespedeza, trumpet vine, oxalis, dock, cocklebur, smartweed, beggarlice, butterfly pea, daisy fleabane, primrose, Johnson grass, morning glory (Ipomoea sp.), white clover (Trifolium repens), bermuda grass, and panic grass.

Pasture - The seven sample plots checked were all native pasture units and showed evidence of very little recent management practices. Most were being invaded by plant species of little value in a grazing program. The common plants identified were Johnson grass, common lespedeza, sericea, ragweed, morning glory, oxalis, beggarlice, bermuda grass, partridge pea, daisy fleabane, broomsedge, sensitive brier, dock, blackberry, smilax, white clover, dallis grass (Paspalum dilatatum), crabgrass, and bitterweed (Helenium sp.).

Cropland - The occurrence of this habitat type is the result of man's clearing and use of areas along the river at elevations slightly above normal river stages during the growing season. These same areas may be subject to flooding during other seasons of the year. The main crops grown on the 14 sample sites checked were soybeans (Glycine max) and cotton (Gossypium hirsutum). Three of the sample plot areas were not in cultivation.

Ground cover plants identified around field edges or in fields as invader species include some important food and cover plants for wildlife. The more common ones were Johnson grass (Sorghum halepense), crabgrass (Digitaria sanguinalis), partridge pea (Cassia fasciculata), sericea (Lespedeza cuneata), blackberry, common lespedeza (Lespedeza striata), honeysuckle, cocklebur (Xanthium sp.), beggarlice Desmodium sp.), bermuda grass (Cynodon dactylon), vetch (Vicia sp.), dock (Rumex sp.), evening primrose (Oenothera sp.), goldenrod (Solidago sp.), maypop (Passiflora incarnata), muscadine, plum (Prunus sp.), and various tree seedlings.

Lakes and Ponds - This category includes open water areas off-river such as natural lakes and ponds, including those created by beaver activity on side drainages. Many of the areas created or influenced by beaver activity contain live, dying and dead trees. Tree species identified in the six sample plots visited were tupelo gum, cypress, water oak, willow oak, sweetgum, maple, elm, swamp chestnut, and hackberry.

Understory plants were usually limited to seedlings of the overstory and buttonbush in water areas.

Ground cover consisted of water with some scattered aquatic plants primarily duckweed. Several other species were noted but not identified to the satisfaction of study team members.

Sand and Gravel Deposits - These areas are the result of sand and gravel disposition within banks along the main river in wide bend situations or as a result of mining and dredge operations involving the removal of overburden within the river floodplain. In mining operations the end result is the creation of water areas (gravel pits). These areas often are located in open pasture areas or abandoned

croplands. Vegetation is usually limited to overburden spoil areas surrounding mined areas or along edges of sand and gravel bars in the river where silt has been deposited. Vegetation identified on the eight sample plots utilized were tree seedlings of sweetgum, water oak, willow, red maple, sycamore, cottonwood (Populus deltoides), cypress, and plum. Other terrestrial species identified were elderberry, spanish bayonet (Yucca sp.), broomsedge, panic grass, common lespedeza and spike grass.

The presence of vegetation in or around water areas associated with sand and gravel operations is dependent on water depth, age of water body and if the area is abandoned or active. Several old abandoned sites with shallow margins supported smartweed and sedge clumps.

Open Water - This habitat type is project induced and consists of those acres designated to the "pool and bank cuts" land use category. The habitat will be mostly open water.

Construction Sites - This habitat type is project induced and consists of acres designated to the "construction areas and levees" land use category. Some areas will be established in grass and others will be allowed to revegetate naturally.

APPENDIX K

List of Acronyms

ADCNR	Alabama Department of Conservation and Natural Resources
BHCT	Bottomland Hardwood/Cypress Tupelo
CEFMS	Corps of Engineers Financial Management System
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information Systems
GPS	Global Positioning Systems
HVRP	Habitat Value Replacement Procedure
M	Marsh
MDWFP	Mississippi Department of Wildlife, Fisheries, and Parks
NEPA	National Environmental Policy Act
NOLBP	Natural Oxbow Lakes & Beaver Ponds
O&M	Operation and Maintenance
OM	Operations Manager
OP	Operations Division, Mobile District, U.S. Army Corps of Engineers
OP-CO	Tennessee-Tombigbee Waterway Project Office
PD	Planning and Environmental Division, Mobile District, U.S. Army Corps of Engineers
RE	Real Estate Division, Mobile District, U.S. Army Corps of Engineers
SAD	South Atlantic Division, U.S. Army Corps of Engineers
SOP	Standard Operating Procedure
TTW	Tennessee-Tombigbee Waterway
USACE	U.S. Army Corps of Engineers
WMFS	Wildlife Mitigation Feasibility Study
WRDA:	Water Resources Development Act

APPENDIX F—PROGRAMMATIC ENVIRONMENTAL ASSESSMENT (PEA)